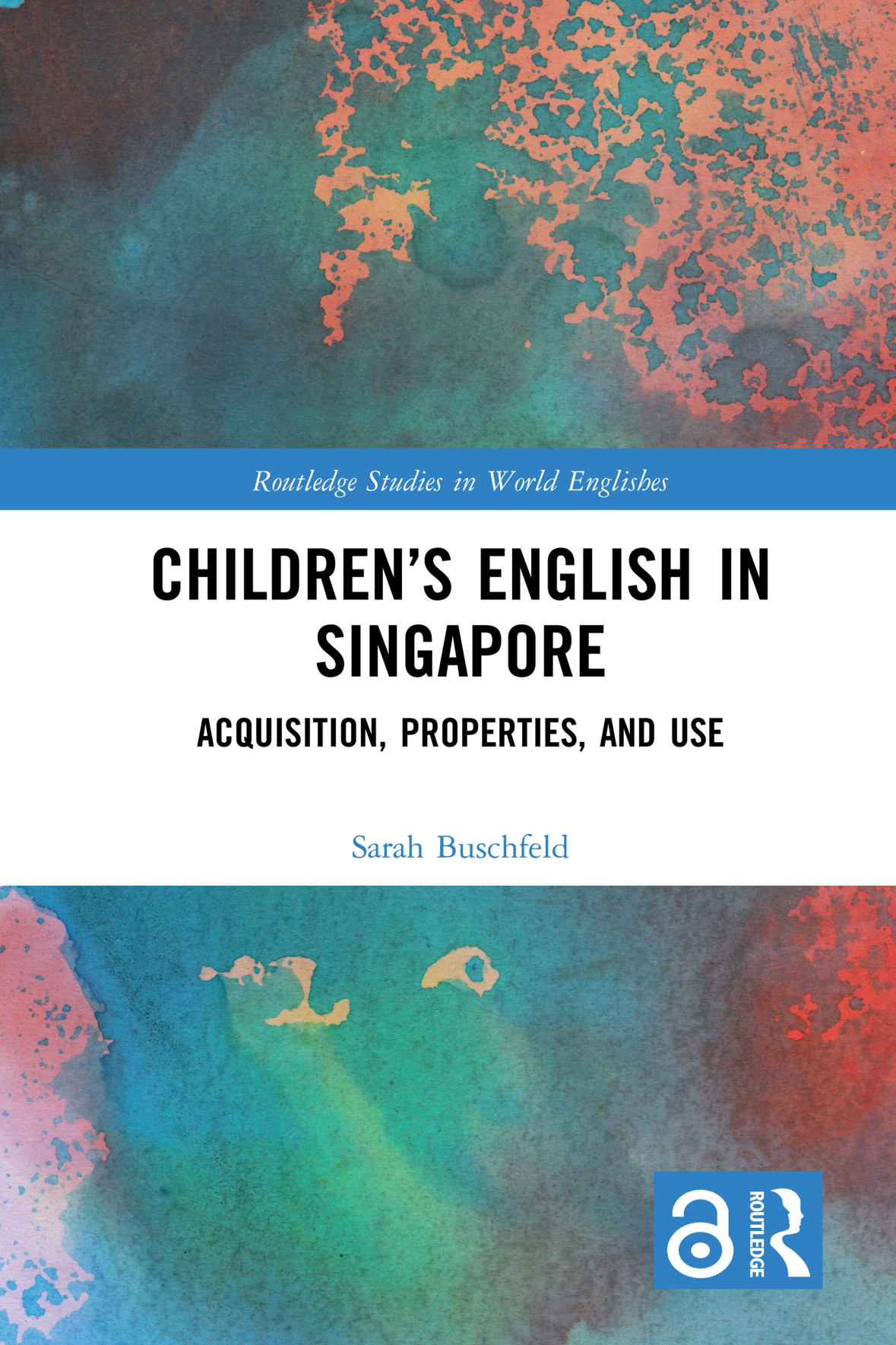




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CHILDREN'S ENGLISH IN SINGAPORE

ACQUISITION, PROPERTIES, AND USE

Sarah Buschfeld



Children's English in Singapore

Combining the World Englishes framework with First Language Acquisition methodology, this book investigates children's acquisition of L1 English in the context of multilingual Singapore, one of the traditional Kachruvian Outer Circle or ESL countries.

The book investigates language choice, use, and dominance in Singaporean families, identifies common linguistic characteristics of L1 Singapore English, as well as the acquisitional route that Singaporean children take. It discusses characteristics at the different levels of language organization, i.e., phonological, morphosyntactic, lexical, and pragmatic features, drawing on a variety of systematically elicited data and Praat-based acoustic analyses. Comparing the results to similar data obtained from children living in England (both mono- and bi-/multilingual), the book also sheds light on how the acquisitional steps taken by Singaporean children differ from or are similar to traditional native speakers of English and children from immigrant families in England.

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Children's English in Singapore

Acquisition, Properties, and Use

Sarah Buschfeld



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the sunshine of my life.**



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Preface and acknowledgments

This book is a significantly shortened version of a manuscript accepted as a post-doctoral thesis (*Habilitationsschrift*) at the University of Regensburg. The difference in length mainly affects details in the documentation of prior research and the presentation of the results (in particular, the detailed documentation and discussion of the statistical analyses, as well as the findings from England).

The interested reader is invited to contact the author at sarah.buschfeld@tu-dortmund.de for further details and results.

—

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1 Introduction

As the result of colonization and globalization and the ongoing spread of English worldwide, more and more children who would not fall within the traditional category of “native speaker of English” nowadays acquire it as their first language. Both in the United Kingdom and in the United States, such “new” L1 (first language) speakers are to be found as the result of massive migration waves from the former colonies or from neighboring countries such as Mexico. The reasons for these migrations are manifold; people and whole families migrate for political, religious, and economic reasons (to mention just a few), often in search of a better life. A second major cohort of new L1 English speakers has been emerging in some of the former colonies of the British Empire (or the US, in the case of the Philippines). Countries such as Singapore, Cameroon, Malaysia, and the Philippines have seen growing numbers of children who acquire English as a language from birth, mostly in multilingual environments and therefore in combination with at least one of the country’s other languages, and mostly (but not exclusively) in the context of their family’s ethnic linguistic repertoires.

As Anchimbe (2012) aptly notes, “[o]ne criterion that changes the status of a second language is when it acquires native speakers, i.e., when it becomes a first language for many people” (p. 12). However, he continues: “The New Englishes have not yet been elaborately described from this perspective, i.e. in relation to those who now speak them as their L1” (p. 12). He rightly identifies an important research desideratum here because, even though this development opens up new and interesting perspectives – and challenges! – for both World Englishes and First Language Acquisition research, the emergence of these new L1 Englishes has not yet been investigated systematically by either of the two disciplines. The reason for this, Anchimbe believes, “is the misconception that these Englishes are not yet *mature*” (2012, p. 13; italics in origin; see also Anchimbe, 2009). This assumption might be accurate; however, I believe there are additional reasons for the neglect of these Englishes, which will briefly be discussed in Section 3.2.

Whatever the reasons may be, Anchimbe (2012) addresses an important development in the “English Language Complex” (cf. McArthur, 2003; Mesthrie & Bhatt, 2008). He identifies a research gap that needs to be bridged in order to understand such new developments and their linguistic outcomes.

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2 Introduction

The aim of the present study is to open up to such new perspectives and challenges by exemplarily investigating L1 child Singapore English (SingE), because the gradual transformation from ESL (English as a Second Language) to ENL (English as a Native Language) has been most prominently observed in the case of Singapore. The rising numbers of L1 speakers in Singapore have long and often been noted, at least since the 1980s (e.g., Kwan-Terry, 1986; Bolton & Ng, 2014; Gupta, 1994, 1998; Lim, 2007; Tan, 2014, among many others); some approaches even describe SingE as a “native tongue” (e.g., Ansaldo, 2004, p. 130; Gupta, 1994). However, many of the existing contributions on this topic simply mention the increasing numbers of L1 speakers but do not go into any details, let alone conduct empirical investigations of the development. The few existing empirical studies often focus only on individual aspects of the wider phenomenon (e.g., specific linguistic characteristics) or approach the topic from a strongly educational perspective (cf. Section 2.3.4 for further details). L1 SingE has not yet been investigated in a truly comprehensive fashion that takes into account the different facets of the phenomenon, viz. (1) the linguistic background of the children (their multilingual backgrounds, along with questions of language dominance and usage contexts of English); (2) the linguistic characteristics of L1 child SingE on the different levels of language organization (phonology, morphology, syntax, lexis, pragmatics); and (3) the acquisitional route the children take when acquiring SingE as an L1.

The present study sets out to offer such a comprehensive account of the acquisition of L1 SingE. It employs an innovative – to my knowledge, unprecedented – approach, combining the two major linguistic disciplines relevant for such an investigation: viz., the World Englishes and (First) Language Acquisition paradigms.

To that end, in Chapter 2, I approach the topic from the World Englishes perspective. I first provide an overview of the historical, sociopolitical, and sociolinguistic background of English in Singapore (Sections 2.1, 2.2, 2.3) as well as of the most prominently reported characteristics of colloquial adult L2 SingE (Section 2.4). I then review the major conceptualizations of L2 SingE proposed in the literature (Section 2.3.2) and look into recent developments and current perspectives on SingE¹ (Sections 2.3.3, 2.3.4). Chapter 2 therefore sets the general scene for the present investigation. It offers important insights into aspects such as the input available to Singaporean children, viz. the different manifestations of linguistic characteristics found in this highly polyglossic context, in which not only a variety of different languages but also different “versions” of the English language coexist (British English, American English, more or less standard realizations of SingE, etc.).

Chapter 3 sets the scene from the language-acquisitional perspective as it looks into different modes of acquiring English as a first language. Section 3.1 compares monolingual with bi- and multilingual acquisition scenarios in terms of the major mechanisms and processes involved (esp. the roles of cross-linguistic influence and linguistic experience, language dominance, and the role of input/exposure) as well as the final outcomes of such scenarios. I then zoom in to

the acquisition of English as a first language in postcolonial societies (Section 3.2). This discussion brings debates revolving around the native speaker concept to the fore, as children in Singapore (and the same is true for other former L2 contexts) would normally not be considered to fall within the traditional category “native speaker of English” – and are mostly not accepted as such. Nevertheless, they acquire English as a language from birth and actually fulfill the major criteria for native speaker status, as will be discussed in Section 3.3.

The following six chapters constitute the empirical part and centerpiece of the study, the ultimate aim being to locate L1 SingE both on the map of L1 acquisition research and among other L1 varieties of English. To that end, I compare the acquisitional context and characteristics of L1 SingE – and the acquisitional route taken by the Singaporean children – to data from children acquiring English in a traditional L1 English context. For practical reasons, I have chosen British English (BrE) for direct empirical comparison, simply because it was the historical input variety for Singapore. This fact still manifests itself in the strong continuity that can be observed between BrE and standard realizations of SingE (associated with Standard Singapore English, or SSE).² Potential influences from American English (AmE) will also be accounted for whenever the Singapore data show such influences. Even though comparing bilingual children to their monolingual peers has been criticized in recent years, mainly for ideological reasons, I compare the Singapore results to data from both monolingual and bi-/multilingual children growing up in England, as the overall aim of this project is different from traditional acquisition studies. I do not primarily seek to measure and compare proficiencies of monolingual vs. bilingual children. Rather, my primary goal is to provide a full picture of how the Singapore data join the ranks of data on other, established L1 varieties of English and their acquisitional scenarios and thus place SingE as an autonomous L1 variety of equal value, as well as to tease out broad contact effects on the basis of comparing the results from the different groups.

The study focuses on the following three central questions:

- (1) When and with whom do Singaporean children speak English (e.g., in the family domain; outside the home; with their siblings, parents, or grandparents, etc.)?
- (2) What are the linguistic characteristics of L1 child SingE? Which type of English do the children acquire? Do the children acquire the colloquial variety, Colloquial Singapore English (CSE) (as assumed by Gupta, 1994); the standard variety, Standard Singapore English (SSE); or a mixture of characteristics, thus further diluting the contextual boundaries between these two types?³
- (3) What acquisitional route do Singaporean children take in their acquisition of L1 English, i.e., how do specific linguistic phenomena (e.g., verb morphology) develop in the course of acquisition? How is their acquisitional development different from, or similar to, acquisitional stages identified for the

4 Introduction

monolingual and bi-/multilingual acquisition of British English (BrE)/American English (AmE)?

Chapter 4 sets the methodological scene for such an investigation. In line with the integrative and highly innovative theoretical framework set up for this study, the methodological framework employed constitutes an equally innovative and integrative approach, one that again combines considerations and methods culled from the different linguistic disciplines involved. I employ a strongly (though not exclusively) experiment-based psycholinguistic methodology but interpret the results from a World Englishes, variationist perspective. In Section 4.1.1, I first elucidate the criteria for the selection of the three linguistic features chosen for quantitative analysis (viz., the acquisition of subject pronouns, past tense marking, and the vowels in the lexical sets KIT–FLEECE and FOOT–GOOSE). Subsequently, Section 4.1.2 offers a typological excursion in which I outline the realizations of these three features in the various languages the Singaporean children of my study have as part of their linguistic input and repertoires (British and American English, Standard and Colloquial Singapore English, Mandarin, Cantonese, Marathi, Tamil, Hindi). Sections 4.1 and 4.2 briefly sketch out what the World Englishes and Language Acquisition paradigms contribute to the study at hand from both a methodological perspective and when it comes to their major earlier findings. In Section 4.3, I link the two linguistic disciplines and illustrate how their conceptual and methodological frameworks, as well as their earlier findings, can be utilized for an investigation of L1 child SingE. Most importantly, I introduce three sets of research hypotheses relating to the research questions introduced earlier. Finally, I outline the data collection procedures, give an overview of the participants in the study, and present the details on the data analyses, coding procedures, and presentation of the results (Sections 4.3.2, 4.4, 4.5).

The results of the individual studies are then presented in Chapters 5 through 8. Chapter 5 provides the results of (1) a questionnaire study, viz. on the children's acquisitional background and the usage domains and frequencies of English as an L1; (2) a feature screening of L1 child SingE characteristics; and (3) MLU (Mean Length of Utterance) measurements.

Chapter 6 reports the quantitative results for the acquisition of subject pronouns, taking into consideration both intra-linguistic factors influencing the acquisition and use of the realizations (pronoun type and clause type; Section 6.1) and extra-linguistic factors such as MLU group/age, country, and ethnicity/speaker group (the latter for the case of England, as the children are not distributed along ethnical lines; Section 6.2).

Chapter 7 follows a similar general structure. I report the results for marked and unmarked past tense structures and illustrate different marking alternatives (i.e., regularization of irregular verbs and the use of a typical local SingE structure involving *finish* as a past tense marker). I again take into consideration intra- as well as extra-linguistic factors influencing the realization of past tense marking (verb type, MLU group/age, country, and ethnicity/speaker group; Section 7.1). Section 7.2 reports the results for negated past tense structures;

Section 7.3 investigates the use of *finish* as a past tense marker in L1 child SingE in more detail.

Chapter 8 reports the results of the analysis of vowel quality and quantity in the lexical sets KIT–FLEECE and FOOT–GOOSE. Section 8.1 presents the vowel plots for some selected participants and investigates the influence of country and ethnicity/speaker group on the realization of vowel quality. Section 8.2 discusses the loss of spectral differentiation in L1 child SingE. Subsequently, I inquire into the second criterion differentiating the KIT–FLEECE and FOOT–GOOSE sets – viz. vowel length – and the effects of MLU group/age, country, and ethnicity/speaker group (Section 8.3).

The three analyses yield quite a consistent picture, in which both clear differences but also similarities between the children growing up in Singapore and England come to the fore. However, all groups are characterized by inter- as well as intra-speaker variability – but to a variable extent. Within the Singapore group, the data show clear differences between the two main groups investigated (viz. Chinese and Indian Singaporeans), but they also reveal obvious homogenization tendencies between the groups.

Chapter 9 presents a synthesis and analysis of the findings described in Chapters 5 through 8 (Section 9.1). It further discusses the theoretical implications the study yields for both of the major linguistic paradigms involved, viz. for World Englishes and First Language Acquisition research (Section 9.2).

Chapter 10 sums up the most important findings of the study and offers some overall conclusions.

Notes

- 1 My use of the term “SingE” implies that I refer to the system and context in general, without making specific reference to either L1 or L2 varieties.
- 2 I do not, of course, assume unreserved continuity between the historical input variety and recent forms of BrE as spoken by the children from England. Potential changes in the linguistic system, however, are not of central importance for the present study.
- 3 For a discussion of why the diglossic approach is problematic even for adult SingE, see the discussion in Section 2.3.2. I use the two labels for the time being because they are often employed in the literature and are at times unavoidable when aiming to place L1 child SingE within the common framework of SingE research.

2 Singapore English

Evolution, sociolinguistic background, and structural characteristics

The literature on the evolution, sociolinguistic background, and structural characteristics of SingE abounds, including issues of educational policy and language attitudes. Accounts generally differentiate between a standard variety of SingE (Standard Singapore English; SSE) and a colloquial variety (Colloquial Singapore English; CSE), though this diglossic classification is questionable and has been the subject of much debate (cf. Section 2.3.2).

The following sections provide an overview of the most important findings in these areas of research and of some of the changes currently taking place in Singapore's sociolinguistic setup. This constitutes the starting point for the investigation of child L1 SingE, whose emergence has been an important part of these developments for quite some time now. I begin with some general facts and figures to set the geographical and demographic scene for the literature overview to follow.

2.1 Some facts and figures

Singapore, or officially the Republic of Singapore, is a sovereign city-state in Southeast Asia, located between Malaysia and Indonesia, with a total of 709.2 square kilometers of land area (CIA World Factbook, 2019).

Its total population is estimated to be 5,995,991 as of July 2018, and, in keeping with its historical and sociopolitical development, it is strongly ethnically heterogeneous. According to 2018 estimates, the majority of Singapore's inhabitants are of Chinese ethnic origin (74.3%), followed by Malay (13.4%) and Indian (9%, including Sri Lankans) segments, as well as a group commonly summarized as being of "other" ethnic origin, including Eurasians (3.2%).

As a consequence of this ethnic diversity, modern Singapore is similarly linguistically diverse. The distribution of languages is equally heterogeneous and speaker numbers of each language are far from easy to pin down. The CIA World Factbook provides the following estimates: As of 2015, English is the most widespread language in the country, spoken by about 36.9% of the population, followed closely by Mandarin at 34.9%. Malay is spoken by approximately 10.7% of the population; Tamil is spoken by 3.3% of the population; and about 12.2% of the population speak what is classified as "other Chinese

dialects” (including Hokkien, Cantonese, Teochew, Hakka); finally, a group of minority languages classified as “other” is spoken by 2% of the population (CIA World Factbook, 2019). These numbers relate to the language most frequently spoken at home. The report does not explicitly take into account the multilingual background of most speakers.

As one can see from the distribution of languages spoken in Singapore, and as has been widely acknowledged by the huge body of research on this topic, English has played an important role in the country from its foundation. This stems from a variety of interrelated factors, including, first and foremost, Singapore’s nearly 150 years as a British colony (e.g., Lim, 2007, p. 452; Schneider, 2007, pp. 153–155); its unique language policy of “English-based bilingualism” (Tickoo, 1996, p. 438); the ethnic neutrality of English within Singapore (also observed in many other postcolonial contexts); and, more recently, the impact of general forces of globalization on the worldwide spread and entrenchment of the English language (e.g., Coupland, ed., 2010; Blommaert, 2010). All these aspects have significantly shaped and influenced the evolution of English in Singapore.

2.2 Historical background¹

After having changed hands and names repeatedly, the island of Singapore fell into oblivion under the Johor Sultanate for about two centuries. In 1819, Sir Stamford Raffles negotiated a treaty whereby Johor allowed the British to establish a trading outpost for the British East India Company on the island. Raffles founded “the first major British trade settlement” (Wee, 2004a, p. 1017), which ultimately led to the establishment of the British colony of Singapore in 1824. This not only constituted the foundation of modern Singapore but was also the starting point for the subsequent spread and entrenchment of the English language. Namely, it was also the beginning of Phase 1, Foundation, in terms of Schneider’s (2003, 2007) Dynamic Model of Postcolonial Englishes. However, the British did little at first to encourage the spread of proficiency in English. Only after World War II was English made available to major segments of the population.

In terms of political organization, the British preserved the so-called “capitan system,” i.e., the division of the local population into three groups – a Malay group, a Chinese group, and an Indian group – all of which had their own legal systems with so-called capitanes as juridical heads (e.g., Bloom, 1986, p. 352; Lim & Foley, 2004, p. 2). Inhabitants not belonging to one of these groups legally constituted a fourth group of “others,” which was capitan-less. Today, remnants of this system are still in evidence in the country’s policy of multiracialism, as well as in its education and language policies (Wee, 2004a, p. 1017).

The country’s population, which had been rather marginal at first, soon began to grow rapidly (between 1827 and 1836 it almost doubled; Turnbull, 2017, p. 55) mostly due to the fact that Raffles established the trading outpost as a

free port, which attracted traders, travelers, and others from China, Malaysia, and the Arab world. In 1826, Singapore, together with Penang and Melaka, became part of the Straits Settlement. Due to Singapore's "strategically ideal location" (Schneider, 2007, p. 154), the influx of traders, colonists, and contract laborers continued. They were predominantly of Chinese and Indian origin but also from various other Asian and European backgrounds as well as of mixed ethnicities (e.g., Gupta, 1998, p. 107).

According to Schneider's (2007) account of the development of Singapore, the transition to Phase 2, Exonormative Stabilization, took place in 1867 with the establishment of Singapore as a crown colony. From then onward, different political and economic developments further contributed to the still-developing prosperity and expansion of the country. Among such events were, for example, the advancements in steamship development and utilization, as well as the opening of the Suez Canal in 1869 (Schneider, 2007, p. 154). In addition, "the growing importance of the rubber trade kept increasing the importance of Singapore's port as an international trading center" (Schneider, 2007, p. 154). By the late 19th century, Singapore "had experienced massive population growth" and was home to an ethnically, socially, and culturally heterogeneous population of mostly Asian and European descent. For some parts of society, this "result[ed] in a cultural blend of Europe and Asia" (Schneider, 2007, p. 154). This situation, as well as Singapore's continuing development, remained mostly stable until World War II.

The education system, however, developed more slowly. Education in English did not become a serious endeavor until after World War I. However, after the government had finally acknowledged the demand for English-medium primary education, "the English-medium primary school intake was higher than the Chinese-medium one" in 1954 (Leimgruber, 2013, p. 4).

From 1942 to 1945, Singapore was occupied by the Japanese, a period that not only interrupted its development but also brought about important political changes as well as changes in identity constructions. Even though British rule was generally welcomed back at the end of the war, some anti-colonial sentiments manifested themselves in resistance movements. After the British had taken over again, they had to cope with an Asian struggle for independence, the call for "merdeka," and a political party, the People's Action Party (PAP), promoting this desire. These ambitions were soon successful. After a period of self-government and the establishment of a constitution in 1959, Singapore briefly united with Malaysia in 1962 but ultimately reached independence in 1965. At first, Singapore was faced with many socioeconomic problems, which resulted from a lack of natural resources and ethnic fragmentation. However, this was soon overcome by successful political action and capital expenditures by foreign investors. These initial successes heralded the start of a period of radical development that transformed Singapore into the modern, highly industrialized, and economically prosperous nation it constitutes today. Most of these changes took place in the 1970s, with both sudden economic success as well as Singapore's language policy playing a crucial role in these developments.

2.3 The sociolinguistics of Singapore: developments and current perspectives

Modern Singapore pursues a policy of multiracialism, which promotes equal status among the different ethnic groups. As outlined in Section 2.1, it is characterized by a co-existence of many different languages, of which four (Mandarin, Tamil, Malay, and English) have been designated as official languages. English was included due to its ethnic neutrality, in hopes that it would uphold and guarantee this multiracial equality (Wee, 2004a, p. 1019). In fact, “English is the only common bond shared by everybody” (Schneider, 2007, p. 156). The language has an exceptional, if not unprecedented, status in modern Singapore, due not only to this ethnic neutrality but also to the educational policy pursued by the government, viz. “English-based bilingualism” (Tickoo, 1996, p. 438). Bilingualism is generally widespread and “[e]very child is educated in English as a ‘First Language’ and his/her ethnic language out of the other three official languages (Mandarin, Tamil, Malay) as a ‘mother-tongue Second Language’” (Schneider, 2007, p. 156, quoting Foley, 1998, pp. 130–131).

The following sections provide a more in-depth exploration of Singapore’s linguistic diversity and how English hegemony blends into it. Zooming in to the use and manifestations of the English language in Singapore, I provide a brief overview of the ongoing discussion on how to conceptualize SingE, or rather, the various Englishes spoken in Singapore. Finally, I address current developments in SingE, in particular the gradual emergence of an L1 speaker generation.

2.3.1 *Linguistic diversity vs. English hegemony*²

As briefly outlined earlier, the 1963 constitution attended to the issue of linguistic diversity in Singapore. Malay, Mandarin, Tamil, and English were declared the four official languages of Singapore and, in principle, enjoy equal constitutional status (Constitution: §153A; quoted in Leimgruber, 2013, p. 6). The first three languages are those of the major ethnic groups of the country – i.e., Mandarin for the Chinese population, Malay for the Malays, and Tamil for the Indians – which shows that the selection of the official languages traces back to the original social stratification of the population under the different groups of the capitan system and can therefore be considered “a modern-day version” of this system (Wee, 2004a, p. 1019). However, in practice, English plays the most prominent role in modern Singapore by far.

In fact, the language has held a prominent place in Singapore ever since the landing of the British. It was the language of the colonial masters, restricted at first to a local elite. Early on, the British aimed at creating “a group of English-educated elites” (Wee, 2004a, p. 1017) and soon English was introduced as – and expected to be – the language that brought about socioeconomic mobility. Before long, English was regarded as a prestige language and as the gateway to an improved occupational outlook as well as to the Western way of life, strongly associated with science and technology (Platt & Weber, 1980, p. 19).

In the early days of the colony, education developed and spread slowly, and it was only after the Japanese occupation that English-medium education grew rapidly. Enrollment in English-medium schools reached 50.4% in 1962 (Platt, 1975, p. 366). English has been the only medium of instruction in Singapore's schools since 1987, a change which has had a significant impact on the sociolinguistic situation in Singapore, although it was basically just an official implementation of a practice and educational choice parents had long pursued (Leimgruber, 2013, p. 11).

The other three official languages are commonly designated as “mother tongues,” one of which is assigned to each child and taught at school as a second language alongside English. For quite a while (though not originally; cf. Gupta, 1994, p. 148), the mother tongue was assigned according to the child's ethnic group, but this regulation has been handled more liberally in recent times (cf. Leimgruber, 2013, p. 12). The aim of this mother tongue-oriented language policy was to secure a strong cultural grounding for all Singaporeans, as the mother tongue was seen as “the vehicle of traditions and cultural values, whereas English was the useful language of international trade and regional competitiveness” (Leimgruber, 2013, p. 12). By implication, this view would deny English the status of a legally accepted and suitable mother tongue in Singapore (Alsagoff, 2007, p. 36). I return to this issue in Chapter 9.

Among the three mother tongues, Malay is given particular attention in Singapore's constitution for a variety of reasons: First and foremost, it can be considered the “aboriginal language” of the city state (cf. Leimgruber, 2013, p. 6). In addition, Singapore's brief membership in the Malaysian Federation and diplomatic relations with neighboring countries (which are mostly Malay-Muslim) continue to be important factors here. It is the national language of the country, which in practice means that it is the language of the national anthem and of the military and that it is part of the national coat of arms. Functionally and demographically, Tamil is the least important of the four official languages, not least because of the fragmented and linguistically diverse character of the Indian population. Even though the Chinese population is also linguistically fragmented, Mandarin has received much more encouragement from the government than have Malay and Tamil. As Leimgruber (2013) aptly sums up:

The hierarchy of languages in Singapore is [...] quite clear. The language of international business, English, comes first, closely followed by Chinese, the ‘mother tongue’ of the majority and the language of economic potential. The national language Malay comes third: it enjoys a united speech community but few real advantages from its exceptional legal status. Tamil fares worst, as it has a small base of speakers and does not benefit from government incentives as much as the other three.

(Leimgruber, 2013, p. 11)

The “Speak Mandarin Campaign,” launched in 1979, has promoted the use of Mandarin among the ethnic Chinese. This attempt turned out to be a success:

Mandarin has become the lingua franca for intra-Chinese communication and has become a native variety in Singapore, despite the fact that it was originally not the language of the Singaporean Chinese. It is thus not culturally rooted and has adopted strong associations of modern and open communication. Nevertheless, attempts to revitalize “Chinese-medium education” have so far met with only moderate success (cf. Leimgruber, 2013, p. 9; Gupta, 1994, pp. 148–149). School statistics report a clear trend, viz. the growing importance of English: among Chinese primary school students, the percentage of pupils from English-speaking households has increased from 20% in 1988, to 40% in 1998, and finally to 54% in 2007 (MOE, 2008; quoted from Leimgruber, 2013, p. 9). More far-reaching census data confirm this trend, as is discussed in more detail in Section 2.3.3.

2.3.2 *Conceptualizing Singapore English: one, two, or many?*

As the use of English spread beyond the elites, a colloquial variety began to develop alongside the standard variety taught in schools. It emerged “in a complex contact situation involving English (taught as a second language in schools) and various substrate languages” such as Hokkien, Cantonese, Mandarin, and varieties of Malay, mainly in the period between 1930 and 1960, (Winford, 2007, p. 246; see also Gupta, 1992, p. 327; Platt & Weber, 1980, p. 18), with Hokkien and Malay having been described as the most influential substrates (e.g., Ansaldo, 2004; Lim, 2004, p. 27). This variety, commonly known as Singlish (and referred to throughout this text as CSE/Singlish), initially assumed the role of a lingua franca for the ethnically diverse population of Singapore. As Winford claims, it is nowadays used by the younger generations as an L1 or primary language (2007, p. 246; see Gupta, 1994 for a similar claim).

The situation and usage contexts within Singapore, i.e., which speaker uses what type of English under which circumstances, are fairly complex, and the question of how many varieties of SingE really exist is difficult to answer. Today, SingE is used in a variety of domains, both formal and informal and as both an L1 and an L2, and it has been apparent from the early days of research on SingE that the speech community is not homogeneous.

How exactly to classify SingE has been an issue of some debate. Throughout the years, different approaches to the linguistic variation observed within SingE have developed (for a concise overview of older and more recent approaches, see Leimgruber, 2013, pp. 16–21.) One of the earliest approaches assumes the existence of different variants of SingE situated on a lectal continuum from basilect to acrolect via transitional mesolects, each used in different social environments, with the lectal range of each speaker varying according to the highest sociolect he or she can achieve (see especially Platt, 1975; Platt & Weber, 1980). Other approaches treat the situation of English in Singapore as diglossic between a standard and a non-standard, colloquial variety of English, viz. SSE and CSE/Singlish (esp. Gupta, 1989, 1994, 2010). Following Ferguson’s (1959) notion of diglossia, SSE corresponds to the H (high) variety, CSE/Singlish to the

L (low) variety. According to this model, SSE (or H) is the variety associated with more formal communicative contexts and that appears more or less similar to BrE (e.g., Brown, 1988b, p. 132; Tay, 1982); CSE/Singlish (or L) is the vernacular variety, which is used in more informal communicative contexts and exhibits a number of characteristic indigenized features (e.g., Schneider, 2007; Tan, 2002). Further, Gupta (1994) assumes that variation within SingE is the result of switching between H and L and that speakers are aware of the differences between the two varieties and deliberately choose between the two, if they have both varieties at their disposal – Gupta assumes that not everyone speaks the H variety. Although Gupta concedes that there is not necessarily “a hard division between H and L, but degrees of aim at H and L,” she proposes that “most utterances will be identifiable as one or the other variety” (Gupta, 1994, p. 8; cf. Pakir, 1991, who successfully adopts Gupta’s approach). In other words, it should always be clear whether a member of the speech community is using the H or L variety (cf. Leimgruber, 2013, p. 43).

Yet other approaches consider language proficiency to be the crucial factor determining variation in SingE. Similar, in fact, to what has been suggested by Platt (1975), Pakir (1991) describes variation in SingE in terms of two dimensions, viz. formality and proficiency, where the latter is strongly linked to length and depth of education. Thus, speakers with a higher level of education (and thus higher language proficiency levels) have access to a wider range of stylistic variation, while the opposite holds true for speakers with lower education levels and therefore less proficiency in English.

Although I cannot go into the strengths and weaknesses of the approaches discussed earlier in detail (but see Leimgruber, 2013, pp. 16–21 for an overview), I would like to point out two aspects that are relevant for the study at hand. First, Platt’s (1975) approach has long been outdated, as he bases his observations on the assumption that SingE (and its lects) is a largely non-native variety. Second, Gupta’s (1989) classifications are too rigid, as they do not account for L features occurring in H discourse and vice versa (e.g., Alsagoff, 2007; Leimgruber, 2013, p. 19). Indeed, research on the L2 variety confirms this in that many researchers have observed that “it is in fact quite common to find features typical of different levels of a lectal continuum co-existing in one and the same variety” (Lim, 2004, p. 19; see also Ansaldo, 2004; Wee & Ansaldo, 2004). This phenomenon can also be seen in my own data and is repeatedly demonstrated and discussed from a child language acquisition perspective in Chapters 6 through 9.

Pointing out these weaknesses, Alsagoff (2007, 2010) introduces the cultural orientation model, which focuses on speaker agency and cultural orientation as key influences on variation. The model as such is, in principle, reminiscent of Platt’s general concept of a lectal continuum. Alsagoff renames the ends of the continuum as “Local Singapore English” (replacing CSE/Singlish) and “International Singapore English” (replacing SSE) and also adds important perspectives. One end of the continuum is marked by localism whereas the other is marked by globalism, a duality that has frequently been observed in recent research in a variety of sociolinguistic contexts (e.g., the notion of globalization;

cf. Sharifian, 2010, 2013). Alsagoff describes the variation found in SingE as the result of the conflict between these two poles, viz. “being global” and “being local” (2007, p. 34). The former relates to the context of international business; the latter is used to express local and national identity and a unique Singaporean culture (this is why Alsagoff [2007, p. 37] suggests the name “Local Singapore English” instead of “Singlish”). Influenced by a variety of factors and orientations, speakers combine features associated with the formal and colloquial styles in their interactions, depending on what is appropriate and desired in the given situation and context. The speaker can exploit both poles, viz. use characteristics associated with both the formal and informal ends, in a single communicative event that could require, for example, the expression of both authority and community membership. The model thus attributes agency and choice to the individual speakers, viz. the capability to linguistically manipulate communicative events. The use of a particular variety or lect always expresses a certain cultural orientation closer or less close to one or the other end of the continuum. Proficiency is also accounted for in this model and once again equated with education. According to Alsagoff, there is a correlation between use of International Singapore English features, English proficiency, and educational attainment, reminiscent of what was already suggested by Platt (1975). Leimgruber’s approach (2013, pp. 20–21) elaborates on Alsagoff’s model by introducing “variationist models based on indexicality” (Silverstein, 2003; Eckert, 2008), which consider “every linguistic variable to index (to point to, to mark) one or more social meanings, understood by the speaker and addressee consciously or unconsciously” (Leimgruber, 2013, p. 20). He therefore attributes great potential for interpretation to a linguistic utterance and agency to the speaker-listener.

The question of which approach seems to be the more appropriate one has mainly revolved around the continuum hypothesis vs. the diglossic approach, and this constitutes a still “unresolved debate” (Wee, 2004a, pp. 1022–1023). The positions have been discussed and compared, mostly in terms of their advantages and shortcomings (e.g., Leimgruber, 2013, pp. 16–21 and Chapter 2 for a concise overview of such discussions and Leimgruber, 2012, for an article-length treatment of the issue; see Wee, 2004a, p. 1023 for a short evaluation and discussion of the two main approaches). This debate is indeed not easy to resolve, as all approaches have their value and scientific appeal and, in fact, do not necessarily exclude each other. What is relevant for the present analysis and what will find consideration in the later discussion of results are the following aspects, mostly found in Alsagoff’s (2007) approach: (1) Alsagoff’s feature-based concept of variation in SingE, i.e., that features associated with either SSE or CSE combine into more or less formal speech along a lectal continuum; (2) her assumption that this continuum includes native speakers of SingE and not only non-native speech forms, as originally proposed by Platt (1975); (3) the notion of speaker agency. While my results clearly support the first two aspects, I argue that for L1 child English we might have to rethink our traditional conceptions, especially when it comes to notions such as “speaker agency.” I explore this further in Chapter 9.³

What else is relevant in terms of the conceptualization of SingE is the question of whether SingE – or at least its very colloquial manifestations – can be considered the product of creolization. Gupta (1992, p. 342), for example, takes up such a position, and Platt (1975, p. 372) and Ho and Platt (1993, p. 1) refer to SingE as a creoloid, viz. a variety exhibiting creole-like features without being derived from a pidgin. They justify this claim by referring to the linguistic characteristics of the colloquial variety, as it shares many of the linguistic features also commonly identified in creoles (e.g., serial verb constructions, variable past tense marking, omission of copula and auxiliary *be*, etc.). However, as has been argued by many, no such set of characteristics that uncontroversially identify creole status exists (e.g., Winford, 2007, p. 255), and the term “creoloid” in itself has received a great deal of criticism. Furthermore, a pidgin ancestor is no longer presupposed in most recent, informed approaches to creole genesis (e.g., DeGraff, 1999; see also Ansaldo, 2004, p. 129).

Several characteristics listed as indicative of creole status are indeed found in SingE but can also be found in other speech forms that would clearly defy classification as a creole. Winford (2007, p. 255) convincingly argues that “they [the features] result from processes of change and restructuring that creole formation shares with other cases of language contact, especially those involving natural SLA,” a process that constitutes much of the origin of especially the vernacular forms of SingE. This of course raises important issues for the ever-ongoing debate on creole genesis and on categorizations such as “creoloid” and “creole” in general. It has also been suggested that the concepts of both “creoloid” and “creole” appear to be obsolete because they do not constitute structurally definable classes (Leimgruber, 2013, p. 34) but rather are sociohistorical and political constructs (Ansaldo, 2004, pp. 129–130). Indeed, it has been suggested that “there is no inherent difference in the nature of the processes involved in creole or non-creole language acquisition” (Ansaldo, 2004, p. 131; see also, for example, DeGraff, 1999; Mufwene, 2001).

These observations are, of course, all of a purely scientific nature, relevant in linguistics as a scholarly discipline. I want to briefly turn to the question of how Singaporeans perceive the situation, as this has not yet been discussed in much detail but might have an influence on the future development of SingE. In general, Leimgruber (2013, p. 45) observes that “[o]n an individual performance level [...] as well as in terms of language attitudes, there is a strong sense in which diglossia cannot be wholly dismissed.” Indeed, public expression of opinion reinforces such observations, as can be seen, for example, in blogs or Internet fora. One example is a blogger’s reaction to former Prime Minister Goh Chok Tong’s speech held at the Marine Parade National Day Dinner 1999, in which he expresses his deep resentments for the colloquial variety Singlish. Such governmental actions against the colloquial variety – another example would be the Speak Good English Movement launched by the government in 2000 – help maintain the distinction between a standard and a colloquial variety. The terms “Singlish” and “Good English” are often used in public discourse as contrasting notions, clearly in binary distribution (cf. Leimgruber, 2013, pp. 45–46). The media and

Internet offer a wealth of examples, some of which include discussions of the pros and cons of using Singlish – for example, in the blog post “Speaking Singlish Or Speaking Good English” (Priscilla, 2013). Statements like “Not everyone in Singapore can code-switch effectively between speaking Standard English and Singlish” and “Singlish just happens to be a living language that is more alive than standard English” (Lay & Thet, 2016) not only highlight the perceived diglossia but also mirror public opinions about the colloquial variety. In this respect – and relevant for the later discussion of results – DeCamp (1971, p. 368) suggests that while the composite linguistic behavior of a community may be continuous, “verbal behaviour of the individual may turn out to be discrete.”

Additionally, the question of whether CSE/Singlish can be considered a creole is not only a scientific issue, though the non-linguistic lay person does not seem to be too concerned about the legitimacy of this classification. An Internet search for relevant keywords (e.g., *Singapore English*, *Singlish*, *creole*) returns a wealth of pages, mostly created by non-linguists, that leave no doubt about the status of CSE/Singlish as a creole. The Wikipedia entry on Singlish, for example, starts out with “Colloquial Singaporean English, better known as Singlish, is an English-based creole language spoken in Singapore,” and we can find interviews with the local population with titles such as “Singlish: The Singaporean English creole” on YouTube (Wikipedia, 2018; Lewis, 2014).

2.3.3 Recent developments and current perspectives: language policies and attitudes and the change of English from second- to first-language variety

As already mentioned previously, Singapore pursues a language policy of so-called “English-knowing bilingualism” and is characterized by a unique mix of Western orientation and Asian values, in which English is “the language of modernity allowing access to Western scientific and technological knowledge[,] while the mother tongues are cultural anchors that ground individuals to traditional values” (Wee, 2004a, pp. 1020–1021). Language policy makers even promote the idea “that English is not acceptable as a mother tongue” (Wee, 2004a, p. 2021), probably in an effort to maintain this diversity and the distribution of both modern and traditional values as reflected in language use. Yet this does not necessarily conform to sociolinguistic realities.

As a result of the decline in status and usage of the indigenous languages as reported previously, the English language has experienced an ever-increasing growth in importance and in usage contexts, most notably also in the home environment. As early as 1980, Platt and Weber reported that children often acquired some knowledge of English from older siblings before entering school, then used the English language for interaction with other children in the school context and then even more extensively in their work and personal lives as adults. They found that 11.7% of the sampled population between eighteen and thirty-five years of age indicated that they used English in conversations with their mothers, 29.3% used English in conversations with their fathers, and 75.4% used English when

conversing with their siblings (Platt & Weber, 1980, p. 119). This reinforces other observations that, already by the 1980s, English was used as a home language in Singapore and also that “clearly English is the language of and for the younger generation” (Schneider, 2007, p. 157). Also going back to the 1980s, the Singapore Ministry of Education (MOE, 2008) reports that the number of ethnic Chinese primary-school students from English-speaking households increased from 20% in 1988, to 40% in 1998, and finally to 54% in 2007.⁴

With respect to the question of which variety of SingE people use, Platt and Weber also noted quite early that the first clear traces of the colloquial variety, which developed mainly in the English-medium schools (mostly on the playgrounds but to some extent also in the classrooms), spread from the school context to the individual homes (Platt & Weber, 1980, p. 19; see also Wee, 2004a, p. 1018). This trend has only become more and more prominent since then. Even though language policy makers reject English as a mother tongue for Singaporeans (Wee, 2004a, p. 2021), today an ever-increasing number of families in Singapore have integrated the English language into their daily routines (e.g., Bolton & Ng, 2014; Gupta, 1994, 1998, p. 121; Lim, 2007, p. 456; Tan, 2016, p. 121; Wee, 2004a, p. 1021). As a consequence, children growing up in such families acquire the English language from very early on: often in combination with one of the other local languages of Singapore, viz. bilingually and often as the dominant language; sometimes even as their only language (cf. Lim & Foley, 2004, p. 6). This trend as observed in the literature on SingE (though only observed, not thoroughly investigated!) is clearly confirmed in the census data of 2000 and 2010, which reveal that the percentage of five- to nine-year-olds who grow up with English as the most frequently used language at home has risen from 34.1% in 2000 to 51.5% in 2010 (cf. Singapore Department of Statistics, 2001; Singapore Department of Statistics, 2011). On this basis, some have called for official acknowledgment of English as a mother tongue, and tensions between promoters of SSE and CSE have intensified. This tension finds expression in the fact that nowadays, the colloquial variety functions as a carrier of local identity, which people express positive attitudes toward and which people therefore use in everyday situations. The government, on the other hand, cherishes the idea “that English must continue to serve a purely instrumental role if Singapore is to maintain its economic competitiveness” and posits that the use of the colloquial variety undermines linguistic proficiency and therefore threatens the country’s economic competitiveness (Wee, 2004a, p. 1021; see also Tan, 2002; Schneider, 2007, p. 158). This attitude has repeatedly been expressed by the political leaders of Singapore, as, for example, by former Prime Minister Goh Chok Tong at the Marine Parade National Day Dinner, 1999:

Singlish is not English. It is English corrupted by Singaporeans and has become a Singapore dialect. I am not referring to accent here. Our Singaporean accent is acceptable. We do not need to fake an American or British accent. Singlish is broken, ungrammatical English sprinkled with words

and phrases from local dialects and Malay which English speakers outside Singapore have difficulties in understanding.

[...]

Like any other languages, English has its own structure, form, grammar, pronunciation and idioms. If we don't stick to the rules of common usage or if we mix English with other languages, then it is no longer English as it is understood throughout the world. Problems in communication will arise.

[...]

Let me emphasise that my message that we must speak standard English is targeted primarily at the younger generation, especially those who have studied in English schools or are in school now. It is not my intention to discourage adults from non-English speaking background from learning and speaking English. It cannot be helped if they continue to speak Singlish. For many of them, learning some English words is already difficult enough. To pronounce words accurately and speak them grammatically may well be impossible. But we should ensure that the next generation does not speak Singlish.

[...]

At home, let us discourage the younger generation from using Singlish. Let us challenge them to use standard English.

(Singapore Government Media Division, 1999)

Such governmental actions against the vernacular variety of English culminated in the "Speak Good English Movement," which was launched on April 29, 2000. However, these attempts to preserve the standard form of English have led to completely opposite results, namely, a vigorous demand for the right to use the local form of English (Schneider, 2007, p. 158; Tan, 2002; Wee, 2004a, p. 1022). This sentiment is expressed in various ways, such as in, for example, Internet blogs, in which Singaporeans have reacted to Goh Chok Tong's (and others') anti-Singlish statements by asking questions like: "But is Singlish and all it represents really as insignificant as the term 'Broken English' implies?" (Fluffy, 2012). The author of this blog further comments:

On the contrary, a language is so much more than just a vehicle for economic advancement. Just by listening to a language, one can grasp the history, understand the beliefs, comprehend the culture and discern the values of its speakers. By listening to a language, one listens to the linguistic embodiment of the culture of the place and gets a feel of the communal identity shared by its speakers.

This holds true even for Singlish, which is commonly considered to be a language in its own right, albeit one that incorporates phrases and words from the many different "mother tongues". [...] Unlike the other commonly used "mother tongues" such as Malay, Mandarin or Tamil, which are associated with the Malays, Chinese or Indians, Singlish is not a language

commonly associated with any racial group. Rather, it is a language that is defined by its association with Singapore and used by all Singaporeans, regardless of race or religion, in general. [...] Evidently, not only is Singlish a vital part of Singaporean identity and a part of every Singaporean, it is also serves [sic!] as an essential tool for inter-ethnic communication as well as the linguistic manifestation of the intermixing and co-existence of cultural traditions, which is seen as essential to the survival and stability of a multi-racial state such as Singapore and which is the key aspect of Singaporean identity.

[...] Furthermore, the regular usage of clearly Singaporean phrases also allows for the development of an intangible emotional bond between fellow Singaporeans.

(Fluffy, 2012)

However, this does not necessarily mean that proponents of CSE/Singlish turn a blind eye to the linguistic requirements for successful international communication, i.e., the need to speak a variety of English that is internationally comprehensible. In this respect, the author of the blog post suggests the following as a solution to this predicament:

Government agencies could consistently encourage the use of “proper” or Standard English in all cases where written work is required as well as when interacting in the workplace, whether foreign or local. However, they should stop actively portraying the use of Singlish in everyday or informal conversation as something that is detrimental and undesired, even in informal speech.

Furthermore, he or she adds that

[...] the belief that Singlish has absolutely no economic capital is erroneous in nature. In fact, it can become one of many cultural icons seen as being uniquely Singaporean. An example of how Singlish can be marketed as a national icon in and out of Singapore would be locally produced films such as the ones by local film maker Jack Neo which not only cleverly utilize liberal amounts of Singlish to induce humor but also manage to earn remarkable amounts of revenue. The marketing of the usage of Singlish phrases and words in informal conversation as a marker of national identity could indeed prove economically profitable both locally and internationally.

(Fluffy, 2012)

I quote extensively from this blog post for several reasons: First, it aptly illustrates the sociolinguistic struggle currently taking place between language policy makers and at least some parts of the population, which “is a continuing and important aspect of understanding English in Singapore” (Wee, 2004a,

p. 1022). Second, it reinforces the important idea that CSE/Singlish actually fulfills the role attributed to English in general, viz. being “a language that is defined by its association with Singapore and used by all Singaporeans, regardless of race or religion, in general” (Fluffy, 2012). Third, the question of which type of SingE children acquire as their L1 becomes even more interesting in this context. There are obviously two strong forces competing in the struggle for which features the children may choose from the feature pool available when acquiring SingE as L1, viz. language policy makers as promoters of SSE features vs. (at least parts of) the general population using CSE features to greater or lesser extents in their daily lives.

Zooming in on some of the details of the gradual change of English from L2 to L1 usage, what can generally be noted is that “the process of language shift [has been] gradually progressing in all ethnic communities” (Schneider, 2007, p. 157), even if to different degrees, as the census data suggest and as the results from my questionnaire study reinforce (cf. Section 5.1; see also Bibi, 1994; Saravanan, 1994; Schneider, 2007, p. 157).

Figure 2.1, Figure 2.2, and Figure 2.3, taken from the Singapore Census of Population 2010 Statistical Release 1 (Singapore Department of Statistics, 2011, pp. 27-28), show the proportions of speakers in this group among the three main ethnicities of Singapore, viz. Chinese, Malays, and Indians, again comparing the years 2000 and 2010. In addition, the three diagrams offer details on the age distribution within the individual ethnic groups, i.e., on what percentage of Singaporeans belonging to each of the six age groups (5–14, 15–24, 25–34, 35–44, 45–54, and 55 & over) have English as the most frequently used language at home.

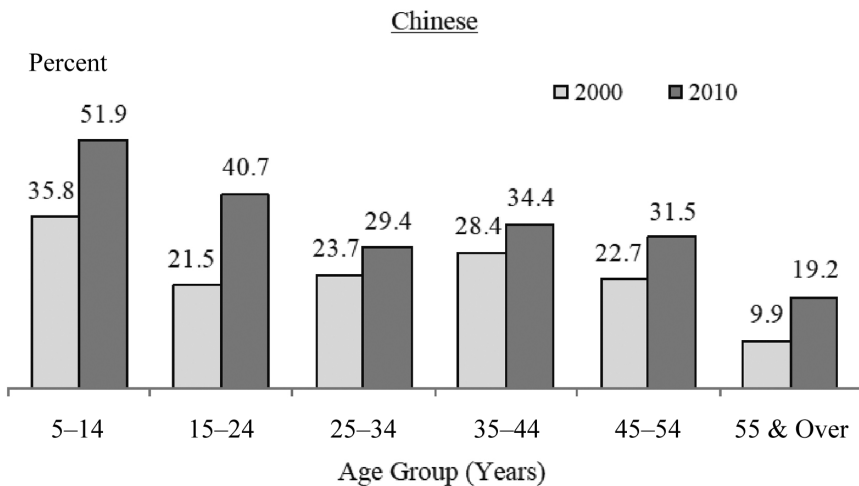


Figure 2.1 Use of English as most frequently used home language by age group – Chinese group

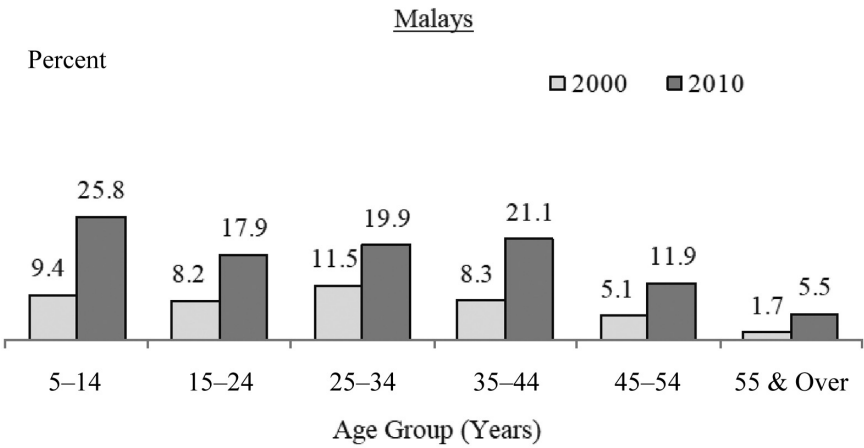


Figure 2.2 Use of English as most frequently used home language by age group – Malay group

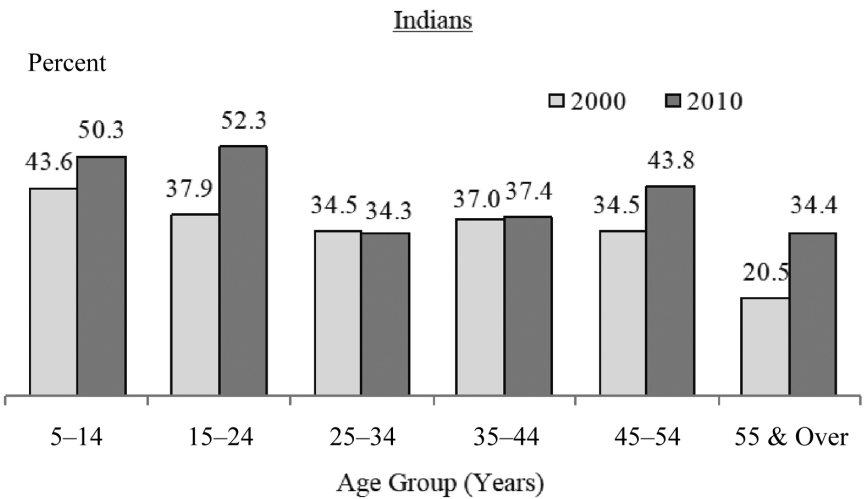


Figure 2.3 Use of English as most frequently used home language by age group – Indian group

With respect to the use of English as a home language, Figure 2.1, Figure 2.2, and Figure 2.3 reveal the following insights: First, among 5–14-year-olds (an age group that largely overlaps with the target group of observation in the present study), Chinese children show the highest percentage of use of English as their dominant home language (51.9%), closely followed by Indian children, of

whom 50.3% have English as the most frequently used language at home. In Malay families, English is the most frequently used language for only 25.8% of all children, which constitutes a remarkable difference when compared to the two other groups. These ethnic differences can be observed in all age groups. This does not come as a surprise, as earlier studies have reported that Malay Singaporeans “apparently resist [...] the push and pull factors of English more successfully” than the other segments of the population (Cavallaro & Serwe, 2010, p. 129). Second, the figures also show that, aside from the youngest group (5–14 years), Indian Singaporeans have the highest percentages of speakers with English as the language most frequently used at home. This suggests that, even though young Chinese Singaporeans may have successfully caught up with the Indian group, the use of English as the most frequently used home language has long been most prominent in the Indian group, with percentages as high as 20.5% for the segment “55 & Over” in 2000. The children in the study all come from “academic” families, viz. at least one parent has a university degree, which is generally the strata of society that has always had the highest proclivity for using English as a home language (for details, see the Census of Population, 2010).

Together with the findings on age distributions, the census data suggest that the Indian group could be considered a pioneer in the development of SingE toward L1 status. The percentage of users of English as the most frequently used language at home has long been highest in the Indian group and appears to be the most stable overall, even when the variables of age and educational level come into play. That the two other groups, especially the Chinese group, have been catching up in their use of English suggests that the trend of having English as the most important home language has become much stronger in recent years, and it is no longer just a matter of educational background or age. This clearly confirms the general, often-made observation that SingE has been gaining ground as L1. What is more, an ongoing language shift toward English monolingualism has already been envisaged for Singapore (e.g., Mes-thrie & Bhatt, 2008, pp. 221–222). The trends reported earlier might allow such a perspective, yet the current situation in Singapore is a long way from monolingualism (cf. the results in Sections 5.1 and 5.2).

As another recent development, it has been claimed that Singapore is developing into a new regional epicenter for norm orientation (cf. the discussion in Hundt, 2013). This is an interesting and relevant observation, one which cannot, however, be addressed further in the context of the present study. Yet, the ever-growing cohorts of young people speaking English as (one of) their L1s will certainly further strengthen the local and global perception and appreciation of SingE, and thus ultimately its further establishment as an epicenter.

What all the observations in the present section show – and this is, of course, of immediate relevance for the investigation that follows – is the ever-increasing spread, importance, and status of English in Singapore, which at some point laid the groundwork for the new developments reported here. Nowadays, these clearly interact with and amplify each other.

2.3.4 Conceptualizing L1 Singapore English: a critical assessment of some earlier approaches

SingE is one of the most extensively studied varieties of English, and the existence of a considerable number of L1 speakers has repeatedly been noted since the late 1970s (among the earliest to make mention of that is Kwan-Terry, 1986) and even more so in recent times (e.g., Bolton & Ng, 2014; Gupta, 1994, 1998; Lim, 2007; Tan, 2014). Nevertheless, a comprehensive empirical analysis of the acquisition and sociolinguistic background of L1 SingE is still missing, which constitutes a clear research desideratum. The few existing approaches to the topic⁵ all show clear limitations, either methodologically or with respect to their representativeness or in terms of the comprehensiveness of the issues addressed.

The earliest approach to the acquisition of English as L1 in Singapore I came across dates back to 1986. In her article “The Acquisition of Word Order in English and Cantonese Interrogative Sentences: A Singapore Case Study,” Kwan-Terry (1986) notes that as early as the 1980s, “many children, from an early age, [were] exposed to at least two languages, of which the children’s ethnic language is one, and English is in many cases the other” (Kwan-Terry, 1986, p. 14). The study investigates the acquisition of interrogative structures in the simultaneous acquisition of English and Cantonese in the context of Singapore. Despite the fact that it clearly goes beyond just mentioning the bilingual character of Singapore and that it indeed constitutes an empirical investigation that yields some interesting insights into the acquisition of interrogative sentences, it is characterized by shortcomings in terms of representativeness and of the terminology used. The data come from only one preschool child observed from ages 3;6 to 5;0. Even though the study therefore employs a longitudinal approach, it clearly lacks representativeness with respect to participant numbers and features investigated. Although single-child case studies are not uncommon practice in Language Acquisition research, such a study cannot provide a comprehensive account of L1 child SingE. What is more, it does not incorporate findings or questions from World Englishes research. In fact, it showcases the strict separation of the World Englishes and First Language Acquisition research paradigms in that the terminology employed, e.g., “un-Englishness” (Kwan-Terry, 1986, p. 37), would not be acceptable within the World Englishes framework. This is also true for the general framework and interpretations offered by the article. With respect to the finding that the child produces interrogative structures that deviate from standard English grammatical rules, Kwan-Terry repeatedly suggests that her subject simply had not yet mastered the respective grammatical rules. The possibility that the SingE input the child receives might play a role in the acquisition of question structures and as such constitutes the target structure for the child – in other words, that the child is simply acquiring a SingE feature that diverges from the standard variety but that is not necessarily “deviant” or “wrong” grammar – is not envisaged.

Nearly a decade later, Gupta (1994) attended to the topic of children acquiring English as a native language in Singapore in her monograph

The Step-Tongue: Children's English in Singapore. Here, she explicitly states that “[t]he examination of SCE [Singapore Colloquial English] as a native variety is a new trend in the study of Singapore English” (Gupta, 1994, p. 6). However, as the following overview of contributions to the topic will confirm, neither World Englishes nor Language Acquisition researchers have followed up on the topic in a systematic and comprehensive empirical fashion. Gupta’s study clearly constitutes a groundbreaking contribution to the investigation of L1 SingE, if only because she raises some early awareness of an emerging L1 variety of English in Singapore and has clearly posited this development as a new topic for research. Despite her interesting findings on the acquisition of question structures (and some other characteristics mentioned and briefly discussed), her study also shows some shortcomings with respect to participant numbers and features investigated. Therefore, the study cannot be claimed to be comprehensive in the strict sense. Gupta does, however, provide a chapter on languages in education in Singapore, which is a common focus in research coming from within Singapore, as briefly outlined later. What is more, Gupta’s approach is diglossic in nature, which is evident in the fact that, for example, she presents and discusses certain features as being diagnostic of CSE (SCE in her terminology) and SSE (Gupta, 1994, pp. 9–13). The problems with such an approach, which stem from the issue that some of the apparently diagnostic features also occur in more formal speech styles (e.g., zero subjects; cf. Deterding, 2007, p. 58), have already been discussed in some detail earlier. Gupta assumes that “[t]he kind of English which the English-speaking parents of Singapore have supplied to their children is a variety which is syntactically very different from Standard English,” viz. CSE/Singlish (Gupta, 1994, p. 5). She even suggests that children do not normally show diglossic behavior because they may not yet have developed SSE (1994, p. 14). Children experience full exposure to the standard variety and develop proficiency in it from the early primary school years onward (1994, p. 15). That this assumption must be a misconception is demonstrated in the empirical results of the present study. Still, Gupta was one of the first to acknowledge the possibility that Singaporeans can be conceptualized as native speakers of English at all, a view which has not gained full acceptance even today.

A variety of studies have followed those of Kwan-Terry (1986) and Gupta (1994), which cannot all be reviewed in detail here. They examine different aspects of the acquisition and use of L1 SingE. However, much of the research on SingE from within the Singaporean community looks into English in terms of the educational domain. For example, in her 2004 dissertation, as well as in a series of articles (2010, 2011a, 2011b), Dixon investigates a range of factors (e.g., home and school factors, phonological awareness) influencing oral-language and literary skills in bilingual kindergarten children in Singapore. Liow et al. (2006) look into the development of bilingual children’s early spelling in English – more precisely, what role the home language plays in that respect. The article offers insights into bilingualism and home languages in Singapore and claims that most children grow up exposed to a mix of CSE and SSE before entering school at age seven (p. 869). However, the authors delimit CSE

(and, it seems, also SSE) from standard forms of English as “nonnative forms of English” (p. 870). Zhang et al. (2008) again employ a strong educational perspective. The focus of their study is, once more, on literacy acquisition of primary school pupils and how the inherently challenging task of acquiring literacy in English “is exacerbated when children have to struggle for academic success in English as an ‘adopted’ language in Singapore, where government-designated bilingual education is the norm” (Zhang et al., 2008, p. 246). The article acknowledges the fact that English is developing toward L1 status. However, it draws from the 2000 census data, in which percentages of primary at-home English usage were still clearly below the 50% benchmark. The authors thus conclude that the majority of children still have English as an L2, a situation that has definitely changed in more recent times. What is more, Zhang et al.’s wording suggests that they do not consider Singapore a true first language context; they describe their subjects as “young L2 learners” (Zhang et al., 2008, p. 249).

Other important contributions to the topic of L1 SingE are to be found in the work by Silver, Goh, and colleagues (e.g., 2006, 2009, 2016). Goh and Silver (2006) provide a teacher education guide that addresses a variety of aspects of both first and second language acquisition. As will be repeatedly argued and shown in the course of the present study, they state that

[m]uch of the knowledge gained from research in western, English dominant environments (e.g., UK, USA) is applicable to language development elsewhere. There are, however, some differences because of the ways English is learned and used in other international contexts. Understanding these different contexts for language learning and education is therefore an important part of understanding language development.

(Goh & Silver, 2006, p. v)

They try to facilitate their local students’ understanding of these and similar aspects by using real-life examples from the local Singapore context.

Silver et al.’s (2009) edited volume *Language Learning in New English Contexts: Studies of Acquisition and Development* is dedicated to the exploration of English language acquisition and development beyond the traditional native speaker bases of North America, the United Kingdom, and Australia. The studies in this volume look into different facets of English language acquisition in Singapore and, to some extent, also relate them to other postcolonial contexts. The various contributions are empirical in orientation but, again, adopt a strong educational perspective.

Silver and Bokhorst-Heng (2016) is a recent contribution on the multilingual education system in Singapore that takes the city-state’s unique quadrilingual setup into consideration. The book brings together articles on each of the four official languages of the country, viz. English, Mandarin, Malay, and Tamil, highlighting past and current pedagogical developments as well as future directions for language education in a highly multilingual setting like Singapore. Consideration is given to the dialectical relationship between policy and practice.

The educational perspective employed in most of these contributions is definitely a valid and much enlightening one. Yet, to understand the complex sociolinguistic and linguistic realities of L1 SingE, we also have to leave the educational domain and focus on what children do and how they acquire the English language outside of the school context. I know that governmental and educational policies are strongly grounded in Singapore's society and linguistic conception, yet, from an acquisitional perspective, learners ultimately decide for themselves what to make of the input they receive (cf. Carroll, 2017, p. 13 for a somewhat related argument). However, what is equally if not more important is that we dismiss the deficit perspective: namely, the assumptions that L1 SingE cannot be a legitimate L1 variety; that Singaporeans do not have full proficiency in English, even though they learn it from birth; and that they speak an inferior variety of English, especially when using features associated with more colloquial registers. As shown earlier, such attitudes are often still to be found not only in scientific discourse but also in governmental attitudes as well as in speakers' self-assessments (e.g., the study by Leimgruber et al., 2018).

Tan's (2014) contribution is a welcome new perspective on the overall topic. Her study reports findings from an investigation of the language use and perceptions of English as a marker of Singaporean identity based on 436 Singaporeans of different age and ethnic groups. After first offering a brief treatise of the notion of "mother tongue," she provides a criteria catalogue for mother tongue status and validates her research findings against this "checklist." On the basis of her empirically well-grounded findings, she convincingly argues "that English in Singapore has to be reconceptualized as a new mother tongue" (Tan, 2014, p. 319).

2.3.5 Some concluding remarks

As outlined previously, the sociolinguistic situation in Singapore is a complex one, not only shaped by historical and political developments but also strongly influenced by linguistic and educational policies, as well as by peoples' opinions and linguistic accounts, which often strongly contradict each other. Much of what has been published on the issue of L1/native/mother tongue status of English in Singapore comes from within Singapore and employs a strongly applied, educational focus, often providing implications for teaching as a very important element. Others still treat SingE as a mainly second-language variety and even treat child SingE speakers as L2 speakers, and/or employ a deficit-oriented perspective. The notions of "native speaker" or "mother tongue" are highly controversial and have often been problematized in the context of Singapore (see Section 3.3 for a more detailed discussion).

Of course, the educational perspective is a valid one, and it makes perfect sense to ask all these questions about the ownership of language and the status of Singaporeans as speakers of English. However, I suggest it is high time we accept the notion of "native speaker" for the context of Singapore and approach the topic from a broader perspective. Research should focus on the use of language outside the educational domain and beyond governmental regulations (without

ignoring that these are an important part of Singapore's linguistic realities, of course), and (at least for the time being) should approach the topic from beyond rigid linguistic conceptions. I will do so in the remainder of this monograph. To that end, I utilize an approach that is (to the best of my knowledge) unprecedented: a combination of sociolinguistic/World Englishes research and the Language Acquisition paradigm. However, I dismiss any deficit-oriented perspective, often found in Language Acquisition research, and I refrain from rigid preliminary conceptions or biased theoretical assumptions. The aim is to describe L1 child SingE in its own right and to place it on the map of First Language Acquisition research as an equal member of L1 Englishes.

Before I turn to the empirical part of the book, I briefly outline some of the most important characteristics of L2 SingE (notably, those associated with the colloquial variety CSE/Singlish) reported in the literature. In Chapter 3, I set the acquisitional scene for the investigation to follow.

2.4 Structural characteristics of L2 Singapore English

As already mentioned earlier, the literature on L2 SingE abounds, and the same is true for scientific accounts of its linguistic characteristics. Some studies offer comprehensive overviews of the features at all levels of linguistic description (e.g., Deterding, 2007; Leimgruber, 2013; Low & Brown, 2005; the contribution by Schröter in the *Mouton World Atlas of Variation in English*, 2012). Some deal with characteristics on only one of the levels (e.g., the contributions on the phonology and morphosyntax of SingE by Wee, 2004a, 2004b in the *Handbook of Varieties of English*; the individual contributions in Lim, ed., 2004). Some concentrate on a restricted set of characteristics or on one particular phenomenon (e.g., Alsagoff, 1995 on relative clauses, 2001 on tense and aspect; Deterding, 2003 on monophthong vowels; Lim, 2007 on particles; Wee, 1998 on the lexicon of SingE). The list is endless, and this is why a full account of all contributions on the features of SingE is impossible to provide and would, at any rate, be beside the point of this study.

The following summary is based on a selection of some feature overviews of SingE. It aims to provide an overview of the most commonly identified characteristics in a fashion that is concise enough for the aim of the present study, viz. for a comparison with my child data corpus and a discussion of the results but without going into too many details or laying claim to completeness. In the following, I briefly summarize those features that have been most prominently reported and discussed as characteristics of CSE/Singlish; as Lim (2004, p. 19) has nicely put it, “the more stable and characteristic pan-Singaporean features which all Singaporeans do share is what is central to the description here.”⁶

As addressed previously, L2 SingE is not a single, homogeneous variety. If we do not want to approach the situation from a perspective of diglossia, we can assign the values “colloquial” and “formal” to the features, rather than to the speech forms as such. On a lectal continuum, SSE is often pictured as the

variety associated with more formal communicative contexts, and it has been reported to be largely identical to BrE (e.g., Brown, 1988b, p. 132; Tay, 1982).⁷ CSE/Singlish is the vernacular variety and, as such, exhibits a number of characteristic indigenized features and is used in the more informal communicative contexts (e.g., Schneider, 2007; Tan, 2002). However we conceptualize SingE, all realizations (be they formal or informal) are likely to be part of the feature pool (cf. Mufwene, 2001) from which Singaporean children “pick and mix” (for the notion, see Schreier, 2014, p. 232) when acquiring their English L1 system. As presented previously, Gupta (1994, p. 5) assumes that Singapore children acquire CSE as their L1 system. However, this assumption is reassessed by the present study, as will be discussed in Chapter 9.

When reviewing the literature on the linguistic system of SingE, and when later describing the linguistic features found in the data of my study, I adopt the approach suggested by Deterding (2007), viz. to describe varieties of English in their own terms, “without reference to external norms” (p. 12). When it comes to phonology, vowels are, for example, described by means of Wells (1982) lexical sets. Whenever I compare SingE to BrE or AmE or any other variety, this is just for the purpose of locating SingE, especially the L1 variety, on the map of other L1 Englishes. I suggest that child L1 SingE should be considered an autonomous linguistic system and not just the product of “incomplete acquisition” (cf. Meisel, 2011, p. 121), as will be argued throughout the empirical part of the present study.

What is also important to note is that such feature lists report tendencies, not absolutes. The features discussed are found to varying extents and are stronger with some speakers than with others, depending on the communicative situation or a speaker’s educational status or ethnic group; they vary even within a single individual (cf. Lim, 2004, p. 19). This variability has been attributed to aspects such as the instability of SingE as a still newly emerging variety, code-switching, or continuum effects (e.g., Foley, ed., 1988; Platt, 1975; see also Wee & Ansaldo, 2004, p. 73). I return to these issues in the discussion of my results (cf. Section 9.1). When we identify a linguistic characteristic as a prototypical feature, what is meant is not that it always occurs, but just that it seems to be relatively more frequent in the variety under observation than might be expected in comparison with other varieties of English (cf. Deterding, 2007, p. 12), without implying anything about notions of correctness or acceptability.

2.4.1 Phonological features

SingE has often been reported to be non-rhotic in pronunciation, lacking linking and intrusive /r/ (e.g., Leimgruber, 2013, p. 15; Trudgill & Hannah, 2002, p. 136). Other approaches, however, point to a potential shift toward rhoticity, most likely as the result of globalization, US influence (mostly from Hollywood and the music industry), and the perception of AmE as cool by many Singaporeans, especially young ones (e.g., Lim, 2004, p. 25; Deterding & Poedjosoedarmo, 2000; Tan & Gupta, 1992, p. 148; see also Deterding, 2007, p. 21).

Looking into the details and focusing on CSE/Singlish as the variety most closely associated with local features, the following characteristics have been reported:

- absence of phonemic length distinctions in vowels, e.g., *beat* and *bit* are both pronounced as [bit]; *pool* and *pull* are both pronounced as [pul]; and even *sports* and *spots* and *cart* and *cut* sound the same

As the example illustrates, vowels in CSE/Singlish are relatively short, but this tendency is phonologically conditioned. It does not apply to open syllables. Thus *bee* is realized as [bi:], as in the standard varieties of English (Leimgruber, 2013, p. 64; see also Bao, 1998, p. 156). Related to this observation, SingE is generally characterized by a reduction of its vowel inventory (as compared to RP or other standard varieties) through a series of vowel mergers:

- FLEECE and KIT → [i], e.g., see previous
- GOOSE and FOOT → [u], e.g., see previous
- THOUGHT, FORCE, NORTH, LOT, and CLOTH → [ɔ], e.g., *not* [nɔt], *sauce* [sɔs]
- START, PALM, BATH, and STRUT → [ɑ], e.g., *lucky* [lʌki], *ask* [ɑs]
- NURSE, LETTER, and COMMA → [ə], e.g., *nervous* [nəvəs], *heard* [həd]
- DRESS and TRAP → [ɛ], e.g., *sweat* [swɛt], *pamphlet* [pəmflɛt]

Differences in both frequency and distribution of usage of these vowel mergers have been reported. While the presence of the DRESS – TRAP merger has been shown to strongly depend on the speaker's educational level and speaking style, with the distinction made primarily in more formal styles (Suzanna & Brown, 2000), the other mergers have also been attested in educated speakers (Deterding, 2003). What is more, it has been shown that it is not really accurate to speak of a complete merger, as differences can still be detected between, for example, KIT-FLEECE and FOOT-GOOSE (cf. Deterding, 2007, pp. 24–25).

The opposite effect appears to be at work in the next feature:

- splits, i.e., systematic distinctions in certain word groups: between close /e/ in, for example, *egg*, *bed*, *dead* and open /ɛ/ in, for example, *beg*, *fed*, *peg*, *bread*; /ʌ/ in *want* but /ɒ/ in *won*; /uə/ in *tour*, *poor*, and *sure*, but /jɔ/ in *cure* and *pure*; schwa in unstressed vowels of initial syllables in some words and full vowels in others

Researchers have reported a multitude of additional characteristics in the phonological domain:

- monophthongization of mid-high diphthongs FACE, GOAT, and SQUARE to /e/, /o/, and /ɛ/: e.g., *days* [des], *own* [on], *know* [no], *compared* [kɔmpɛd]; PRICE only undergoes monophthongization with certain lexical items, e.g., in *while* [wal] (apparently in syllables with [l] as coda; cf. Lim, 2004, p. 24)

- centering diphthongs of the NEAR and POOR/CURE sets tend to be rising, not falling diphthongs: e.g., *here* [hjə], *sure* [ʃwə]; when a POOR/CURE diphthong is preceded by /j/ it is monophthongized, e.g., *cure* [kjɔ]
- tendency toward unreduced vowels: i.e., full vowel quality, mostly along the lines of orthographic representations, in function words and some unstressed syllables in content words, e.g., *they are willing to* [tu] *share and* [ən] *erm tell you* [...]; *position* [pozɪʃən], *comfort* [kəmfort]
- final consonant deletion: e.g., *limp* [lim], *with* [wi];
- consonant cluster reduction: e.g., *glimpsed* [ɡlɪms]/[ɡlɪmst], *recently* [ˌɪsənli], *facts* [fæks], *finding* [faɪnɪŋ]
- unreleased stops (word-finally), which, in turn, leads to the glottalization of the preceding vowels: e.g., *tap* [təp̚], *tab* [təp̚], *leak* [lik̚], *league* [lik̚]
- alternatively, stops themselves may get deleted, resulting in pronunciation patterns such as *like* [laiʔ], *hit* [hiʔ]; i.e., words ending in a glottal stop
- glottalization also with words beginning in a vowel, such as *a* [ʔə], *of* [ʔɔf], *eat* [ʔit], *apple* [ʔɛpəl]

Brown (1988a, p. 119) suggests that this relatively high frequency of glottal stops is connected to the absence of liaison in CSE/Singlish, inasmuch as the separation of words by glottal stops has hindered the emergence of features such as linking and intrusive /r/.

- the inter-dental fricatives /θ/ and /ð/ tend to be realized as the stops [t] and [d] when preceding a vowel: i.e., *thin* is realized as [tin] and *then* is realized as [den] (word-initially); these alveolar plosives are sometimes dentalized and, if voiceless, sometimes aspirated
- in word-final position, inter-dental fricatives are often realized as the labiodental fricative [f]: i.e., *breath* [brɛf], *breathe* [brɪf]
- vocalization of /l/: e.g., *school* [sku], *small* [smɔ:] (though in these examples, it can also be argued that the /l/ is actually deleted); minimal pairs such as *wolf* and *woof* and *tool* and *two* may be homophones; vocalization of /l/ as a back vowel after front vowels, e.g., *wheel* [wiu], *still* [stɪɹ], with more or less lip rounding
- use of labiodental /r/: e.g., *very* [veɹɪ] (not usually reported, but Kwek, 2012 attests its use)
- avoidance of syllabic laterals and nasals: i.e., the lateral /l/ or a nasal in the nucleus position of a syllable are replaced by the schwa, and the lateral or nasal is moved to the coda, e.g., *button* [batən], *bottle* [bɒtəl], *whistle* [wɪsəl]
- nasal deletion: i.e., the post-vocalic nasal may get deleted, leaving the preceding vowel nasalized, e.g., *time* [tâi], *don't* [dô], *around* [əɹâu]
- voiceless plosives or affricates are non-aspirated, so that the allophonic variation found in examples such as *pin* and *spin* in other varieties of English does not exist in CSE

- minimal aspiration on an initial voiceless plosive, so that /t/ may sometimes sound like /d/ and /b/ like /p/; e.g., *newspaper* [njusbebə]
- word-final consonants are often devoiced, most prominently the fricatives: e.g., *tab* [təp], *believe* [bilif], *judge* [dʒat]
- extra final /t/ insertion, most likely as a spurious suffix: e.g., at the end of words like *in*
- /r/ deletion in syllable-initial position, esp. in consonant clusters: e.g., *from* [fɒm], *everyday* [ɛvide]
- metathesis: e.g., *lisp* [lips], *grasp* [graps]
- unique patterns of stress assignment: e.g., *'biogra'phies*
- equal stress instead of primary and secondary stress: e.g., *'ce'le'bra'tion* (instead of *cele'bration*)
- absence of differences in stress patterns to mark changes in parts of speech: e.g., *'in'crease* (both verb and noun; cf. *in'crease* [verb] and *'increase* [noun])
- no difference in stress assignment between compounds and phrases, i.e., stress is always on the second syllable: e.g., *white 'house*
- different stress assignment in individual words, e.g., *cha'racter*, *e'conomic*, *fa'culty*
- tendency toward syllable timing, probably as a consequence of the relative absence of reduced vowels and the lack of linking between words, as well as of the regular occurrence of glottal stops at the end of words
- lack of pitch variations to express contrastive meaning: e.g., depending on the pitch placement in a sentence such as *Sam likes coffee*, the sentence has slightly different meanings (or, rather, communicative intentions) in standard varieties of English, but not necessarily so in SingE
- “early booster” (Low, 2000): i.e., the tendency for high pitch to occur at the beginning of an utterance
- rising tone at the end of an utterance
- tendency toward final lengthening of the final syllable of an utterance: e.g., *then about seven fifty* [fifti:] ... *wah*
- unexpected sentence stress patterns: e.g., stress on pronouns and demonstratives without obvious pragmatic reason; the final word often receives prominence, most likely to mark the end of an utterance

(Goh, 2005)

2.4.2 *Morphosyntactic features*

Similar to its phonology, the morphosyntax of SingE is also marked by a variety of distinctive rules and patterns, especially, again, in the more colloquial speech styles. Although I once again cannot focus on all details, I provide a list of the most prominently reported features, along with brief explanations as necessary.

- verbs are often uninflected: i.e., a verb is not marked for number, person, or tense⁸

- absence of third person singular -s: e.g., *He want to see how we talk*; conversely, sometimes -s appears when not expected, e.g., *my mum will always says that [...], [...] my hands doesn't move*
- absence of past tense marking: time and aspectual information are marked otherwise, e.g., via the use of lexical markers such as *yesterday* or *already*; e.g., *He eat here yesterday, He not yet eat lunch, They eat already*
- lack of subject-verb agreement (as a consequence of the lack of inflectional marking described earlier)
- aspect marked via forms like *always, already, still*
 - *always* marks habituality: e.g., *The bus always late!*
 - *already* marks perfective as well as inchoative aspect: e.g., *They eat already* ("They have already eaten"); *My son ride bicycle already* ("My son has just started riding the bicycle")
 - *still* marks progressive aspect: e.g., *The baby still cry because you never feed it* ("The baby is still crying because you haven't fed it")
- progressive is the only aspect that is marked inflectionally, but only by suffix – *ing*; auxiliary *be* is omitted: e.g., *The students still writing*
- use of *will* to refer to regular events or to things that occurred in the past: e.g., *[...] and then my m- my mum will always says that never mind lah, [...], last time, erm [...] she will um babysit for other people*
- localized usage of *would*, not as a marker of a hypothetical context but to indicate that something is tentative: e.g., *so if I can, I would hope to learn swimming*
- lack of *do*-support in negation structures: e.g., *We not visit his place*
- existence of two localized passive constructions, in addition to the regular standard constructions with auxiliary *be* and *get*⁹
 - *kena*-passive: e.g., *John kena scold (by his boss)* ("John was scolded by his boss"; the agentive *by*-phrase is optional)
 - *give*-passive: e.g., *John give his boss scold* ("John was scolded by his boss"; this construction, however, is rather rare)
- use of invariant tag *is it*: e.g., *He watching television, is it?*; *They watching television, is it?*; *He not watching television, is it?*; *They not watching television, is it?*
- tags can also be used in their negative form: e.g., *The tea very hot, isn't it?*

In such cases, the speaker expresses his or her assumption that the assertion of the clause is correct and tries to elicit agreement on the part of the addressee.

- use of invariant tag *right*: e.g., *before I graduate I'll definitely er visit there a few times, right [...]*

- copula deletion: e.g., *The house very nice; That girl my neighbor; My uncle staying there; First we thinking of going to Malaysia*
- auxiliary deletion: e.g., *Hey, I think the driver trying to be funny, you know; And milk also given by the mother; We not finished* (“We have not finished”)
- use of *got* as perfective, possessive, and existential marker: e.g., *He got go to Japan* (“He has been to Japan”); *You got buy lottery?* (“Did you buy a lottery ticket?”); *You got nice shirt* (“You have a nice shirt”); *Here got very many people* (“There are many people here”)
- article deletion/variable marking of definiteness and indefiniteness: e.g., *I don’t have ticket; She got car or not?*
- count uses of non-count nouns, especially those that “seem logically countable in many circumstances” (Deterding, 2007, p. 43): e.g., *a fruit, staffs, equipments, furnitures*
- absence of plural marking: e.g., *She queue up very long to buy ticket for us*
- *one* as relative pronoun: e.g., *That boy pinch my sister one very naughty* (“That boy who pinched my sister is very naughty”); *The cake John buy one always very nice to eat* (“The cake that John buys is always very delicious”)¹⁰
- zero subject pronouns/pro drop (though see Section 4.2.1 for a critical remark on the latter term): e.g., *Always late!* (“You are always late!”); *Must buy for him, otherwise he not happy* (“We must buy a present for him, otherwise he won’t be happy”)
- zero objects: e.g., *In fact, er, if you shake the coke okay, I can still open.*
- object-preposing: e.g., *Certain medicine we don’t stock in our dispensary; To my sister sometime I speak English.*
- question formation patterns
 - in *wh*-interrogatives: *wh*-pronoun remains in situ, i.e., *You buy what?; This bus go where?*
 - in yes/no questions: use of invariant tag *is it* (see previous) or *or not*, e.g., *The food good or not?; the latter often occurring with can*, e.g., *Can answer the question or not?*
 - This has led to the emergence of the tag *can or not*, e.g., *Answer the question, can or not?*
 - absence of subject-auxiliary inversion in question structures: e.g., *Why you are laughing?*
 - absence of *do*-support: e.g., *What you want me to say?*

If both phenomena apply at the same time, utterances such as single *Can* occur, without subject or complement, but which nevertheless constitute a full utterance in SingE.

- missing and extra prepositions: e.g., *I didn’t really subscribe any magazine previously, [...] they don’t emphasize on the correct stuff*

2.4.3 Lexical, semantic, and pragmatic features

- borrowings from the various local languages from different domains
 - toponymic borrowings: e.g., *Jurong*, *Katong*, *Serangoon Harbour*
 - fauna and flora: e.g., *brinjal* (“aubergine”), *taugeh* (“beansprout”), *rambutan* (“kind of fruit”)
 - terms denoting local culture and habits: e.g., *kelong* (“fish trap”), *baju kurong* (“Malay dress for women”), *hawker stall* (“food center housing many stalls that sell a variety of inexpensive food”)
 - further domains of daily life: e.g., *kiasuism* (“strongly competitive attitude”), *jalan* (“stroll”), *sayang* (“love, beloved person”), *chin chai* (“lazy and careless”), *cheem* (“difficult to understand”)
- lexical innovations, especially compounds, some of them with all elements of English origin, others of hybrid nature: e.g., *White Horse* (“the sons of politicians or other important persons”), *hawker stall/hawker centre* (s.a.), *void deck* (“empty space kept for social functions on the ground floor of apartment blocks”), *airflown* (“freshly imported (food)”), but also hybrid compounds such as *botak head* (“bald head”) and *cheeko peg* (“dirty old man”)
- local expressions created by derivation processes: e.g., *heaty* or *irregardless*¹¹
- local clippings: e.g., *cert* (“certificate”), *to zomb* (“zombie”), maybe to be categorized even more accurately as a case of backformation
- exceptionally frequent use of initialisms in everyday speech: e.g., *JC* (Junior College), *ACS* (Anglo-Chinese School), *PIE* (Pan-Island Expressway)
- semantic shift: e.g., *to send* (“to give a lift”), *to keep* (“to put away”), *to hack* (“to remove carefully,” e.g., tiles, plaster, etc.), *knock* (“to remove a dent from a car”), *bluff* (“to joke”), *stay* (“to live”), *fellow* (“person,” incl. male and female)
- semantic extension of *until/till*, indicating that something continues to be true even beyond the time referred to: e.g., *so till now still don’t know how to swim*
- use of formal/archaic words, i.e., words that have passed out of use in other English-speaking countries: e.g., *alight* (“get off a bus or train”), *thrice*
- reduplication of elements
 - nominal reduplication (primarily denoting someone considered intimate, e.g., names of close friends or family members): e.g., *Where is your boy-boy* (boyfriend/son)?, *We buddy-buddy* (close male friends), *I’m looking for Ry-Ry* (Henry)
 - adjectival reduplication (intensifies meaning of base adjective): e.g., *Don’t always eat sweet-sweet* (very sweet) *things*, *I like hot-hot* (very hot) *curries*, *Make it smaller-smaller* (very small).¹²

- verb reduplication, both with a single copy (expressing attenuation) and two copies (expressing continuity): e.g., *Don't always stay in the house. Go outside walk-walk* (stroll), *I walk-walk-walk* (was walking) *then I fall down*.

Adverbs in SingE do not reduplicate; the reason for this is unclear (for a tentative hypothesis, see Wee, 2004c, pp. 112–113).

- discourse-pragmatic particles¹³
 - *lah* indicates speaker's mood/attitude and appeals to the addressee to accommodate this mood/attitude, e.g., *Have some more food lah !*
 - *ma(h)* indicates information as obvious, e.g.,
A: How come you call me?
B: You page for mema
 - *wat* indicates information as obvious and contradictory, e.g.,
A: I dam stupid lah! I shouldn't have stopped. [talking about dance classes]
B: You can start now wat!
 - *meh* indicates skepticism, e.g., *This is a good book meh?*
 - *leh* marks a tentative suggestion or request, e.g.,
A: But so few people lah, maybe because it has been running for quite some time lah.
B: Actually two weeks only leh.
 - *lor* indicates obviousness or a sense of resignation, e.g.:
A: What do I have to buy at the market?
B: Fish lor, vegetables lor, curry powder lor.
 - *hor* asserts and elicits support for a proposition
A: [...] I mean, Finn got, got a chance to realise himself, right?
B: He's quite innocent, lah, hor, innocent?
 - *hah* question marker, e.g., *Who shall I invite for the BBQ hah ?*
 - *ah* marks off the topic of an utterance and indicates that something more is to follow, e.g., *yah, can cycle, not very well, but can cycle ah, knocked myself against a pillar*
- topic prominence: e.g., *so the whole process I need to break down for the different operators*
- use of resumptive pronouns: e.g., *my brother, he has signed on with SAF.*

Following this research overview of SingE, I lay the groundwork for the acquisitional perspective of the study at hand in the following chapter. I will introduce relevant concepts and their terminology and provide an overview of ongoing debates in the Language Acquisition paradigm, which will help me interpret and discuss the results of my study.

Notes

- 1 If not otherwise stated, the brief historical overview is based on the more elaborate accounts in Schneider (2007, pp. 153–161), Leimgruber (2013, pp. 1–6), and Turnbull (2017).
- 2 If not stated otherwise, the following section is mainly based on Leimgruber (2013, pp. 6–9) and Wee (2004a, pp. 1017–1019). Note, again, that a wealth of contributions offer similar summaries of such issues.
- 3 In addition to these approaches geared toward the classification of English in Singapore only, other approaches, such as Platt's (1977) model for polyglossia, exist. These models integrate SingE and its lects into the wider speech community's linguistic ecology, i.e., in relation to the other local languages and dialects spoken (e.g., Leimgruber, 2013, pp. 35–38 for a concise overview).
- 4 Note that numbers and percentages may vary slightly, as such reports often focus on only a subset of the population in terms of age and ethnicity.
- 5 It has to be noted here that I do not lay claim to completeness, even though I aim to provide as comprehensive an account as possible.
- 6 If not stated otherwise, the overview is based on and examples are taken from the following sources: Alsagoff (1995); Alsagoff and Ho (1998); Bao (1998); Bao and Wee (1999); Brown (1999); Brown et al. (2000); Fong (2004); Deterding (2007); Leimgruber (2013); Lim (2004); Low and Brown (2005); Platt and Ho (1989); Platt and Weber (1980); Schneider (2007, pp. 153–161); Tay (1982); Wee (2004a, b, c); Wee and Ansaldo (2004). As a courtesy to the reader, I do not indicate the source for each individual example; readers are referred to the sources quoted above, which often cross-refer to each other and their examples. The older contributions often constitute the original sources for many of the examples.
- 7 That SSE as an acrolectal variety is fully similar or identical to BrE has, however, also been questioned (e.g., McWhorter, 1998; see also Lim, 2004). Unfortunately, this aspect cannot be discussed within the framework of the current study.
- 8 Note, however, that especially when it comes to past tense marking, it could also be argued that the absence of the final [t] or [d] is the result of a phonological rather than morphological process (see also Deterding, 2007, p. 41). However, I would argue here that the existence of unmarked irregular verbs in past tense contexts (as in the examples) corroborates the morphological interpretation, as does the absence of other inflectional material on verbs and nouns. However, it certainly has to be considered that consonant cluster reduction might be at work and potentially strengthens the deletion of the inflectional markers.
- 9 For syntactic and semantic differences between the two types, see, for example, Wee (2004b, pp. 1064–1065).
- 10 Note, however, that the interpretation of *one* as relative pronoun is not uncontroversial; Gil (2003), for example, treats it as a reifier/nominalizer. I cannot address this question here, but see Wee and Ansaldo (2004, pp. 66–71) for a discussion of this issue.
- 11 However, it has been pointed out to me by a native speaker of American English that both *irregardless* and *cert* (in the following bullet point) are also very common in AmE (p.c. Jill Mazzetta; June, 2018).
- 12 Note, however, that superlatives are unable to reduplicate (Wee, 2004b, p. 1066).
- 13 Definitions quoted from Wee (2004b, p. 1068), except the last particle, for which I refer to Deterding (2007, p. 72), Low and Deterding (2003, pp. 62–63) and Low and Brown (2005, p. 176).

3 Acquiring English as a first language

Setting the scene

So far, L1 research has mainly focused on the acquisition of the two traditional native speaker varieties, British and American English (BrE and AmE), on which it has built its major assumptions and theoretical frameworks. The dominant and most influential, yet far from undisputed, approach is the generative one (founded and developed by Noam Chomsky and his followers), which still provides many insights into the acquisition of language in general and of English in particular. In more recent times, competing views have especially come from usage-based approaches (most prominently Tomasello, e.g., 2000, 2003). As is true for many linguistic subdisciplines, we have ended up with conflicting taxonomies and their methodologies, which manifest themselves in contrasts such as the one between the nativist vs. the empiricist approaches. I do not go into much detail here as the present study does not attempt to validate one framework or the other (the interested reader is referred to overviews and discussions of existing approaches such as Clark, 2016; Saxton, 2010). My take on the description of the development and characteristics of L1 SingE is clearly empirical in orientation. Still, I do not believe that a strict separation of these two major theoretical approaches is mandatory. Despite their incompatibility, both approaches can contribute meaningful insights toward placing SingE on the map of L1 Englishes. Having consulted the huge body of available Language Acquisition research, I have selected those aspects that appear most relevant to the interpretation of my data and findings and will discuss them here. The focus of the following theoretical overview is on childhood bi-/multilingualism, since this is the prevailing acquisitional scenario for the Singaporean children in my study.

Childhood bi-/multilingualism had long been considered a special case of language acquisition, “an oddity or abnormality,” even (cf. Meisel, 2001, p. 12). Until recently, the monolingual English native speaker was treated as the norm or prototype, and therefore as the focus of interest for linguistic investigation (Meisel, 2001, pp. 12–13, 2004, p. 93). However, against the background of recent linguistic realities in the aftermath of colonization and in times of globalization, such a conception and focus have long been outdated. Cases in point include large-scale migration movements to Great Britain (often from the former colonies) and the United States (mostly due to political or religious prosecution or migration from neighboring countries, most prominently Mexico). Wherever people come from

and whatever English-speaking country they migrate to, they normally bring their native language(s) with them but have to acquire English as an additional/second language¹ in their new environment. Often, individuals or whole families stay for long periods of time or ultimately even for good; some get married to British or US American spouses. In this way, new generations of native speakers of English have emerged who acquire English from birth – but not in the monolingual tradition – and often together with another, ethnically related L1. Together with the general advancements in worldwide mobility in the age of globalization, such developments have strongly increased the number of bilingual or even multilingual L1 speakers of English. Grosjean (2010) assumes that around half of the world's children grow up in bi-/multilingual homes or communities; Crystal reports that “[s]ome two-thirds of the children on earth grow up in a bilingual environment, and develop competence in it” (2004, p. 17). As the trends of globalization and migration have only increased, rather than decreased, in magnitude during the nearly fifteen years since Crystal's estimate (be it realistic or slightly overestimated), these numbers can be expected to be even higher today. These developments have turned bi- and multilingual language acquisition into a majority phenomenon (cf. Crystal, 2004, p. 17; De Houwer, 1995, p. 220; Pearson, 2009, p. 379). They have rendered the once-predominant model of the monolingual language learner obsolete and have attracted much scientific attention, especially since the late 1990s (cf. Pearson, 2009, p. 379; see also De Houwer, 1995, p. 219). From a scientific perspective, these developments have resulted in the emergence and wide dissemination of journals such as *The International Journal of Bilingualism* or *Bilingualism: Language and Cognition* (both founded in the late 1990s), conferences such as the “International Conference on Bilingualism,” and language corpora. Hundreds of book chapters and articles and many monographs and handbooks, all of which deal with the issues to be discussed in the following sections, have been published since then (Serratrice, 2013, p. 87). In the following, I focus on those aspects that are of immediate relevance for the present investigation and the interpretation of my results.

Among the research on multilingual First Language Acquisition (“multilingual” being used here as an umbrella term for acquiring more than one language), most studies have focused on bilingualism. Studies on children acquiring three or even more languages from birth are rather rare (De Houwer, 1995, p. 222; Paradis, 2007, p. 16). The few existing ones focus on aspects similar to those treated in bilingual First Language Acquisition research, viz. early language differentiation of the two (or more) languages acquired, the differences between monolingual and bilingual children, effects of reduced input, etc. The latter aspect is, of course, of heightened importance for children acquiring even more than two languages, and studies have revealed that in trilingual environments the language for which the child receives the least amount of input may be marked by incomplete acquisition or develop into a rather passive language in the child's linguistic repertoire (e.g., Maneva, 2004; see also Paradis, 2007, p. 17). Unsworth (2013a, pp. 39–42) provides a concise summary of findings from some of the few existing studies on trilingual language acquisition and

shows that they do not fundamentally differ from what has been discussed and reported for bilingual language acquisition (see also Paradis, 2007). This is why I do not elaborate on these contexts and why I treat the labels “bilingual” and “multilingual” as interchangeable terms or cover terms, as has been done in most of the previous literature (e.g., Meisel, 2001, p. 11; Unsworth, 2013a, p. 21).² When I use the term “bi-/multilingual first language acquisition” in the context of my study – and where it is not otherwise defined – I refer to children who started acquiring both (or even more) of their languages before the age of two, with simultaneous and continued exposure to both or all of their languages. I consider them to be simultaneous bilinguals (see Section 4.4 for further details on the participants and this conceptual/terminological decision).

Emerging L1 contexts such as the case of Singapore have so far been largely neglected by the field of L1 research (and the same mostly applies to settlement colonies such as Australia and New Zealand, though the Englishes in these contexts are characterized by different formation conditions; cf. Section 3.2), even though they provide interesting laboratories for investigating acquisitional scenarios that are characterized by fundamentally different sociolinguistic backgrounds than those of the traditional English-speaking bases. As De Houwer already stated in the 1990s (1995, p. 220), “[d]evelopmental psycholinguistics as a field of scientific enterprise should not be satisfied with offering only explanations of a subtype of acquisition but must try to encompass all types of language acquisition in early childhood.” She certainly did not have in mind the acquisition of English as an L1 in the former colonies of the British Empire but rather was advocating the investigation of bilingual children against the then still-prevalent trend of focusing on monolingual children only. I would like to take up her call and argue that, if we want to capture and understand the recent realities of English worldwide, and of first language speakers in particular, we have to integrate these new acquisitional contexts into our investigations. I suppose one of the reasons for their neglect can be ascribed to the strict separation of – and lack of interaction between – the World Englishes and L1 research paradigms, though the picture is more complex than that. I briefly discuss some additional potential reasons in Section 3.2.

Two main aspects have been most prominently investigated and discussed in the L1 acquisition literature. First, researchers have discussed the question of whether a bilingual child’s two languages develop as one or two systems (for a concise overview of earlier approaches and some recent findings, see, e.g., Clark, 2016, pp. 384–393). However, for the last twenty or so years, researchers have mostly agreed that children separate their systems from early on but that interaction between the systems exists – the degree and manifestations of which, again, are a much-debated issue. Second, there has been much discussion of the similarities and differences between monolingual and bi-/multilingual language development. Aspects discussed in this context include language dominance/developmental pace and cross-linguistic influence or transfer as particular manifestations of interdependence between two languages acquired. These and some other aspects related to the potential differences between monolingual and bi-/multilingual

language acquisition (cf. Meisel, 2001; Paradis & Genesee, 1996; see also De Houwer, 1995, p. 240) are addressed later. Ultimately, I critically reflect on the concept of the “native speaker,” as it is immediately relevant when we try to conceptualize and place a postcolonial variety of English that, so far, has been regarded mainly as a second-language [L2] variety among the traditional native speaker varieties of English.

3.1 Monolingual? Bilingual? Multilingual? – What is different?

Children growing up with more than one language have to learn two (or more) sound systems, two (or more) lexicons, two (or more) morphological systems, two (or more) syntactic systems, and two (or more) systems of use (cf. Clark, 2016, p. 384). Do children acquiring two (or more) languages still follow the same patterns, processes, and timing as monolingual children acquiring just one of those languages (cf. Bialystok, 2001, p. 56)? As Bialystok (2007, p. 393) states in the introduction to a Special Issue of the journal *Applied Psycholinguistics*: “Children growing up in bilingual environments will have different experiences than those who encounter only one language, and these differences may have a profound impact on children’s social, cognitive, and linguistic development.” Still, striking similarities have also been reported between the monolingual and bi-/multilingual acquisition of a language: children seem to go through more or less the same processes on more or less the same schedule (cf. Bialystok, 2001, p. 88).

However, the picture is highly complex, and researchers are far from agreed on the details. Indeed, it is difficult enough to understand how children acquire one language, given “the complexity of the enterprise and the number of factors that impinge on children’s experience in language learning. This complexity is multiplied when one considers the factors relevant to a child’s experience in learning two languages” (Bialystok, 2001, p. 56), especially because there are considerable differences between different kinds of bilingual (and multilingual) acquisition contexts. An immigrant child acquiring one language at home (often a minority language) and speaking another language at school (often the community language) grows up in significantly different conditions than a child who is exposed to two languages at home to a roughly equal extent, to mention just two of several possible scenarios (see, e.g., Bialystok, 2007, pp. 394–395 for some further examples). “[E]very bilingual child seems to have a unique constellation of language experiences and language abilities” (Place & Hoff, 2011, p. 1834). The notion of “bilingualism” in itself is multidimensional and comprises several social, psychological, and linguistic aspects (and the same would again be true for “multilingualism”). These revolve around issues and resulting concepts such as: (1) modes of bilingualism (individual bilingualism vs. societal bilingualism vs. bilingualism as language practice); (2) age of onset of one language in relation to the other language(s) acquired³ (i.e., simultaneous vs. successive/sequential bilingualism); (3) language proficiency and dominance (balanced⁴

vs. unbalanced bilingualism); (4) use, usage domains, and learning contexts (home vs. school bilingualism; elite/elective bilinguals vs. heritage/folk/immigrant bilinguals;⁵ active vs. passive bilingualism; additive vs. subtractive bilingualism).⁶ Ultimately, all these aspects are related and lead to the overarching crucial question: “Who is bilingual?” The range of possible answers is the product of a great deal of widely varying views, from Bloomfield’s (1933) full fluency account to Grosjean’s (1989) more pragmatic assertion, which assumes only basic functionality in both languages. These positions have to be pictured as the extremes of a continuum of proficiency on which the various other manifestations mentioned earlier can also be identified. Within the confines of this study and for obvious reasons of space, these issues and details cannot all be discussed here (but a number of accounts provide informative overviews of types of bilingualism and summaries of these aspects, e.g., Bialystok, 2001, pp. 56–89; Paradis, 2007, pp. 15–16; Pearson, 2009, pp. 380–384). What complicates the picture even more is the fact that the views on – and explanations of – bilingualism and bilingual language acquisition also often depend on one’s theoretical orientation, viz. “assumptions about the nature of language, the process of acquisition, and the structure of mind” (Bialystok, 2001, p. 57). As mentioned earlier, I do not want to take a specific theoretical stance here; rather, I draw on those findings and approaches from earlier research that appear helpful in placing SingE on the map of other L1 varieties of English or in explaining its characteristics and specific acquisitional route. As Bialystok (2001, p. 57) aptly points out: a “synthesis of perspectives [formal and functional] seems more imperative as a means [of] explicating children’s acquisition of two languages than it does for the usual monolingual language acquisition.”

As the vast majority of children in my study can be classified as simultaneous bilinguals (cf. Section 5.1), I mostly focus on what has been observed for this type of bilingual acquisition. In general, simultaneous bilingual first language acquisition is often viewed “as an instance of multiple first language acquisition” and thus as not too different from monolingual language acquisition in principle (Meisel, 2004, p. 95). Still, research has shown that bilingual children may differ from monolingual children in several ways (cf. Nicoladis, 2006, p. 15). It has often been reported that, in comparison to monolingual children of the same age, bilingual children tend to lag behind a bit. This is most likely because they receive less exposure to each of the languages they acquire and therefore use each of them less often than a child acquiring one language (e.g., Marchman et al., 2004; Nicoladis, 2006, p. 15; Nicoladis et al., 2012; Pearson et al., 1997). This, however, does not equally pertain to all domains of language (e.g., Nicoladis et al., 2012, pp. 457–458; for details and examples of which areas are not affected, see, for example, Paradis & Genesee, 1996) and has also been strongly objected to.

Among studies that have reported language delays for bi-/multilingual children (and such accounts abound!), language delay has most prominently been observed in the acquisition of the lexicon. A multitude of studies report a lag in expressive and receptive vocabulary development of bilingual children when compared to their monolingual peers (e.g., Nicoladis et al., 2012, pp. 457–458; Pearson

et al., 1997; see also Paradis, 2007, p. 20), even in the dominant language (e.g., Doyle et al., 1978). Pearson (2009, p. 394) suggests that in the early stages of vocabulary development bilingual children may know up to 30% to 50% fewer words than monolingual children. This has been explained on the basis of input and more specifically, again, quantity of input. Studies have revealed that amount of input is positively correlated with vocabulary size. Several studies suggest that bilingual children score more closely to their monolingual peers in the language in which they receive relatively more input (e.g., Pearson et al., 1993, p. 113, 1997, p. 51). What is more, the input in each language may be restricted to specific contexts such as the home or school environment, which may also have a limiting effect on vocabulary acquisition and size. All of that, however, very much depends on the specific acquisition contexts, as briefly outlined earlier and cannot be generalized to all bi-/multilingual children. Furthermore, it is important to bear in mind that this observation only pertains to the languages involved when they are considered separately; the overall vocabulary knowledge of bi-/multilingual children has been shown to be at least on par with, if not larger than, that of monolingual peers (e.g., Unsworth, 2013a, pp. 24–27; see also Paradis, 2007, p. 20; Serratrice, 2013, p. 96). In sum, it has been suggested that, in terms of vocabulary acquisition, bilingual children may be “less masterful than a monolingual in either language but surely more extensive in their communicative possibilities than any monolingual” (Bialystok, 2001, p. 62). However, even though the former finding is often presented as if it were one of the few clear and undisputed ones, it is not. For example, a study by De Houwer et al. (2014, p. 1189) shows that even this lag does not apply in their data and “that if individual bilingual children appear to be slow in early vocabulary development, reasons other than their bilingualism should be investigated.” In general, it has been suggested that bilingual and monolingual children employ the same word learning mechanisms to build their lexicons (e.g., Paradis, 2007, p. 19), that bilingual children’s first words appear around the same time as do monolinguals’ (e.g., Genesee, 2003), and that, despite the delay often reported, bilingual children tend to be within the same range of number of words acquired as their monolingual peers (Bialystok et al., 2010). Therefore, differences, if present at all, are of a quantitative rather than qualitative nature.

When considering the other relevant linguistic domains, viz. morphosyntax and phonology, the picture is even more complex and inconclusive. Studies looking into a range of different phonological properties have reported that bilingual children lag behind monolinguals in their acquisition rates (e.g., Kehoe, 2002, p. 328; Kehoe et al., 2004, p. 82; Lleó, 2002, pp. 307–308). The studies by Gildersleeve-Neumann and Wright (2010) and Fabiano-Smith and Goldstein (2010) (discussed in Unsworth, 2013a, p. 24) reveal a slower rate of differentiation with respect to certain language-specific contrasts in bilingual children, as well as cross-linguistic influences (on the latter, see also Ball et al., 2001, pp. 79–80; Kehoe et al., 2004, pp. 81–82; Paradis, 2001, pp. 34–35). Of course, similarly to what has been observed for the other linguistic levels, these findings are controversial, and factors such as individual variation always play a crucial role in phonological

acquisition (Serratrice, 2013, p. 91). Serratrice (2013, p. 90) proposes that “[t]he current evidence is increasingly pointing towards a model of speech perception development where simultaneous bilinguals do not lag behind monolinguals and perform just as accurately in their first year of life”; and Unsworth (2013a, p. 24) concludes that, by and large, “the perceptual and phonological development of bilingual children is similar to that of monolinguals.”

As for morphosyntax, the predominant view appears to be that monolingual and bilingual children follow much the same paths when acquiring morphological and syntactic structures (e.g., Bialystok, 2001, p. 67; Meisel, 2001, p. 12; Serratrice, 2013, p. 99). Meisel, for example, is one of the strong proponents of such a view on similarity. He claims that

research over the past decade, or so, has amassed solid if not conclusive evidence demonstrating that children acquiring two or more languages simultaneously, from birth or from very early on, proceed through the same developmental sequences and eventually arrive at the same kind of grammatical knowledge as their respective monolingual counterparts.

(Meisel, 2001, p. 12; see also Meisel, 2004, p. 94)

Still, they inevitably exhibit characteristics that are specific to their experience of dealing with two (or more) languages, which becomes evident, for example, in traces of cross-linguistic influence. On the whole, Genesee et al. (2008, p. 73) claim that “beyond specific instances of crosslinguistic influence”, bilinguals follow the same acquisitional route and rate as monolinguals in both of their languages. Inherent in this view is, again, the assumption that whenever differences are observed, they are generally quantitative in nature rather than qualitative: in other words, bilingual children make the same kinds of errors in their morpho-syntactic development as do monolingual children, but to a greater (or, sometimes, lesser) extent. Hence, “qualitative” here refers to the invariant, general aspects of grammatical development (cf. Meisel, 2004, p. 95).

When it comes to the question of whether bilinguals lag behind monolinguals in their age cohort in the acquisition of morphosyntax, studies have once more come up with diverging results and conclusions. Some studies attest delayed development for particular areas of morphosyntax (e.g., Gathercole, 2002, p. 251; Marchman et al., 2004, p. 218), whereas others show no evidence of delayed development (e.g., Paradis & Genesee, 1996, p. 20).

Differences between monolingual and bi-/multilingual language acquisition in the area of morphosyntax have been attributed to a variety of factors. The ones most prominently discussed are, again, cross-linguistic influence/transfer, amount of input or exposure, and language dominance (Unsworth, 2013a, p. 29), as well as the structural properties of the languages involved in the bi-/multilingual scenario (Meisel, 2004, p. 102), with strong interdependencies existing between these factors (e.g., Genesee et al., 2008, p. 80). Of course, other factors exist that could possibly influence and characterize bi-/multilingual language acquisition (e.g., code-switching and -mixing, lexical borrowing, increased

metalinguistic awareness, etc.; De Houwer, 1995, p. 241). However, it is not my aim (and would actually be impossible) to list and discuss them all. Rather, I now turn to those in a more detailed discussion that appears relevant to the present study, specially the potential role of cross-linguistic influence/transfer.

What also needs to be mentioned at this point is that, even if bi-/multilingual language acquisition results in delays or cross-linguistic influences, this does not mean that bilingual children will end up with linguistic deficits (as was long assumed in early research; e.g., Macnamara, 1966). In fact, researchers tend to agree that such effects are at most temporary and that they do not affect ultimate attainment when two languages are acquired simultaneously. It seems that bi-/multilingual children ultimately catch up with their monolingual peers (e.g., Paradis & Nicoladis, 2008; see also Meisel, 2004, p. 111; Nicoladis et al., 2012, p. 458; Paradis, 2007, p. 21). As Meisel (2004) concludes:

Consequently, even if cross-linguistic interaction is confirmed as a phenomenon habitually found in the acquisition of bilingualism, it appears to refer to quantitative rather than qualitative properties of this type of language development. In other words, it does not constitute evidence against the claim that the simultaneous acquisition of two languages should be qualified as first language development in each of the languages acquired.

(Meisel, 2004, p. 103)

In fact, research has revealed that bi-/multilingual language acquisition confers certain advantages, mostly in the cognitive domain. Among them are increased metalinguistic awareness, along with advantages in problem-solving capacities, literacy development, conversational skills, and in learning a third language (as, for example, reviewed and discussed in some detail in Bialystok, 2001; see also, e.g., Clark, 2016, pp. 394, 400; Pearson, 2009, pp. 392–393; Serratrice, 2013, pp. 99–102).

For the present study, it is also important to note that despite all the similarities in acquisitional stages and rates of acquisition that have been reported for monolingual and bilingual children, individual variability has also been observed (cf. Bialystok, 2001, p. 65; Meisel, 2004, pp. 95–96). This adds yet another layer of complexity to the comparison of bi- and monolinguals, since we never truly know whether the observed differences are inter-individual in nature or can indeed be attributed to general differences between bilingual and monolingual modes of acquisition. This factor should also always be taken into consideration when evaluating alleged differences between the two acquisitional scenarios (for a similar line of argument, e.g., De Houwer et al., 2014; Unsworth, 2013a, pp. 27–28).

3.1.1 The role of cross-linguistic influence in bi-/multilingual language acquisition

Because the evidence that simultaneous bilinguals develop two independent grammatical systems has been substantiated since the late 1990s, much research

has focused on the extent to which the two systems of a bilingual child interact, i.e., on cross-linguistic influence (Serratrice, 2013, p. 98). Both First and Second Language Acquisition research have repeatedly shown that cross-linguistic influence/transfer plays an important role in language acquisition. The term “transfer,” which is often used interchangeably with “cross-linguistic influence” in the literature, has been defined as “the influence resulting from similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired” (Odlin, 1989, p. 27). This notion, which is prominently attested in the research on adult second language acquisition, has also been discussed in the context of simultaneous bilingual child language acquisition. It is defined here as the “incorporation of a grammatical property into one language from another” (Paradis & Genesee, 1996, p. 3). I use the term “cross-linguistic influence” to refer to the latter and, if required, the term “transfer” for language influence in later sequential/adult bilingualism where an L1 is already established, as suggested by Serratrice (2013, p. 99).⁷ The notions of “transfer” and “influence” might be semantically very similar, yet they denote fine-grained differences in terms of the hierarchical relations between the languages and their interactions with each other. For child language acquisition, it has been argued that the older the children are when they start acquiring their other language(s), the more likely that cross-linguistic influence/transfer will occur and the more conspicuous the differences to monolingual first language learners will be (e.g., Pearson, 2009, p. 289). In this respect, Meisel (2001) states that

[i]f, for example, it can be shown that the role of the respective other language is much less important in 2L1 [bilingual first language] than in L2 acquisition – as I indeed believe is the case – this would suggest that it is not so much the presence of another language which causes differences between monolingual L1 and bilingual development; rather, different acquisitional mechanisms would then seem to come into play as a result of maturation.

(Meisel, 2001, p. 13)

The actual relevance of cross-linguistic influence is thus controversial. Its importance is much less controversial for adult L2 acquisition. This is also relevant for the present study because the Singaporean children are acquiring a language variety that was initially acquired and spoken as a second language by their parents and other ancestor generations. In its emergence, L2 SingE has clearly been influenced by transfer from the other local languages of Singapore (and other mechanisms of second language acquisition, of course; see, e.g., Schneider, 2007, pp. 88–90 for a discussion of such), a fact which accounts for many aspects of its unique, local character.

In child language acquisition, cross-linguistic influence has been shown to occur on all major levels of language organization, i.e., phonology (e.g., Brulard & Carr, 2003; Holm & Dodd, 1999; Paradis, 2001), morphology (e.g.,

Nicoladis, 1999, 2003), and syntax (e.g., Hulk & Müller, 2000; Müller, 1998; Nicoladis, 2006; Paradis & Navarro, 2003; Yip & Matthews, 2000b). However, once more, the findings are far from conclusive. For example, Paradis and Genesee (1996) and Meisel (1994), working on morphosyntactic characteristics of language acquisition, report no evidence for cross-linguistic influence from one language to the other but rather monolingual-like acquisition patterns and competencies for the children investigated. Other studies (cf. previous), however, find clear evidence for structural influence/transfer from one language to another. This suggests that cross-linguistic influence is domain-specific, i.e., it occurs for some areas of grammar but not for others (Paradis & Genesee, 1996). Hulk and Müller (2000), for example, report cross-linguistic influence in the domain of object drop but not for the acquisition of root infinitives in two bilingual children simultaneously acquiring Dutch and French and German and Italian, respectively. It is, however, not clear why some areas are affected while others are not (Meisel, 2001, p. 35; Nicoladis et al., 2012). In this respect,

[i]t is not implausible to assume that language-internal properties might favor such interactions across grammatical systems; this is why attempts at identifying the corresponding characteristics of the target languages may indeed be expected to contribute to a solution of the problem.

(Meisel, 2001, p. 35)

As a possible explanation for the inconsistencies that have been observed, several mechanisms and prerequisites that might facilitate cross-linguistic influence have been proposed, most prominently structural overlap/ambiguity (e.g., Hulk & Müller, 2000; Müller & Hulk, 2001; Yip & Matthews, 2000b). Other potential factors facilitating or guiding cross-linguistic influence include the inherent vulnerability of the interfaces between two modules of grammar (esp. syntax and pragmatics; e.g., Hulk & Müller, 2000; Müller & Hulk, 2001; Serratrice, 2005), the acquisitional phase the child is in (e.g., Serratrice, 2005; Serratrice et al., 2004), and saliency in the input (e.g., Döpke, 1997, 2000; see also Zwanziger et al., 2005, pp. 894–895). Language dominance, markedness, and age of onset are also sometimes attested as affecting cross-linguistic influence (e.g., Kehoe, 2002, p. 328; Lleó, 2002, p. 309; Paradis, 2001, p. 35). Zwanziger et al. (2005, p. 908) assume that the specific language pairing might also play a role in terms of whether – and to what extent – cross-linguistic interference occurs.

The basic idea behind the first mechanism mentioned is “that cross-linguistic influence is favored by structural ambiguity, the latter being defined in terms of constructions which appear to allow for more than one grammatical analysis as a result of variability in the input” (Meisel, 2001, p. 36). Müller (1998, p. 152) predicts that if this yields a surface construction in the languages involved in the acquisitional context that is ambiguous in only one of the languages, the bilingual child “may be tempted to transfer features from the language presenting unambiguous input into the one which is ambiguous.” This assumption will be of some importance in the discussion of the results of my study because Singaporean

children experience a lot of variability and structural ambiguity in their input (cf. Chapters 6, 7, and 8 and the detailed discussion in Chapter 9).

Nicoladis (2006) aptly illustrates this mechanism with reference to the acquisition of adjective-noun strings by bilingual French-English preschoolers. Nevertheless, few studies of cross-linguistic influence have investigated language pairings involving languages with different typological backgrounds. Yip and Matthews (2000b), working with a Cantonese-English bilingual child – a language pairing eminently relevant for the present study – found that transfer occurred from Cantonese to English (but not in the other direction) for several contrasting syntactic structures (*wh*-in-situ interrogatives, null objects, and prenominal relatives). They propose that the unilateral direction of transfer was the result of language dominance, as the child was Cantonese-dominant according to his MLUs (mean length of utterance; see Section 4.5.1). Structural overlap/ambiguity could not yield an explanation here because no such overlap or ambiguity exists between these two languages for the phenomena investigated. This once more suggests that factors other than language-internal mechanisms can be responsible for cross-linguistic influence (cf. Yip & Matthews, 2005) and may play an important role in determining the direction in which cross-linguistic influence flows.

Before I finally turn to some of the other factors frequently discussed as influencing bi-/multilingual language acquisition, I would like to highlight the fact that knowledge of one language in a bi-/multilingual acquisition context does not always lead to cross-linguistic influence and result in delays in acquisition (cf. the notion of negative transfer); it can also facilitate the acquisition of the other language (e.g., Meisel, 2004, p. 101; Nicoladis, 2006, p. 15; cf. the notion of positive transfer; for a discussion of the conceptual pair, e.g., Odlin, 1989, pp. 36–38; Bardovi-Harlig & Sprouse, 2017).

Finally, even though recent research has revealed a lot about potential conditions, processes, and manifestations of cross-linguistic influence, it has to be kept in mind that results often contradict each other and are far from conclusive. “[M]any outstanding issues remain,” but it seems quite clear “that the conditions on cross-linguistic influence – however they are formulated – are sufficient but not necessary” (Unsworth, 2013a, p. 32). As Gathercole and Hoff (2007) have shown, not all children exhibit cross-linguistic influence even if the relevant linguistic conditions are met, but it is by no means clear what exactly predicts such differences between individual children. On this basis, it has been convincingly argued that linguistic criteria alone (such as grammatical interfaces and structural overlap/ambiguity) cannot account for cross-linguistic influence (see also Hauser-Grüdl et al., 2010). Two further predictors widely discussed in the literature are language dominance and input (e.g., Unsworth, 2013a, p. 32). I briefly address these aspects in the following section.

3.1.2 Experience, language dominance, and the role of input/exposure

Variability in bi-/multilingual children’s linguistic experiences has been ascribed to a variety of factors – particularly social ones – and is often claimed to be

responsible for the linguistic heterogeneity found within such child populations and for the differences in bi-/multilingual acquisition and attainment. Some children in dual- (or multiple-) language environments experience a fairly balanced amount and quality of exposure; other children receive much more exposure and experience in one language than the other (De Houwer, 2009; Paradis, 2007, p. 17; cf. the notion of balanced vs. unbalanced bilingualism). Language dominance is one important facet and result of variable experience and input, often discussed in relation to other mechanisms of bi-/multilingual language acquisition. It is defined as

[t]he condition of bilingual people having one language in which they possess greater grammatical proficiency, more vocabulary, and greater fluency than the other language. This language may also be used more often than the other language. Most, if not all, bilingual children and adults have a *dominant language*. The dominant language can change throughout the life span, and a bilingual person can be slightly or highly dominant in one language. In bilingual children, dominance can affect language choice (choosing to use the dominant language more than the *nondominant language*) and rate of language development (the bilingual child's competence in the dominant language more closely resembles that of monolingual children who speak that language). (Paradis et al., 2010, p. 265; italics in original)

It refers to the fact that language competencies are often not equally distributed between the two languages in a bilingual child (cf. the notions of unbalanced vs. balanced bilingualism, language dominance etc.), which is most often due to reduced exposure to one of the languages (cf. Paradis et al., 2010; Zwanziger et al., 2005, p. 905). Indeed, it has often been observed that bilingual children generally have a dominant language in which they are more proficient than the other (e.g., Genesee et al., 1995; Schlyter, 1993; Pearson et al., 1997; see also Genesee et al., 2008, p. 79; Unsworth, 2013a, p. 30). Considering language dominance in the context of cross-linguistic influence/transfer, transfer from the dominant to the weaker language is most frequently observed, rather than vice versa (e.g., Bernardini, 2003; Gawlitzek-Maiwald & Tracy, 1996; Schlyter, 1993; Yip & Matthews, 2000b). Others, however, have argued that cross-linguistic influence may occur independent of language dominance (e.g., Hulk & Müller, 2000), and influence from the weaker to the stronger language has even been observed (e.g., Kupisch, 2008). What is more, an inverse relationship has been reported between language dominance and the differences between monolingual and bilingual children, viz. “that differences between monolingual and bilingual children are often restricted to the children's less dominant language; that is, when bilingual children are compared with monolingual children in their dominant language, such differences disappear” (Unsworth, 2013a, p. 35; see also, e.g., Hoff et al., 2012; Schlyter, 1993, pp. 289–290).

Language dominance has also been related to language choice. Genesee et al. (2008), for example, report a number of studies inquiring into bilingual children's

sensitivity into the linguistic preferences and abilities of their interlocutors. These studies (e.g., Genesee et al., 1995; Nicoladis & Genesee, 1996) have shown that even small children (two years of age) “can tailor their language choice to their adult interlocutor” (p. 81). However, when speaking in their non-dominant language, bilingual children often switch into their dominant language in the conversation, often interjecting individual words or even whole utterances (see also Kupisch, 2008), even if the interlocutor is not fully proficient in this language.

What further complicates the picture when we want to account for language dominance and its effects in bi-/multilingual child language acquisition is that it can shift repeatedly, not only during childhood but during the entire life span (e.g., Clark, 2016, pp. 394–395; Meisel, 2004, p. 94).

As already pointed out earlier, language dominance (and on a more general level, rate of acquisition) is often related to not only the quantity but also the type/quality of input a child receives (e.g., De Houwer, 1995, p. 221; Grüter & Paradis, 2014). Both are seldom equally distributed (Genesee et al., 2008, p. 80), and their manifestations may depend on a variety of factors, especially social ones. Though long neglected in research on language acquisition (especially by formal approaches), both quantity and quality of input have repeatedly been shown to have an impact on the acquisition and development of language (e.g., De Houwer, 1995, pp. 223–227; Paradis, 2017; Place & Hoff, 2011; Unsworth, 2013a, p. 30), particularly on bi-/multilingual language acquisition. This has mostly been ascribed to the fact that bi-/multilingual children are exposed to less input in each of their two (or more) languages than are monolinguals (Unsworth, 2013a, p. 34), which is a matter of simple arithmetic. However, how much relevance is attributed to this observation strongly depends on each researcher’s theoretical orientation.

Quantitative variation in the input can be huge, even among participants who are all simultaneous acquirers of two languages in comparable sociolinguistic contexts (e.g., Unsworth, 2013b). Recent research into bi-/multilingual language acquisition has identified a strong correlation between amount of input and rate and accuracy of acquisition, generally across all linguistic levels.⁸ Still, differences have been found between specific linguistic levels in terms of the role input plays in their acquisition. Unsworth (2013b), for example, found that whereas gender attribution in Dutch by bilingual English-Dutch children strongly depends on input, gender agreement does not.

What further complicates the picture is that bi-/multilingual children’s linguistic experience varies not only in the amount of input but also in the type of input/input quality. Input quality has also repeatedly been reported to play a decisive role in bi-/multilingual first language acquisition and outcome (e.g., Quiroz et al., 2010). Döpke (1988, p. 103) claims that input quality is even more important than input quantity. In this respect, richness of the input has been reported as a relevant factor. This is a complex notion in itself, and it encompasses factors and is guided by mechanisms (listed in Unsworth, 2013a, p. 38; for a similar list, see Paradis, 2017, p. 28) such as (1) the input variety in terms of different sources of input (e.g., family, friends, reading, television; classroom input vs.

community exposure; etc.; cf. Jia & Fuse, 2007; for the latter pair see Mougeon & Rehner, 2017); (2) the number of speakers providing the input (e.g., Place & Hoff, 2011); (3) the types of activities through which input is provided (e.g., Scheele et al., 2010); (4) the question of whether the input-providers speak a standard or non-standard variety (e.g., Larrañaga & Guijarro-Fuentes, 2012); (5) the question of whether the input-providers are native or non-native speakers (e.g., Cornips & Hulk, 2008;⁹ Place & Hoff, 2011); (6) the number and type of literacy-related activities the child participates in (e.g., Scheele et al., 2010); (7) the inferability of parental referential intention (e.g., Cartmill et al., 2013; discussed in Carroll, 2017, p. 8); (8) socio-psychological factors such as belief systems, identity, language choice and attitudes, both on the part of the child learner and of the parents (e.g., Carroll, 2017; De Houwer, 2017; Maneva, 2004, pp. 115, 119–120).

Factors (4), (6), and (7) are tangential aspects discussed in the acquisition literature and are not important in light of the present study. The question of the influence of factor (8), socio-psychological factors, has long been neglected in the literature on bi-/multilingual first language acquisition, though issues of language attitudes and identity, as well as anything related, can be very informative when it comes to explaining language use and outcomes, especially in bi-/multilinguals. It has, for example, been shown that language status and attitudes might play a role in determining the success of bi-/multilingual language acquisition. In terms of the parents, this means that if they value a language and use it on a regular basis with their children, the children will learn the language, even if it is a minority language in the community they are growing up in (Pearson, 2007). In terms of the children, even young ones, language use might depend on their attitudes toward the users of a particular language and “the values that we associate with the labels we name it [the language] with” (Carroll, 2017, p. 12). When considering the social dimensions of language choice, it has been shown that speakers, even small children, take into account a wide range of factors (e.g., Lanza, 1997; Taeschner, 1983). The choice of language is, for example, influenced by the status of a particular language, viz. by whether it is the majority or minority language spoken, by parental input and attitudes, by the topic of a conversation (often, a bi-/multilingual’s use of languages is distributed among usage domains and particular topics belonging to such domains), by community norms, and by other factors (see Clark, 2016, p. 399 for a brief overview). The issues of language attitudes and community norms, in particular, will be of interest in the later discussion of results, as both aspects have been shown to play important roles in the development of SingE.

Factor (5)¹⁰ taps into an even more important question for the present study, viz. the concept of the native speaker and the potential influence of L2 speaker input on child language acquisition, as such a setting is indisputably the origin of L1 SingE. The majority of studies investigating bi-/multilingual children look into contexts where each parent speaks his or her native language to the child (Paradis, 2007, p. 15). To my knowledge, only very few studies have investigated the influence of non-native input on the ultimate success of bi-/multilingual child

language acquisition. In their study of the acquisition of subject realization in a bilingual Spanish-English child in comparison with two monolingual Spanish children, Paradis and Navarro (2003) come to the conclusion that cross-linguistic influence/transfer is not necessarily guided by language-internal mechanisms as, for example, hypothesized by Hulk and Müller (2000) but that non-native parental input might also play an important role in bilingual child language acquisition. In their study, they ascribed their bilingual subject's diverging and especially higher use of overt subjects in Spanish (when compared to monolinguals) to the non-native Spanish input the child received from her mother, which indeed was characterized by higher usage frequencies. Still, as the authors concede, it is impossible to conclusively tease apart internal versus external sources for cross-linguistic influence when it comes to the bilingual acquisition of subject realization because both grammatical criteria put forth by Hulk and Müller (2000) are met, viz. structural overlap/ambiguity in the input as well as a syntax/pragmatics interface.

In a study of twenty-nine twenty-five-month-old simultaneous Spanish-English bilinguals who each had at least one non-native speaker of English as one of their parental input models, Place and Hoff (2011, p. 1835) ponder the idea "that the phonological properties of nonnative speech – either alone or in combination with native speech – provide children with a less consistent signal from which to extract language specific phonological categories and stress patterns, which support further language development." The authors envisage the same potential effects for the lexical, morphosyntactic, and pragmatic levels of language acquisition and, indeed, their results quantitatively corroborate their assumptions, at least for some of the linguistic levels investigated. They therefore conclude that "non-native speech is less supportive of language acquisition than native speech" (2011, p. 1847). The study, however, does not explain why this should be the case.

Cornips and Hulk (2008) examine the influence of four different factors, viz. age of onset (cf. the notions of simultaneous and sequential bilinguals), length of exposure, sociolinguistic context/quality of input, and the role of the other language, to explain success or failure (viz. the attainment of native-like proficiency, measured against the standard varieties) in the bilingual acquisition of grammatical gender in Dutch definite determiners. For this reason, they compare different groups of bilinguals according to the factors investigated. Among many other observations, the authors find that the fact that bilingual children are all exposed to less input in both their languages is not necessarily a factor for failure in acquisition; they too, however, find an effect of input quality, viz. an influence of non-native input in the group whose (grand)parents acquired Dutch as L2 speakers in non-instructed contexts and now provide a significant amount of the input these children receive (Cornips & Hulk, 2008, pp. 280–281).

Hauser-Grüdl et al. (2010, p. 2639) come to opposing findings and conclude that "contrary to what Paradis and Navarro (2003) suggest, a contact-variety input cannot account for and thus cannot be the source of cross-linguistic influence in bilingual child language acquisition." Still, they argue that exclusively grammar-based accounts such as suggested by Hulk and Müller (2000) also cannot fully explain cross-linguistic influence in bilingual children, since these

fail to account for the individual differences found between children. In addition, Hauser-Grüdl et al.'s study clearly shows that "the extent to which a bilingual is affected by cross-linguistic effects is child-dependent" (2010, p. 2645). However, the authors look into a different sociolinguistic context than the aforementioned studies. Their subjects' non-native input is not non-native in the sense of what has been discussed previously. It comes from native speakers of Italian who had lived in the German L2 majority environment and apparently show cross-linguistic influence due to their extended exposure to German. That this may indeed be the case has been shown by Sorace (2004) and others; still, I claim that native input, even if affected by transfer effects from the L2, constitutes a qualitatively different type of input than real non-native input.

To sum up, what the previous studies clearly show is that input plays a role in language acquisition and that children reproduce (at least to some extent) what they find in their input. I do not take a behavioristic stance on language acquisition. I simply assume that we cannot do without input and that we should ascribe far more importance to input quantity and quality than has been done by the traditional formal approaches to language acquisition. The potential impact of input should always be taken into consideration, not least because "the source(s) of crosslinguistic interference may be more multifaceted than we have thought hitherto" (Paradis & Navarro, 2003, p. 389). As Abutalebi and Clahsen (2017) conclude:

What remains is the impression that the study of the role of input and experience in bilingual language development is challenging, that broad conclusions – 'exposure is (not) critical' – are probably wrong, and that progress can be made by asking more subtle questions, such as how exposure affects different kinds of linguistic knowledge, different kinds of bilinguals, and what the mechanisms are by which the language learner employs information available from the linguistic environment.

(Abutalebi & Clahsen, 2017, pp. 1–2)

3.1.3 Monolingual? Bilingual? Multilingual? – a résumé

Despite the fact that the study of bi-/multilingual first language acquisition is a much discussed and hotly contested section of Language Acquisition research nowadays, it has been often concluded that, in general, "whenever comparisons have been attempted between monolingual children and children growing up bilingually from birth, researchers have found similarities rather than differences" (De Houwer, 1995, pp. 243–244). De Houwer (1995, p. 244) further argues that this can be considered "a very robust finding" and that "[f]or each of their languages respectively, bilingual children make the same types of errors as their monolingual peers and use similar structures at similar stages in development." In terms of the factors responsible for the differences observed – some of which might also be due to methodological differences or inadequacies (cf. De Houwer, 1995, p. 244) – the preceding sections have shown that these issues

are intricate and that they involve complex processes as well as a multitude of factors, both linguistic and social. Research into bi-/multilingual first language acquisition has not come to any consensus about the precise roles each of these factors may play or about each factor's relative importance, and most factors and attempts at explanation are, in fact, highly controversial, especially when the disparate theoretical premises of formal and functional approaches come into play. Though my aim is not to take a strong theoretical stance in these debates, I do not see how anything fruitful or productive can ever come from these conflicts if researchers are not ready to think outside the box of their particular areas of interest or theoretical positions. Making a convincing point about the importance of intra-linguistic factors for cross-linguistic influence does not necessarily exclude the consideration of input factors and vice versa. As I am a straightforward proponent of multicausality when it comes to the explanation of apparently complex linguistic issues, I do believe that all the factors discussed earlier play a role in bi-/multilingual language acquisition, viz. the amount and type of input, language dominance, the combination of languages being acquired as well as their typological profiles, language attitudes, issues of identity, etc. They are all tightly interrelated, and their exact manifestations, interactions, and weights may vary not only according to the sociolinguistic context and the type of bi-/multilingualism, but also from child to child. I therefore agree with the suggestions found in some of the recent approaches that, if we are interested in the exact properties and mechanisms at work in bi-/multilingual first language acquisition and their effects on ultimate proficiency/attainment, we have to consider the individual child rather than groups of bi-/multilinguals. The latter, of course, also has its scientific relevance. As usual, what we do essentially depends on and should be motivated by our research goals and questions, and in an ideal case we could combine the two, i.e., report individual results as part of a larger sample study (for a similar line of reasoning, see Carroll, 2017, p. 6). I follow this line of thinking in the present study. I focus on different groups (stratified mainly by age, country, and ethnicity/ethnic group) since the focus of the present study is on the description and placement of L1 SingE as a variety. However, I also look into individual children's results to account for outliers and individual rates of development and speech characteristics.

Before I move on to the empirical part of the study, I will briefly expand the discussion to considering the acquisition of L1 English in postcolonial societies. Most importantly, I will discuss how the emergence of a new generation of L1 speakers of English in postcolonial contexts like Singapore once more challenges the traditional but often-disputed native speaker concept.

3.2 The acquisition of L1 English in postcolonial societies

As outlined earlier, much of the research on bi-/multilingual first language acquisition so far has focused on the differences between monolingual and bilingual language acquisition, involving one of the two "standard" varieties, viz. British or American English. To my knowledge, only a handful of studies has investigated

the acquisition of English in one of the L1 English settler communities, with most of them focusing on Australian children (e.g., Chan et al., 1998; Yuen et al., 2014). A few studies on the Singapore context also exist (cf. Section 2.3.4). Yet other research looks into what has been called “new dialect formation,” which has investigated, for example, the formation of New Zealand English (e.g., Hickey, 2003; Trudgill, 2004). This research is not acquisitional in the traditional sense of the word, but it has revealed, among other things, that when children are “[b]orn into a heterogeneous mixture of socially and/or regionally distinct varieties, they do not adopt one of the varieties as a model but choose and adopt features from several ones, combining them into a new koiné that develops stability and homogeneity over time” (Schreier, 2014, p. 232). Postcolonial ESL countries – in which, in more recent times, an ever-growing number of children has been acquiring English as a language from birth and thus as an L1 (and I deliberately avoid the notion of “native language” here, for the reasons discussed later) – have been completely neglected by L1 Language Acquisition research or have been approached only from a deficit- or education-oriented perspective (cf. Section 2.3.4). However, against the background of the changing linguistic realities worldwide, especially the growing number of countries in which English was long spoken as a nativized second language¹¹ but which, within approximately the last thirty years, have gradually adopted English into their L1 repertoires, such a neglect does not appear timely. So far, such developments have most notably been observed in Singapore, as well as in some other Asian countries such as Malaysia and the Philippines and in some African countries, particularly Cameroon (e.g., Anchimbe, 2012, pp. 12–14). The reason for this research gap, Anchimbe believes, “is the misconception that these Englishes are not yet *mature*” (2012, p. 13; italics in original; see also Anchimbe, 2009). What is more, I think a factor that also plays a role here is that “linguists often shy away from cases which do not permit neat classifications” (Görlach, 1996, p. 154). Postcolonial territories characterized by an increasing number of native English speakers clearly defy “neat classification” because such a development challenges the status traditionally applied to these speech communities, e.g., as ESL or Outer Circle countries. I also believe that, because such a development is actually a Language Acquisition issue embedded in a World Englishes context, neither L1 researchers nor World Englishes scholars have considered it part of their research agenda. They may not consider themselves to be well-grounded enough theoretically or methodologically to examine these issues, especially because these two fields have traditionally worked independently of each other.

Whatever the reasons may be, when treating these developments as manifestations of first language acquisition processes embedded in a World Englishes sociolinguistic framework (which they indisputably are), an in-depth understanding of these processes requires both an investigation and understanding of the sociolinguistic realities of such speech communities as well as of the acquisitional aspects involved. This seems inevitable if we are aiming at a comprehensive understanding of current linguistic ecologies, not only in these contexts but

also in what McArthur (2003, p. 56) and Mesthrie and Bhatt (2008) have labeled the “English Language Complex” in general, viz. the many different manifestations of the English language worldwide, as well as their acquisition.

What is exceptional and quasi-unprecedented in the former second-language variety contexts is that the linguistic input the child learners receive is, at least originally, of L2 nature, as English was introduced without massive migration or settlement of British (or American) settlers to these countries. Most people therefore did not acquire English in natural, high-contact interactions with mainly traditional native speakers of English. They learned it through formal schooling with teachers who were non-native speakers themselves (though the instruction was still mostly geared toward one of the standard varieties) or through interaction with other non-native speakers, as English was often the means of inter-ethnic communication in these countries. This clearly sets these scenarios apart from the so-called settler colonies of the British Empire (e.g., Australia and New Zealand), to which great numbers of settlers migrated. These settlers provided the major input and linguistic model for the other inhabitants, be they first- or second-language learners (Melchers & Shaw, 2011, pp. 7–9). The situation in these communities was therefore characterized by natural transmission from one generation to the next from early on, which is why a strong linguistic continuity can be observed in such contexts.

My intent is not to gloss over local, identity-related characteristics of, say, Australian English. The point I am trying to make here is that the formation conditions of L1 varieties in former settlement contexts are quite distinct from what we are facing in what I call “emerging L1 contexts.” We cannot necessarily assume the same rate of linguistic continuity with the standard varieties of British or American English when we seek to account for the emergence of L1 English in cases such as Singapore or other countries that Kachru traditionally referred to as “Outer Circle.”

Singapore is one of such cases in which an L1 variety has been developing from an L2 contact-variety that evolved under the circumstances of second-language variety formation, which are intricate in themselves. As has repeatedly been noted, second-language variety formation involves a multitude of processes and mechanisms of language contact and second language acquisition, such as cultural adaptation (particularly in the field of lexis), L1 transfer, linguistic accommodation, simplification, overgeneralization, regularization, and language drift (e.g., Schneider, 2007, pp. 88–90; Williams, 1987), with a central role often being attributed to language transfer (cf. Mollin, 2007, p. 171). The case of Singapore is of particular complexity because these processes and mechanisms have operated within a unique scenario: a highly multilingual country with complex sociolinguistic realities, rigidly controlled by governmental and educational policies, yet swept up in the forces of globalization and in questions of local identity, some of which have long been in conflict with each other. After the country had moved beyond its linguistic founding phase, English developed into a somewhat stable localized and nativized second-language variety, and in the last thirty years or so the number of first-language speakers has been steadily increasing. The government still

exercises strong influence over the linguistic situation in Singapore; in particular, it has gone to great lengths to discourage the recognition of English as a mother tongue and of Singlish as a first language (for a concise, up-to-date treatment of the Singlish controversy, see Wee, 2018). However, this governmental stance is a much-debated issue in Singapore and strongly affects (if not unsettles) the linguistic identities of many Singaporeans. In this respect, a study by Leimgruber et al. (2018) reports that most of their Singaporean subjects (students) do not feel fully proficient even in the language they consider their most proficient/first language. Unfortunately, the authors do not explicitly state what their students' first language is; however, it can be assumed that it is English in most of the cases. I think this is an alarming finding, one that rests on the assumption that only traditional native speakers can be considered fully competent speakers of a particular language (cf. Schneider, 2003, p. 238). If Singaporeans are not granted native speaker status and are being told that they speak a corrupted variety of English when using Singlish, how can they trust in their own linguistic proficiency? This should lead us to question our traditional conceptions of who is a native speaker, as I suspect our previous assumptions have contributed a great deal toward language policies such as those pursued by the Singaporean government.

3.3 Some reflections on the native speaker concept: the Singapore perspective

Others may speak and read English – more or less – but it is our language not theirs. It was made in England by the English and it remains our distinctive property, however widely it is learnt or used. England is the country of the English.
(The Speeches of John Enoch Powell, 1988)

This excerpt from an address to the Annual Dinner of the Birmingham Branch of the Royal Society of St. George at the Chamber of Commerce Club by former MP Enoch Powell (April 22, 1988) embodies much of the original function and ideologies revolving around the native speaker concept. “[C]haracterizing particular language users and setting them off from other groups, the native speaker provided an important way of conceptualizing and labeling a particular linguistic identity and drawing boundaries between some speakers and others” (Hackert, 2012, p. 5). But who is a native speaker? And what makes this concept so problematic, particularly against the background of the newly emerging L1 speakers of English in, for example, Singapore? These and similar questions have been repeatedly discussed in the literature. One of the most recent, and certainly most sophisticated, examinations of the “native speaker” is Hackert’s (2012) book-length treatment, in which she not only explores the current realities and definitions but also unveils the historiographical dimensions of the concept. In the following, I sketch out those aspects that are of immediate importance for the discussion of the native speaker concept in the current World Englishes perspective, particularly for the case of Singapore.

The term “nativeness” has first and foremost been linked with the notion of “language acquisition from birth” (e.g., McArthur, 1998, p. 45). As Bloomfield (1933) states, “[t]he first language a human being learns to speak is his native language; he is a native speaker of this language” (p. 43). In a similar vein, Cook (1999) notes that “[t]he indisputable element in the definition of native speaker is that a person is a native speaker of the language learnt first.” Inherent in this view is the assumption that “[i]f you did not learn a language in childhood, you do not speak it as a native speaker. Later-learned languages can never be native languages, by definition” (p. 187). What is more, the native speaker ideal has long been considered to be monolingual (cf. Escudero & Sharwood-Smith, 2001, p. 278; Hackert, 2012, p. 13; Mufwene, 1998, p. 113), though, as it seems, even language acquisition research has moved away from this conception. Children who learn two languages simultaneously from birth have been acknowledged to have two first languages (Cook, 1999, p. 187; Davies, 1991).

Aside from this core definition of the native speaker, a variety of properties have been linked with the concept “detailing the characteristics that native speakers share apart from their birth” (Cook, 1999, p. 187). Among these (as listed in Cook, 1999, p. 185) are: (1) subconscious knowledge of rules; (2) intuitive grasp of meanings; (3) ability to communicate within social settings; (4) range of language skills; (5) creativity of language use (cf. Stern, 1983, p. 344); (6) identification with a language community (Johnson & Johnson, 1975, p. 227); (7) ability to produce fluent discourse; (8) knowledge of differences between his or her own speech and that of the “standard” form of the language; (9) ability “to interpret and translate into the L1 of which she or he is a native speaker” (Davies, 1996, p. 154). All these criteria relate to the notions of competence, proficiency, and fluency, which are, in turn, often defined in light of the standard variety and often linked to education and writing skills (e.g., Doerr, ed., 2009, pp. 25–32).

Wee (2002, p. 284) brings in ethnic and historical dimensions. He states that

[f]or a given language X, a prototypical native speaker of X is one who is assumed to be proficient in X by virtue of having grown up speaking X. The prototypical native speaker is also a member of a particular ethnic community, where this community has a strong historical association with X.

Most of these criteria, however, do not take into account how speakers feel about their affiliation with the language, their sense of ownership, and their linguistic identities (see also Bokhorst-Heng et al., 2007, p. 425). Attitudinal criteria can be found in the literature, but they do not take center stage in prevalent discussions of the concept. In this line of thinking, a speaker is only considered a native speaker of a particular language if the members of a community, as well as outsiders, consider the respective speaker a native speaker of a particular language or dialect (Escudero & Sharwood-Smith, 2001, p. 278), and the same applies to the self-perception of the speaker (Hackert, 2012, p. 13).

It seems we are equipped with a set of clear-cut, non-conflicting definitions of who can be assigned native speaker status – so what is so problematic about the

concept? As already pointed out, most of the previous criteria for native speaker status have proven to be outdated against the backdrop of recent linguistic realities of English worldwide. As early as the 1980s, linguists have pointed out that the English language is not a monolithic whole with clear-cut boundaries and internal homogeneity, and should not be conceptualized as such (e.g., McArthur, 1987, p. 9, 1998, pp. 56–77). The worldwide spread and entrenchment of English soon created not only new usage contexts but also new linguistic affiliations as well as sociocultural and linguistic identities, some of which have rendered the native/non-native dichotomy problematic if not obsolete (Hackert, 2012, pp. 25, 279; see also, e.g., Sayeed, 2007, pp. 103–108). Zooming in on this problem, the traditional concept of the native speaker is problematic mainly in three related ways. First of all, in many of the former colonies, English has developed local nativized varieties. The term as such gets to the heart of the matter. It refers to the fact that English has acquired specific functions in a range of contexts and domains and has experienced depth and entrenchment of usage and acculturation (cf. Kachru's [1997] notion of functional vs. genetic nativeness, though the latter, especially, is rather fuzzy in its definition; see also Hackert, 2012, p. 20). Second, in such contexts many speakers exhibit exceptionally high proficiencies in English and use it predominantly or even exclusively.¹² And finally and most importantly in the light of the present study, in some of the former colonies of the British Empire, such as Singapore, in which originally second-language varieties of English emerged, an increasing segment of the population now acquires English the “native” way, i.e., from birth onward (for similar summaries, see also Hackert, 2012, pp. 10–11; Schneider, 2003, p. 238).

The problem even goes beyond the World Englishes context. When we think about the native speaker in terms of what has been suggested within the Chomskian paradigm (cf. the notion of the ideal speaker-listener; e.g., Chomsky, 1965, p. 3), how do we categorize, for example, young children acquiring British English but who still have not developed the full linguistic competence envisaged for the ideal speaker-listener? What about speakers with language impairments? Or speakers of regional or social dialects of a language with limited access to and, maybe even more importantly, experience with the standard variety? Would they have ideal speaker-listener competence and count as native speakers? A definition of the native speaker according to structural criteria or on the basis of competence alone would certainly be misleading (Hackert, 2012, pp. 13–14).

For these and related reasons, the native speaker concept (and likewise the notion of “mother tongue”) has repeatedly been discussed, challenged, and put on trial by a number of linguists (e.g., Bonfiglio, 2010; Coulmas, 1981; Davies, 1991; Hackert, 2012; Kramsch, 1997; Rampton, 1990, 1995; Skutnabb-Kangas & Phillipson, 1989). Some of them even demand to abandon it altogether (e.g., Acevedo Butcher, 2005, p. 13; Paikeday, 1985, p. 87; Piller, 2001, p. 121). For the reasons outlined previously, critical voices mostly come from the World Englishes and ELF (English as a Lingua Franca) paradigms, as the conceptual problems with this notion have most prominently surfaced in these two related disciplines.¹³ As Hackert (2012, p. 21) states: “[N]ativeness is a highly problematic concept when

it comes to the description of the historical spread and current status of varieties of English worldwide.” And this does not only have to do with theoretical adequacy; it also relates to questions of standardness, norms, and ownership. The latter view was already expressed in Kachru’s early work, who, in a related set of publications, made a major contribution to rethinking the native/non-native dichotomy from the World Englishes perspective (e.g., Kachru, 1976, 1985, 1992a, b).

Kramsch (1997) offers an apt summary of the previous discussion:

Originally, native speakership was viewed as an uncontroversial privilege of birth. Those who were born into a language were considered its native speakers, with grammatical intuitions that nonnative speakers did not have.

Nowadays, however,

[t]he native speaker is in fact an imaginary construct – a canonically literate monolingual middle-class member of a largely fictional national community whose citizens share a belief in a common history and a common destiny. [...] And this ideal corresponds less and less to reality.

(Kramsch, 1997, p. 363)

This is why it is much more a sociopolitical or ideological concept than a truly linguistic one. As Hackert (2012, p. 26) states, “it is often pointed out that the native/non-native distinction is something that has less to do with actual linguistic features than with attitudes, affiliation, or social identity.” Thus, “native speaker status is about social identity and not about linguistic competence” (Piller, 2001, pp. 114–115).

Much of what has been discussed earlier directly applies to the context of Singapore and to the much-debated issues of whether Singaporeans who acquire English as their first language should be considered native speakers. In the following, I will reflect on how these so far rather theoretical considerations relate to the case of Singapore, the answer being quite obvious: Singapore is one of those speech communities for which the need for a reconceptualization of the native speaker concept surfaces most prominently and urgently. As has been observed in Section 2.3.3, the increasing number of Singaporeans who have English as their home language has repeatedly been observed and has clearly been shown in census reports. From time to time – and increasingly so in recent times – SingE has been referred to as a native language in the literature (e.g., Alsagoff, 2007; Gupta, 1994; Tan, 2014). As Bokhorst-Heng et al. (2007, p. 424) state: “While some do indeed learn English as a second language, others acquire it in the process of its use and interaction, much like first language speakers in Inner Circle countries. Among other things, this makes these speakers native users of their variety of English” – and this number is rapidly increasing. Drawing on an anecdote presented in the introduction to *The Oxford Singlish Dictionary* (Goh & Woo, 2009), Wee (2018, pp. 123–124) explicitly discusses how the prevalent native speaker ideology revolving around notions of

linguistic expertise and authority has been utilized in the Singlish debate. In this line of argument, speakers of Singlish are seen as the experts and thus the ones in power over this language variety. Singlish is a special part of who the people are, which renders denying these people native speaker status quasi-impossible. Such argumentation, however, is rare.

Building on criteria expounded by Tay (as summarized in Tay & Gupta, 1983, p. 179; see also Alsagoff & Ho, 1998, p. 131), Gupta identifies two groups of native speakers in the Singapore context (1994):

- (1) [A]dults who have had their education in English from an early age up to a high level, and who continue to use English in adulthood in all major domains, to the extent that English is their dominant language.
- (2) Persons who acquired English in the home from birth, not subsequent to any other language. They may however have acquired more than one language from birth.

(Gupta, 1994, p. 14)

Still, the official “state narrative” (Wee & Bokhorst-Heng, 2005), i.e., “the nationalist ideology around language” (Bokhorst-Heng et al., 2007, p. 425), is a different one. The government does not recognize those speakers as native speakers, the reasoning behind this being of mere ideological nature. As Singapore’s former Prime Minister Lee Kuan Yew stated in his Speak Mandarin Campaign Speech:

One abiding reason why we have to persist in bilingualism is that English will not be emotionally acceptable as our mother tongue. To have no emotionally acceptable language as our mother tongue is to be emotionally crippled. We shall doubt ourselves. We shall be less self-confident. Mandarin is emotionally acceptable as our mother tongue.

(Speech by Prime Minister Lee Kuan Yew, 1984)

However, when judged from a strictly linguistic perspective, his ideas are founded on either strong ideologies or plain ignorance and have nothing to do with either practical or theoretical linguistic realities. This becomes clear in the opening paragraph of the very same speech:

Few children can successfully master two languages plus a dialect. Indeed, very few can speak two languages equally well. The reason why most societies are monolingual is simple: most human beings are equipped by nature to cope with only one language.

(Speech by Prime Minister Lee Kuan Yew, 1984)

All of this is plainly wrong, as the observations in the preceding sections of this chapter have shown. The emotional argument appears unconvincing against current linguistic realities in Singapore; the negative stance still taken by the

government most likely stems from its fear that the use of Singlish might undermine the successful acquisition of Standard English, which, in turn, is assumed to have a negative impact on Singapore's competitiveness in the global economy (Wee, 2018, p. 167). What further complicates the picture in the Singapore context is that the terms "mother tongue" and "first language," often used interchangeably in the Language Acquisition literature, bear specific local connotations. The term "mother tongue" officially relates to the three official ethnic languages of Singapore, viz. Mandarin, Tamil, and Malay (Bokhorst-Heng et al., 2007, p. 424; Tan, 2014, pp. 319–320) assigned by the state; the term "first language," interestingly, captures the status of English (Gupta, 1998, p. 117).

In 1994, Gupta stated that "Singaporeans almost never identify themselves as *native speakers of English*. This term is usually reserved for a white person from a traditionally English-speaking country, regardless of personal history" (Gupta, 1994, pp. 14–15). Such perceptions very much reflect what has been discussed earlier, and indeed, these misconceptions and problems of identification still show today. However, an increasing number of people claim native speaker status in English and a growing number argue that English – and especially CSE/Singlish – should be awarded official mother tongue status (Bokhorst-Heng et al., 2007, p. 425). The topic has become an issue of scientific¹⁴ and also public debate. It is widely discussed on the Internet. Under the subject line "is english considered a native language in singapore" a woman opens a thread in a forum and asks:

I was wondering if my Singaporean [*sic*] partner who can speak very good English would get a job at a reputable school in Vietnam as an ESL teacher. Most schools require you to be CELTA trained and be a native English speaker. If he, as a Singaporean [*sic*] (ethnicity Indonesian/Malaysian) got his CELTA would he get hired in Vietnam?

(indianwombat, 2010)

Answers range from:

Does your partner have a Singlish/Malaysian accent? AFAIK in most countries [*sic*] schools will only hire teachers who speak "proper" (American or British) English, so if he speaks English like most Singaporeans I've met so far – no disrespect – he may not be considered as sounding enough "native" to get the job.

(aribo, 2010)

to

Native speaker really means British, american or Australian/New Zealand, where English is the first (and often only) spoken by everyone there. English being an official language of a country isn't the same thing.

(nona, 2010)

and

Well, the same could be said of US English ...

I've met many Singaporeans for whom english reallyly [sic] was their first language- it's what they spoke at home with their parents, with their spouses and in which they got their education.

And then I've met Singaporeans who spoke English as a second language- often a world of difference. you tell me which applies to your other half.

But yes, even if he is a native speaker they might prefer somebody with a UK or US accent (same would apply to Indians- some of whom are native speakers as well).

(hello_bamboo, 2010)

(lonely planet Thorn Tree forum)

How adequate and how close to reality these answers are is not the question here. What the discussion thread shows is that the debate over the native speaker concept has reached public perception in Singapore. In a similar way, the Singaporean English-language digital news provider *Today* recently published an article discussing the question "Can English be a Singaporean mother tongue?". The author depicts the situation as follows:

Of course, the social and economic dominance of English in Singapore is not new. Both the Government and various groups have long been trying to reverse the declining use of mother tongue languages. However, for the first time in our history, those who use and see English as their de facto mother tongue, are becoming the majority of the population.

[...]

At the same time, surveys suggest that as younger Singaporeans grow up as native speakers of English (ie, English being the first language they acquire as a child), they will increasingly claim ownership of English, with the language being core to their identity. This is not to say that Singaporeans are becoming monolingual English-speakers – it simply suggests that many increasingly count English, among other languages, as integral to their identity.

On one hand, we have Singaporeans who claim English as core to their sense of self. On the other, the Government's official position is that English cannot be our mother tongue. While there might be some Singaporeans who can accommodate both ideas, not all can or will do so.

[...]

'NATIVE' SPEAKERS?

There is, however, a substantial obstacle to our claim of English as our mother tongue. The notion "native speaker of English" is tied to particular nationalities and ethnicities – that is, Anglo-Saxons – and this is still prevalent throughout the world.

It is partially reinforced by our own Government's rhetoric of English as not mother tongue, as well as campaigns such as the Speak Good English Movement that contribute to our inferiority complex regarding English.

[...]

Those who argue that Singaporeans lack intelligibility in spoken English must not have heard the British in their "Cockney", "Geordie" or "Brummie" dialects. Yet, these are considered "native speakers of English", while Singaporeans are not.

Yes, many young Singaporeans grow up speaking English, are more proficient in English than British children, and are emotionally attached to the language. Many Singaporeans can and do identify with English as part of our selves, but this identity is constantly undermined by a lack of institutional recognition (both within and without Singapore).

Any prospect of developing a Singaporean "core" cannot be realised without the acknowledgement of English as one of our mother tongues. A step forward may be for Singapore's own language policies and official stance to reflect our sociolinguistic reality. It is only then that we may expect international acceptance.

(Lu, 2018)

These excerpts clearly illustrate the growing public concern and maybe even confusion about the issue. They get to the heart of some of the important facets and questions discussed from a more theoretical perspective previously – viz. the increasing number of L1 speakers, governmental objection to this development, lack of recognition and public tensions, ownership of English and issues of identity conceptions, and ideologies revolving around the native speaker concept – and therefore aptly illustrate how these are in fact relevant for the Singapore context. The debate about the native speaker therefore has at least three partly intermingled dimensions: (1) a public one (lay as well as linguistically informed); (2) a political one; and (3) a linguistic one.

Returning to the latter, when considering the situation in Singapore, the linguistic criteria for native speaker status are mostly if not all fulfilled, especially if we accept that nativeness does not refer to whole nations but to individuals. Those in Singapore who acquire English from birth, be it in isolation or together with any other language, clearly fulfill the central criterion for native speaker status. If we are ready to leave behind the old Chomskian notion of the native speaker as ideal speaker-listener and of prescriptive approaches to language proficiency, correctness, and competence, these speakers also pass the competence and fluency criteria. With respect to the argument that Singlish should not be considered a native language, which is what is at the core of the governmental attempts at denying the people of Singapore English native speaker status, one should keep in mind that even traditional native speakers of English (and actually any other language) speak dialects – and this is by no means an exception – but the rule. Often, these dialects are linguistically far removed from what is the perceived standard in a country (Hackert, 2012,

p. 25; Widdowson, 1994, p. 379; see also the argument put forth by Lu, 2018). Dialects can, in fact, be so different from the standard that speakers from one geographical region have difficulty in understanding speakers from another and are by no means able to speak their dialects. But would we consider a speaker of, say, Scouse (an English dialect associated with the region of Liverpool) a non-native speaker of English? And would all these speakers pass native speaker tests, as are often employed in the generative framework? The situation in Singapore is not that different from such cases, I would like to argue. This “once more demonstrates that features are not really what matters in characterizing the native speaker” (Hackert, 2012, p. 28), which leaves us with the attitudinal aspects of the concept.

Asking the question “What makes a language a ‘mother tongue’?”, Tan (2014, p. 319) approaches the issue from both a theoretical and an empirical angle (for a similar approach looking into questions of linguistic authority and norm orientation, see Bokhorst-Heng et al., 2007). Building on criteria discussed by Rampton (1990, 1995) and Skutnabb-Kangas and Phillipson (1989), she presents a refinement of the definition of the term “mother tongue” and applies it to the case of Singapore. She includes the criteria “language inheritance,” “language expertise,” “language function,” and “language identification,” much in the sense of what has been discussed earlier. She focuses on language identification, which she defines as “the ways in which the speaker uses the language for identification, be it ethnic, cultural, national, or self” (Tan, 2014, p. 324). She looks into “the extent to which English has penetrated the psyche of the everyday Singaporean to the point that it can be considered a mother tongue for Singaporeans” and whether “English [has] become the language Singaporeans use to express their national, ethnic and cultural identities” (2014, p. 320). She concludes that, especially for the younger generations, the use of and affiliations with English in Singapore meet all four conditions and the language should therefore be considered a mother tongue (2014, p. 337).

What the observations on the case of Singapore once more show is that “what we are looking at if we look at the English native speaker is an imaginary or political construct, something which is discursively constituted and created” (Hackert, 2012, p. 30). But why can’t we as linguists, who have obviously contributed to the emergence and propagation of the native speaker concept, if not invented it (cf. Paikeday, 1985, p. 87 or Ferguson, 1983, p. vii, who describes the native speaker/mother tongue conceptions as “professional myths about language”), just disengage from such rigid conceptions, particularly since they have proven to be so outdated? As Hackert (2012, p. 276) asks: Would it be possible to just do away with the native speaker? This would certainly be difficult, “if not downright impossible” (Hackert, 2012, p. 276), for a term so deeply entrenched in both scientific and everyday public discourse. What is more, it still functions as “a useful reference point in both linguistics and language pedagogy” (Hackert, 2012, p. 276).

Still, I would like to argue that in cases such as Singapore we should try to get rid of such conceptions for a better understanding and conceptualization of these

linguistic contexts but, first and foremost, for their speakers. Much in the spirit of Hackert (2012), I suggest that we salvage the useful, unproblematic side of the concept, and treat the remaining outdated and ideologically loaded aspects with great caution. In the end, its usefulness and appropriateness depends on what we look into and for what reasons, and it is our responsibility as linguists to reassess and put to the test the old conceptions, ideals, and stereotypes, especially if they come in such rigid manifestations.

The current linguistic realities of English in Singapore (and, in fact, other countries) clearly “suggest the need to go beyond the NS / NNS [native speaker/ non-native speaker] dichotomy to a more nuanced understanding of the relationship between speakers and the languages they use” (Bokhorst-Heng et al., 2007, p. 442). As was argued early on by Tay and Gupta (1983, p. 179), contexts such as Singapore require a redefinition of the native speaker concept. The present study sets out to do so. In the following, I hope to shed light on many issues that have so far been under-researched in the complex settings that relate to the use and acquisition of L1 English in Singapore and to contribute to the understanding and acceptance of L1 SingE as an independent and co-equal L1 variety of English. I do not use the term “native variety” for obvious reasons.

Notes

- 1 Even though differences between the concepts “additional language,” “second language,” and “learner language” have often been discussed and highlighted and are of conceptual relevance, especially in the World Englishes literature, I do not go into detail here but rather use these terms in a neutral fashion to describe the fact that someone has a language added to his or her original linguistic repertoire – be that starting point monolingual or bilingual.
- 2 Still, I of course do not claim that no differences exist; these differences, however, are not of immediate relevance for my study and cannot be accounted for in the present framework.
- 3 “Other” is used here as a neutral term to indicate that the child has more than one language at his or her disposal, without implying anything about language dominance or the sequence of acquisition.
- 4 The notion of “balanced bilingualism” is a controversial issue, though, and it has been argued that balanced bilingualism does not exist in the strictest sense of the term (e.g., Clark, 2016, p. 382; Meisel, 2004, p. 94).
- 5 For a definition and further explanations of these terms, see Pearson (2009, pp. 380–381).
- 6 The latter concept refers to the loss of a formerly acquired language due to its use being discontinued, for example, as is sometimes found in minority migrant groups. The term “subtractive bilingualism” thus refers to contexts in which a second language is added at the expense of the first language and culture (conceptual pair introduced by Lambert, 1975; cf. Cummins, 1986).
- 7 I use “cross-linguistic influence/transfer” whenever the statement made seems to apply to both processes. “Transfer” is sometimes used as a cover term relating to the general process of transmitting grammatical or semantic information from one language to the other.
- 8 See, for example, de Houwer (2007) and Dixon (2011b) (the latter on proficiency in SingE) for a broad overview; Pearson et al. (1997) on lexical acquisition; Hoff et al. (2012) on vocabulary and grammar development; Blom (2010) and Nicoladis et al.

- (2007) on verbal morphology; Unsworth (2013b) on grammatical gender; and Sundara et al. (2006) on phonological performance, to mention just a few.
- 9 Note that Unsworth (2013a) cites their study as a reference for the standard vs. non-standard factor. In fact, what the authors discuss in this respect is whether the influence of non-native input (here, L2 adult learners of Dutch providing Dutch input to their descendants in an immigration context) has an influence on the L1 acquisition of Dutch in bilingual children growing up in immigrant families in the Netherlands.
 - 10 Note that factors (4) and (5) are very similar and that, in some articles, the boundaries between standard and non-standard and native and non-native input, respectively, are fuzzy. This is probably why Unsworth (2013a) cites the study by Cornips and Hulk (2008) as a reference for the standard vs. non-standard factor.
 - 11 Nativization here refers to “the emergence of structures which are distinctive to [a] newly evolving variety” (Schneider, 2007, pp. 39–40) as well as to aspects of the cultural adaptation and entrenchment of English.
 - 12 I would like to point out two things here: First of all, the notion of proficiency is, of course, problematic in itself and definitionally opaque. Second, the general point made here also applies to some non-postcolonial territories, as has been attested in recent research (e.g., Buschfeld & Kautzsch, 2017; Edwards, 2016), which further strengthens the argument, of course.
 - 13 Note, however, that Second Language Acquisition researchers such as Vivian Cook (e.g., 1999, 2002), too, have criticized and challenged the native speaker concept. Cook, for example, criticizes the approach often employed in Second Language Acquisition research that measures the L2 learner’s proficiency against native speaker competence (cf. the notions of “comparative fallacy” in Bley-Vroman [1983] and “multi-competence” e.g., in Cook [1999], [2002], [2007], [2010]). In this respect, Cook (1999, p. 185) has claimed that “[b]ecause L2 users differ from monolingual native speakers in their knowledge of their L2s and L1s and in some of their cognitive processes, they should be considered as speakers in their own right, not as approximations to monolingual native speakers.”
 - 14 See, most notably, the recent, book-length treatment *The Singlish Controversy* by Wee (2018), which sheds new light on the issue from a variety of perspectives.

4 Investigating the acquisition of L1 Singapore English

Setting the methodological scene

To investigate the acquisition and features of L1 SingE, I employed an approach combining qualitative and quantitative approaches, viz. a general feature screening of L1 SingE characteristics with a quantitative analysis of three features frequently found in the input the children receive (the acquisition of zero vs. realized subject pronouns, past tense marking on verbs, and vowel contrasts in the lexical sets KIT–FLEECE and FOOT–GOOSE). In the following sections, I first discuss some relevant methodological considerations for investigating new acquisitional L1 contexts like Singapore, viz. what World Englishes and L1 research have to offer (Sections 4.1 and 4.2). The following sections illustrate how I have utilized these findings and put them into practice, viz. I present the research hypotheses and expectations of the study (Section 4.3.1) and describe the data collection procedures (Section 4.3.2). Subsequently, I introduce the participants of the study (Section 4.4) and offer an overview of the data analysis and coding procedures (Section 4.5).

4.1 What World Englishes research has to offer

As Chapter 2 has revealed, the literature on SingE abounds and World Englishes research has yielded a large amount of findings on the various aspects related to the emergence and (socio)linguistic background of the L2 variety. The present study is generally embedded in these earlier findings and approaches, but the empirical part opens up an important new perspective on the development of SingE. It offers an empirical, large-scale investigation of the current realities of the sociolinguistic background of SingE as well as of the usage patterns, characteristics, and some of the developmental patterns of the L1 child variety of SingE.

4.1.1 *Feature selection*

The selection of the three features chosen for the quantitative analysis of my study is motivated by the following considerations:

- (1) The three linguistic structures have been attested to be high-frequency characteristics of adult speech (whether L2 or L1 depends on whether

the adult speaker him- or herself has acquired English as a first language and is not necessarily relevant here) and consequently also of high frequency in the input the children receive. This consideration is mainly a methodological one, as it guarantees comparatively high token numbers for the characteristics investigated. What is more, all three phenomena have been attested to occur in both their formal, standard representations (i.e., the use of overt subject pronouns, verbs marked for past tense, and realized length distinctions between KIT-FLEECE and FOOT-GOOSE) and their informal, colloquial form (i.e., as zero subject pronouns, unmarked verbs, and missing or reduced length distinctions between KIT-FLEECE and FOOT-GOOSE) in adult SingE. I therefore assume that all standard and non-standard representations of the characteristics under observation are part of the feature pool the children choose from. What the children ultimately select will help shed light on the question of what exactly the children acquire. I refrain from using “which variety” here because, in contrast to the diglossic approach introduced in Section 2.3.2 earlier and to what Gupta (1994) assumes, I do not expect the children to copy their parental input one-to-one. This latter assumption is not in line with what we know about how children acquire a language, particularly in a bi-/multilingual setting like Singapore. What is more, it seems undisputable that the input the children receive is not a homogeneous “entity.” Linked to that, Section 2.3.2 has revealed that recent approaches have convincingly shown that a conceptualization of SingE along the lines of the diglossic approach does not depict the current linguistic realities of the Singaporean context.

- (2) The second reason why I have chosen the three characteristics for quantitative investigation is of a more pragmatic nature. They offer exemplary representations of different linguistic domains; viz., the acquisition of noun- and verb-phrase properties represents the level of morphosyntax, and the acquisition of qualitative and quantitative properties of vowel-length contrasts represents the level of phonology.

To illustrate the heterogeneous input available to the children and to give an overview of the competing linguistic forms the feature pool provides, the following section (cf. Table 4.1) offers a brief “typological excursion,” viz. a cross-linguistic comparison between CSE, BrE/SSE, and AmE on the one hand, and Mandarin Chinese, Cantonese, Hokkien, Hindi, Marathi, and Tamil on the other. The different varieties of English included in the comparison are the major varieties Singaporeans encounter in their daily lives; the other languages treated in this cross-linguistic overview are the languages the children speak as their home languages (according to what the parents indicated in the parental questionnaire) and which, therefore, might have an influence on the bi-/multilingual acquisition of English via the mechanism of cross-linguistic influence.

Table 4.1 A cross-linguistic survey of the languages acquired and spoken by the Singaporean participants

Language	Language family	Subject licensing	Past tense marking	Vowel inventory/realization of KIT, FLEECE, FOOT, and GOOSE ¹
British English	Indo-European/ West Germanic	non-null-subject language, which licenses null subjects in a very restricted set of contexts only (certain instances of colloquial usage and imperative structures; cf. Zwanziger et al., 2005, p. 896; Valian, 2016) e.g., <i>Well why didn't he say that yesterday then?</i> (Biber et al., 1999, p. 124) <i>A: And what do you think she'll say?</i> <i>B: Ø Dunno.</i> (Biber et al., 1999, p. 1105)	- verbs are obligatorily marked for past tense when referring to past contexts - regular verbs mark past tense morphemically, via the suffix <i>-ed</i> - irregular verbs can mark past tense via several different methods depending on their verb class, such as suffixation of <i>-t</i> or <i>-d</i> (in contrast to <i>-ed</i>) or stem vowel change (Biber et al., 1999, pp. 453, 394–396) e.g., <i>The clock on the tower of St Michael-in-the-Moor chimed nine as he came onto the road.</i> (Biber et al., 1999, p. 454)	quantitative and qualitative differences between KIT [ɪ] and FLEECE [i:] and FOOT [ʊ] and GOOSE [u:] exist (e.g., Fant, 1973, pp. 42–45; Lim, 2004, p. 21)
American English	Indo-European/ West Germanic	identical to BrE	identical to BrE	similar to BrE, although length distinctions not as prominent (Fant, 1973, pp. 42–45; Kretzschmar, 2004, pp. 263–267; Roach & Hartman, 1997, p. ix)
Standard Singapore English	???	non-null-subject language, largely identical to BrE (e.g., Alsagoff & Ho, 1998, pp. 129, 147)	largely identical to BrE (e.g., Leimgruber, 2013, pp. 71–72)	largely identical to BrE (e.g., Lim, 2004, p. 21)
Colloquial Singapore English	???	- generally licenses the use of null subjects - variable use between null and overt subjects (e.g., Alsagoff & Ho, 1998, p. 147)	verbs are variably marked for tense and are often used in their bare forms, even if the speaker clearly refers to past contexts (e.g., Fong, 2004, p. 77) e.g., <i>so didn't really enjoy the three weeks there</i>	phonemes are not all differentiated but “merged into”² [ɪ] (KIT–FLEECE) and [ʊ] (FOOT–GOOSE) (e.g., Lim, 2004, p. 21)

		e.g., <i>Yeah, Ø can cycle, not very well, but Ø can cycle, ah, Ø knocked myself against a pillar ... but ((laughs)) then Ø managed to pick up ((laughs)) cycling.</i> (Deterding, 2007, p. 59)	<i>((laughs)) I guess it's because I know that I'm only be there for three weeks</i> (Deterding, 2007, p. 46)	
Mandarin Chinese	Sino-Tibetan/ Sinitic	• often does not require a subject in the main clause (unless argument has been fronted to topic position; cf. Valian, 2016, p. 388)³ e.g. <i>Ø jīntiān wǎnshàng chī shénme?</i> <i>Ø today evening eat what</i> <i>“What are we having for supper tonight?”</i> (Li & Thompson, 1981, p. 664) • still, a subject may be inserted depending on the formality of the context and to avoid ambiguity⁴	• highly analytic language • verbs are not marked for tense; however, “aspect morphemes” can be used to indicate states such as the perfective and durative (Li & Thompson, 1981, p. 13) • the common particles used to indicate completeness of an action are perfective <i>le</i> (“already”), <i>yǒu</i> (“have,” preceding the verb), and <i>wán</i> (“finish,” following the verb) for emphasis, often co-occurring with each other (see also Bao, 2005, p. 248; Ross & Sheng Ma, 2014, pp. 244–252) e.g., <i>Ø yīfu tang-wán le</i> <i>Ø cloth iron-finish already</i> <i>“The clothing, (someone) has finished ironing it.”</i> (Li & Thompson, 1981, p. 89)	• FLEECE and GOOSE realized as [i] and [u] • vowel inventory also includes a “high-front rounded vowel <i>ü</i>”; has features of both FLEECE and GOOSE • no KIT [ɪ] or FOOT [ʊ] in standard vowel inventory (Sun, 2006, pp. 37–38) • in tonal languages such as Chinese, differences in tone are phonemic; vowel length is generally considered a component of tone, along with pitch and register (Zhu & Wang, 2015, pp. 503, 505). However, Mandarin has a “pitch-only” tone system, i.e., pitch alone is phonemic; “length contrast” is not a factor (Zhu & Wang, 2015, p. 508)
Cantonese	Sinitic	• identical to Mandarin (Yip & Matthews, 2000a, pp. 18–19)	• similar to Mandarin, does not mark tense on the verb and has a perfective aspect marker <i>zo</i> that can be used to express past events	• identical to Mandarin (Yip & Matthews, 2000a, p. 11; Zhu & Wang, 2015, p. 503)

(Continued)

Table 4.1 (Continued)

Language	Language family	Subject licensing	Past tense marking	Vowel inventory/realization of KIT, FLEECE, FOOT, and GOOSE
Hokkien⁵	Sino-Tibetan/ Min	- generally licenses the use of null subjects “characterised by many null-subject structures” just like all other forms of Chinese (Deterding, 2007, p. 59) e.g. <i>dai bak cia tau bhe an zua</i>“Ø ki Taipei station will how Ø go “How do I get to Taipei Train Station?” (Deterding, 2007, p. 59)	e.g., <i>Zoengsaam sik-zo pinggwo.</i> Zoengsaam eat-[perfective] apple “Zoengsaam has eaten an apple.” (Tang & Cheng, 2014, p. 604) - similar to Mandarin, does not mark tense on the verb and has a perfective aspect marker (<i>le</i> or <i>liu</i>) that can be used to express past events - in contrast to Mandarin, the Min family maintains a distinctive past tense, which is, however, “expressed with the existential verb [...] occurring before the verb modified”; thus, the main verb is still left bare when marking for past contexts (Yue, 2003, p. 90) e.g., <i>Gua bo tsiah gu-bah.</i> I not-have eat beef. “I didn’t eat beef.” (Hsieh, 2014, p. 633)	- mostly identical to Mandarin (see previous; see also Lien, 2015, pp. 160–161) - however, in contrast to Mandarin, the Min family has a “pitch-length” tone system in which vowel length as well as pitch is phonemic (Zhu & Wang, 2015, p. 509)
Hindi	Indo-European/ Indo-Aryan	- licenses both overt and null subjects - generally uses a subject in the main clause; however, “zero pronouns are the preferred device for capturing anaphoric relations” and “most	- verbs are obligatorily marked for past tense when referring to past contexts - the past tense is formed by suffixing the perfective marker to the verb stem; this marker, which can be “<i>a</i>, <i>e</i>, <i>ē</i>, <i>ī</i>, or	Quantitative and qualitative differences between KIT [i] and fleece [i:] as well as FOOT [U] and goose [u:] realized (Kachru, 2006, p. 15)

		constituents except the verb phrase [...] can be deleted under identity” (Kachru, 2006, pp. 166–168; 261) e.g., <i>do baje se beṭhī hū, aḱṭar ka koī pāta nāhī.</i> two o’clock since sit doctor of any sign not “(I) have been sitting here since two o’clock, there is no sign of the doctor” (Kachru, 2006, p. 167)	ĩ, depending on features of agreement,” simultaneously marks for gender, number, and person in addition to tense (Kachru, 2006, pp. 73, 79–80) e.g., <i>sarita g^har se niklī.</i> Sarita house from emerge-[perfective] “Sarita came out of the house.” (Kachru, 2006, p. 79)	
Marathi	Indo-European/ Indo-Aryan	- licenses both overt and null subjects - generally uses a subject in the main clause, but “[p]ersonal pronouns are often dropped in a discourse context” (Dhongde & Wali, 2009, pp. 202, 270) e.g., <i>Ø bel dabli. uttār nahi. Ø, punha dabli.</i> Ø bell pressed. Answer no. Ø again pressed. “(I) pressed the bell. No answer. (I) pressed again.” (Dhongde & Wali, 2009, pp. 272–273)	- verbs are obligatorily marked for past tense when referring to past contexts - the past tense is formed by suffixing the perfective marker <i>-l-</i> to the verb stem; this marker is followed by additional inflectional markers for case, number, and gender as necessary (Dhongde & Wali, 2009, pp. 74, 78–79, 83) e.g., <i>(sonu-ne) amba kha-ll-a</i> (Sonu) mango eat-[perfective] “Sonu ate a mango.”	- FLEECE [i:] and GOOSE [u:] realized - in speech, “[l]ength is not phonemic in <i>i</i> and <i>u</i>” - no KIT [ɪ] or FOOT [ʊ] in indigenous (spoken) vowel inventory (Dhongde & Wali, 2009, pp. 9–10)
Tamil	Dravidian	- licenses both overt and null subjects - generally uses a subject in the main clause, but also allows “deletion of NP arguments, without ambiguity, as a common type of anaphora in	- verbs are obligatorily marked for past tense when referring to past contexts - the past tense is formed morphemically, via a small set of markers suffixed to the verb stem that are	quantitative and qualitative differences between KIT [ɪ] and FLEECE [i:] as well as FOOT [ʊ] and GOOSE [u:] realized (Krishnamurti, 2003, p. 63)

(Continued)

Table 4.1 (Continued)

Language	Language family	Subject licensing	Past tense marking	Vowel inventory/realization of KIT, FLEECE, FOOT, and GOOSE
		discourse, in any continuous narration, or conversation, either in speech or writing” (Krishnamurti, 2003, p. 466) e.g., <i>naan pooreen</i> “I am going.” <i>Ø pooreen</i> “(I) go.” (Schiffman, 1999, p. 117)	governed by the preceding morpho-phonological environment • broadly: <i>-t-</i> , <i>-tt-</i> , or <i>-nt-</i> occurs generally after mono- or disyllabic stems; <i>-i-</i> or <i>-in-</i> after di- or trisyllabic stems; <i>-cc-</i> after a stem ending in <i>y</i> or a vowel; and <i>-kk-</i> after “disyllabic roots ending in <i>-ku</i> ” (Krishnamurti, 2003, p. 299) • this marker is followed by other inflectional markers for number, gender, etc. as necessary (Krishnamurti, 2003, pp. 291–301) e.g., <i>avan va-nt-ān</i> he come-[perfective] “He (informal) came.” (Krishnamurti, 2003, p. 421)	

4.1.2 A brief typological excursion

Assuming that cross-linguistic influence might play a role in bi-/multilingual language acquisition, I briefly review those properties of the languages involved in the L1 language repertoires of the Singaporean children that relate to the three characteristics under observation. Note again that I do not follow a diglossic approach to SingE here. Still, for ease and consistency of representation, I present each feature according to the variety with which it is most commonly associated. I do not go into any typological detail here. The overview is not meant to be comprehensive and sometimes offers some gross simplifications only. The aim here is to provide an overview for the later discussions of potential cross-linguistic influence from the one language of the child to English. I do report the language family the languages are traditionally assigned to, which is particularly interesting – and far from straightforward – when trying to categorize SSE and CSE. The assignment of the latter, in particular, is unclear. Should it be categorized as a West Germanic language, just like BrE/AmE, despite the strong contact effects and restructuring it has experienced? Ritchie (1986, pp. 20–26) argues that CSE/Singlish (but, to some extent, the acrolectal varieties of SingE as well) is typologically closer to Chinese – and thus to the Sino-Tibetan language family – than to English due to the great extent of substrate influence in this variety (see also Ansaldo, 2004, p. 143 on the typological differences of SingE – he focuses on a mesolectal variety – and standard varieties of English). This is an interesting question, which might become even more relevant as SingE gains more and more acceptance not only as an independent, fully-fledged variety of English but also as a fully-acknowledged L1 variety on par with the traditional native speaker varieties of English. Within the confines of this study, I cannot give an answer to this question, but I thought it worthwhile to raise this point. The question marks in Table 4.1 indicate the insecurities involved in the classification.

A couple of comments on the so-called null subject parameter (e.g., Rizzi, 1986; Hyams, 1986 with respect to language acquisition) are in order here. I generally avoided the classification of the languages mentioned earlier as either null- or non-null-subject languages, as such a classification is not always as straightforward as is often implied in generative accounts. It has been much discussed and debated and is highly complex, in terms of both the typological classifications of languages as well as questions regarding their acquisition. The validity of the parametric approach has been questioned, at least in its original, strictly binary distribution of null- vs. non-null-subject languages (cf. Valian, 2016).

The picture seems far more complex than that, in that differences also exist between null-subject languages like, say, Italian and Chinese (e.g., Yang, 2002, pp. 114–116 for a summary and explanation of these differences). To account for languages that cannot clearly be assigned to either the null subject or the non-null subject type, the existence of “partial null-subject languages” has been suggested (e.g., Bizzarri, 2015 for Russian; Holmberg et al., 2009 for Brazilian Portuguese, Finnish, and Marathi). Such languages “allow null subjects but under more restricted conditions than consistent null-subject languages” (Holmberg et al., 2009, p. 59). The details of the acquisition of subject realization will be discussed in Section 4.2.1; details on the acquisition of the other phenomena under observation will be provided in Sections 4.2.2 and 4.2.3.

4.1.3 Methodological background

From a methodological perspective, I made use of the corpus linguistic approach often employed when investigating varieties of English. As described in Section 4.3.2 in some detail, I compiled a data corpus of child speech, some parts of which were collected by means similar to the Labovian approach of the sociolinguistic interview (cf. Section 4.3.2.2). For data preparation and the analysis of many parts of the data, I employed analytic tools often used in the analysis of varieties of English, such as AntConc (Anthony, 2014) for text and concordance analysis and Praat (Boersma & Weenink, 2018) for acoustic analyses. I submitted my data sets to linear mixed-effects models and generalized linear mixed-effects models (*lmer* and *glmer*; Bates et al., 2015) and modeled conditional inference trees and random forests.

The remaining parts of the data collection procedure and data analysis come from the field of L1 research, as will be illustrated in Section 4.2.4. Still, the terminology used to present and interpret my results derives from the World Englishes framework. More precisely, I neither talk about “errors” nor do I measure “accuracy rates” as measured against an optimal adult native speaker (cf. the ideal speaker-listener briefly commented on in Section 3.3), as is traditionally done in language acquisition research. Notions of “error,” “target,” or “accuracy” imply deficiency and have been strongly rejected within the World Englishes framework for mainly ideological reasons. Within this framework, second-language varieties, of which L1 SingE is an offspring, are considered language systems in their own right, often with their own (developing) norms and standards (e.g., Buschfeld, 2013, pp. 59–60; Hundt & Mukherjee, 2011, pp. 1–2; Sridhar & Sridhar, 1986, p. 8). Error-based approaches to postcolonial Englishes have thus “often [been] considered counterproductive to the acceptance of emergent norms” (Götz & Schilk, 2011, p. 80) – and would ultimately be counterproductive when it comes to accepting SingE as an L1 system in its own right, on par with other first language varieties of English.

4.2 What first language acquisition research has to offer

As outlined in Section 3.2, the L1 research paradigm does not have much to contribute to the acquisition of L1 SingE in terms of concrete findings on its general characteristics or the acquisitional route followed by Singaporean children. Still, it is interesting and insightful to look into what the discipline has revealed on the acquisition of the three characteristics under investigation in the traditional L1 varieties. I therefore sum up the most important findings on the acquisition of subject realization, past tense marking, and vowel contrasts in BrE/AmE. If not stated otherwise, I do not differentiate between BrE and AmE; I tacitly assume that they mainly follow the same general developmental paths. The following sections will serve as reference points for some of the discussion offered at the end of each of the chapters that present the results of the study (Chapters 6–8). By doing so, I do not imply subordinate

status for L1 SingE; rather, the opposite is the case. My aim is to get L1 SingE in line with traditional accounts of – and findings on – the acquisition of English as a first language.

4.2.1 The acquisition of subject pronouns in British and American English

“Children’s use of subject noun phrases provides a special opportunity to investigate both inconsistent usage of obligatory elements, and acquisition of a fundamental piece of information about one’s language – whether or not overt subjects are required” (Valian, 1991, p. 23). English belongs to the group of non-null-subject languages, yet the acquisition literature has shown that children omit subjects in finite sentences early in their development, before they ultimately realize subjects in obligatory contexts (e.g., Roeper & Rohrbacher, 2000; Scott, 2005; Valian, 1991, 2016; Zwanziger et al., 2005). This phase has been reported to occur comparatively early in language development. Information on how early varies from, for example, approximately between twenty and twenty-five months (Scott, 2005, p. 1) to rough estimates such as “before the age of 4;0” (4 years; 0 months) (Zwanziger et al., 2005, p. 897). Indeed, the age until which children produce zero subjects in otherwise non-null-subject languages has been reported to vary from child to child, at least to some extent (Scott, 2005, p. 1). During this phase, children acquiring English produce both subject-less sentences as well as sentences containing a subject, as the following non-imperative examples from Hyams (1989, pp. 221–222, quoting Bloom et al., 1975) illustrate:

- (1) Throw it away. Mommy throw it away.
- (2) Want go get it. I want take this off.
- (3) Go in there. Foot goes over there.
- (4) Change pants. Papa change pants.
- (5) Take a nap. Mama take a nap.

Rates of subject omission also have been reported to vary, “from 26 to 55% at the earliest stages and gradually declining to rates varying from 5 to 11%” (Zwanziger et al., 2005, p. 897; see also Bloom, 1990; Valian, 1991; Wang et al., 1992).

This phenomenon has been observed not only for the acquisition of English but also for other non-null-subject languages like Danish or German:

- (6) ikke køre traktor
‘not drive tractor’
(example from Hamann & Plunkett, 1998, p. 36)
- (7) Das da nich’ Oma. Is Mama.
‘That not grandma. Is mama.’
(my own example from my son, age 2;7)

Calling into question theories such as the Very Early Parameter Setting Hypothesis (Wexler, 1998), such and similar findings have been the basis for extensive discussions of potential reasons for such subjectless constructions in early child language. The vast amount of existing acquisition theories can roughly be assigned to two distinct camps: competence-based/grammatical approaches (e.g., Hyams, 1986; Valian, 1990; Hyams & Wexler, 1993) and performance-based accounts (e.g., L. Bloom, 1970; P. Bloom, 1990). I do not go into any detail here, as the reasons are not of immediate relevance for the study at hand (but see, e.g., Scott, 2005 and Valian, 1991, 2016 for an overview of such and further approaches and discussions). What is more important for the present context is to briefly look into some of the concrete findings reported for the acquisition of subjects, since these will later serve as the background for the discussion of results.

In sum, research on the acquisition of subject pronouns has shown that all children in all languages use fewer subjects in the early stages of language acquisition than they do in later stages and that the increase in subject realization is gradual. It seems that children know what type of language they acquire from early on; they are “sensitive to the proportion of subjects in their input” (Valian, 2016, p. 399). Indeed, children acquiring a non-null-subject language have been shown to use more subjects from the early period of combinatorial speech than children of the same age acquiring a null-subject language. Zooming into more detail, research has found that early zero subjects are not generally restricted as to grammatical person, viz. “[t]he null subject may refer to the child himself or to some other person or object” (Hyams, 1989, p. 222). Still, the differences in information structure between referential and expletive subjects is likely to play a role, because if “one wants to convey essential meaning, one can afford to lose an expletive subject more easily than a referential subject” (Valian, 2016, p. 402). In addition to that, children acquiring a non-null-subject language have zero subjects in matrix clauses only; embedded clauses are not affected. For children acquiring a null-subject language, this does not apply; children rightly leave out the subject in embedded clauses, too. In a similar vein, it has been suggested that children use null subjects in non-finite clauses longer than in finite clauses (cf. Valian, 2016, pp. 399–401).

When it comes to the bilingual acquisition of subjects, the first important factor to consider is the specific language pairing of the child. If the child acquires a typologically similar pairing – viz. a non-null-subject language like English together with another non-null-subject language like German or French – the literature has reported that children produce about the same rate of zero subjects in both their languages and show similar rates when compared to monolinguals acquiring the languages under consideration in isolation (e.g., Schmitz et al., 2012; see also Valian, 2016, p. 397). The previous discussion of the role and mechanisms of cross-linguistic influence in the simultaneous acquisition of two languages has revealed that, for language pairings that create structural overlap or ambiguity in the input the child receives, the subject domain is particularly susceptible to cross-linguistic influence. Therefore, if children acquire an unequal pairing, viz. a non-null-subject language side by side with a null-subject language

like Italian or Chinese (both prime examples of null-subject languages, even if different in their verbal typologies and the mechanisms behind the zero subjects; cf. Valian, 2016, pp. 388, 395–398; Section 4.1.2), cross-linguistic influence can be expected. First and foremost, research has shown that children produce a considerably higher amount of subjects in their non-null-subject language than in their null-subject language. This once more indicates that they differentiate between their two systems from early on and “that children separately tabulate the regularities in the languages they hear” (Valian, 2016, p. 398). Findings on cross-linguistic influences between the languages, however, vary: some studies show that children overuse subjects in their null-subject language when compared to their monolingual peers (e.g., Paradis & Navarro, 2003; Serratrice et al., 2004); others suggest that they behave in very similar ways to monolinguals (e.g., Zwanziger et al., 2005). The same is true in the other direction: some studies find that bilingual children produce higher rates of zero subjects in their non-null-subject language than their monolingual peers (cf. Valian, 2016, p. 398); others report very similar rates of zero subjects between bilinguals and monolinguals (e.g., Juan-Garau & Pérez-Vidal, 2000; Serratrice, 2001, 2002; Zwanziger et al., 2005; see also Valian, 2016, p. 398). As we can see, the research is once more far from conclusive on this question.

4.2.2 The acquisition of past tense marking in British and American English

In BrE and AmE, the verb is morphologically marked for past tense in two possible ways: viz. either regularly, by adding an *-ed* morpheme to the stem, or irregularly via different marking strategies. The latter depends on the verb class; the verb is marked either by suffixation of *-t* or *-d* (in contrast to *-ed*) or by stem allomorphy (e.g., *sang*, *bit*, *ate*, *flew*), often by a change in the vowel sound, sometimes also involving a change of consonants (e.g., *brought*, *went*) (Biber et al., 1999, pp. 453, 394–396).

When children acquire English verbs, they first produce bare forms that are unmarked for tense, even if they refer to past events (e.g., Marchman & Bates, 1994; Paradis & Crago, 2001; Wexler, 1998). It has been reported that children first start marking their verbs for past tense around the age of two years (cf. Brown, 1973; Philips, 1995), although not necessarily immediately in the early months of their third year. Wexler (1992, 1994), Harris and Wexler (1996, pp. 1–2), and Miller and Ervin-Tripp (1973), for example, suggest that they variably use forms not marked for tense until approximately the age of 2;7 (what Wexler calls the “Optional Infinitive Stage”). Again, the end of this phase – i.e., when children start using marked forms consistently – may vary slightly from child to child and is not to be considered a sudden shift from bare verbs to marked verbs but a gradual development in which both use and correctness increase with increasing age (e.g., Nicoladis et al., 2012, pp. 469–470).

In the very early phase of language acquisition, BrE-/AmE-speaking children produce irregular verbs earlier than regular ones and they do so mostly correctly

(Marcus et al., 1992), probably because of the high token frequencies of irregular verbs in child directed speech. This can lead to the children acquiring these verb forms by entrenchment or rote memory (e.g., Bybee, 1995, pp. 433–434; Marchman, 1997, p. 284; Pinker & Ullman, 2002, p. 456). Regular past tense forms are high in type frequency, which ultimately leads to the children's productive use of regular past tense verb forms (e.g., Bybee, 1995, pp. 433–435; Marchman, 1997, p. 291; Marchman & Bates, 1994, p. 341; Plunkett & Marchman, 1993, pp. 22–23; see also Nicoladis et al., 2012, p. 460). Ultimately, their use of regular verbs also increases but with it the error rate in production as well (e.g., Kuczaj, 1977, p. 593; Marcus et al., 1992, pp. 1–2, 129). The most frequent error appears to be the overgeneralization of the past tense marker *-ed* by attaching it to irregular verbs, producing forms such as *ringed* instead of *rang* (cf. Berko, 1958, pp. 164–165; Marchman, 1997, p. 291; Marcus et al., 1992, pp. 1–2). This has been explained as resulting from a retrieval error or delay of the irregular form, i.e., “when children do not immediately access the entrenched or memorized irregular form” (Nicoladis et al., 2012, p. 460; see also Marchman & Bates, 1994, p. 341; Marcus et al., 1992, p. 18; Plunkett & Marchman, 1993, p. 23). Apart from that, some overapplication errors of irregular inflectional patterns to regular verbs or otherwise diverging ones have been reported, e.g., *wipe-wope* (cf. *write-wrote*, *ride-rode*) and *bring-brang* (cf. *sing-sang*, *ring-rang*) (Xu & Pinker, 1995, p. 533). However, these forms are not as irregular as they might appear at first sight because they are in fact guided by mechanisms of analogy (as illustrated by the examples in parentheses). According to the L1 literature, some of these overgeneralizations might last until the age of six or even seven years (cf. Kuczaj, 1977, p. 600; Marcus et al., 1992, pp. 44–45), but by then BrE- and AmE-speaking children seem to have fully acquired the general knowledge that verbs are marked for past tense when referring to past contexts.

In line with what has been observed in Section 3.1 in more general ways, acquisitional patterns, i.e., the developments in the use of regular and irregular verbs, can be explained in terms of input and type and/or token frequencies, as, for example, discussed in Gathercole and Hoff (2007) or Legate and Yang (2007). In this line of thinking, the early and relatively correct use of irregular past tense forms can be attributed to, on average, high token frequencies in child-directed speech, so that these verb forms get thoroughly entrenched in the children's memory. Regular past tense forms, on the other hand, are high in type frequency, which ultimately leads to the productive use of these regular forms (see the previous brief discussion). These assumptions strongly suggest that “L1 acquisition of tense marking is highly related to frequency in the input” (Nicoladis et al., 2012, p. 460), an observation that brings with it interesting questions for the bilingual acquisition of past tense marking. As repeatedly pointed out earlier, bilinguals experience less exposure on average to their two languages than their monolingual peers. If acquisition was strongly related to input, this would give reason to expect lags in the acquisition of the tense-marking system. According to Nicoladis et al. (2012), this might result in even school-aged bilingual children not having “reached ceiling in their

accuracy of past tense marking” (p. 460). Again, this appears to be a question of quantity rather than quality, since many studies into the bilingual acquisition of past tense marking show similar acquisitional patterns for mono- and bilingual children: viz. after a phase of bare verb productions, children begin to correctly produce first irregular and then regular verbs; once children consistently achieve high accuracy rates in the production of regular verbs, overgeneralizations account for most of the remaining errors (see also Berko, 1958; Kuczaj, 1977; Marcus et al., 1995); these appear slightly later for the bilinguals (e.g., Gavrusseva, 2002; Nicoladis et al., 2007, 2012). Other studies, however, point to at least small qualitative differences between monolingual and bilingual children (e.g., Shirai, 2003) and, once more, the possibility that individual variation in morphological acquisition might be greater than is often expected (e.g., Paradis et al., 2008; see also Nicoladis et al., 2012, p. 461).

When it comes to the question of cross-linguistic influence, which was earlier identified as a potential source for differences between mono- and bi-/multilingual children, there is not much evidence related to the acquisition of past tense marking. To my knowledge, there is not much research investigating the acquisition of tense marking comparing young bilinguals who acquire two tense-marking languages (e.g., English and French) and young bilinguals who acquire one tense-marking and one non-tense-marking language (e.g., English and Chinese). The only study known to me is Nicoladis et al.’s (2012) investigation and comparison of Chinese-English and French-English bilinguals. In the following, I briefly summarize their findings. These might be of relevance and interest for the interpretation and discussion of my results (cf. Section 9.2) since many, though not all, Singaporean subjects of my study are acquiring such a typologically different pairing (English and Chinese).

Nicoladis et al.’s (2012) study is one of the rare examples that looks into the question of “to what extent bilinguals develop past tense marking from their exposure to the target language and to what extent bilinguals’ acquisition is affected by their knowledge of another language” (p. 461). To that end, the authors elicited past tense structures in fourteen Chinese-English and fourteen French-English simultaneous bilinguals (ages 5 to 11 and 5 to 12, respectively) by means of a story retelling task. With respect to the question of whether there are any differences between monolingual children and bilingual children in terms of their acquisition of tense marking in English, they conclude that bilingual children acquire the past tense like monolinguals, just slightly later. Still, they also revealed some differences, “many of these likely due to transfer from their other language” (Nicoladis et al., 2012, p. 471). First of all, the Chinese-English children were more accurate in their use of irregular verbs than with regular verbs, while the French-English children were more accurate with regular than with irregular verbs. Second, in their non-target production of verbs, the Chinese-English group mainly produced verb stems. In terms of the production of irregular verbs in particular, the same held true: Chinese-English children used significantly more stems than overregularized forms. The French-English bilinguals showed the reverse pattern. The few irregularization errors that occurred in the study were all made

by the Chinese-English group, which makes perfect sense from a language-typological perspective: irregularization indicates that the child is marking for tense while avoiding the use of inflectional morphemes, which are absent from Chinese (Nicoladis et al., 2012, p. 471). In general, Nicoladis et al. (2012, p. 471) found a slightly higher tendency for the Chinese-English group to mark tense word-internally (hence the higher accuracy with irregular verbs) or to avoid marking entirely than was seen in the French-English group. They argue “that what is transferring may be primarily morphophonological in nature” and not only due to the transfer of the $\pm$ tense feature, especially due to the fact that Chinese favors one-syllable words (cf. Nicoladis et al., 2012, pp. 461–462). Their argument was corroborated by the finding that the Chinese-English bilinguals were not significantly less accurate when it came to tense marking in general than were the French-English bilinguals (Nicoladis et al., 2012, p. 471).

As an ultimate result, Nicoladis et al. (2012) expected that the children would at some point “grow out of the stage of marking tense with less than 100% accuracy” (p. 472). All in all, they found that the children’s accuracy rates were very high when compared to adult L2 learners and that the older the children got the fewer bare verbs they used (pp. 469–470).

4.2.3 The acquisition of vowel sounds in British and American English

When looking into children’s acquisition of phonology, an even more complex picture emerges of the processes and characteristics of children’s early speech, be they language-universal or specific (for a brief summary see, for example, Ohala, 2008, pp. 33–35). For the early acquisitional stages, many studies have reported vowel substitutions (e.g., Bernhardt & Stemberger, 1998; Bleile, 1989; Vihman, 1996) and great variability (e.g., Stoel-Gammon & Dunn, 1985; Vihman, 1996). The literature has tried to account for such variability and processes in child language and how these account for a variety of substitutions and limitations, but, as Stoel-Gammon and Pollock (2008, p. 531) aptly put it, descriptions of vowel errors are rather messy (for an overview of such processes and variation in the earlier years, see Donegan, 2013, pp. 47–48). Most of these processes and their effects have been shown to generally decrease with an increase in age (e.g., Otomo & Stoel-Gammon, 1992) and to disappear by the age of three (Ohala, 2008, p. 35). Since the interest of the present study is not so much in the early acquisition and such related processes but more in the “final” product of acquisition, I excluded the group 1 children (all children approximately below age 3;0, some slightly older; for further details, see Section 4.5.5) from this part of the study. This is why I exclude the minutiae and characteristics of these early acquisitional processes from the following overview and focus on general developmental trends and aspects relevant for the later investigation of the KIT-FLEECE and FOOT-GOOSE vowels.

According to the relevant literature, the English phoneme inventory is largely acquired around the age of three, both in reception and production, with some

exceptions such as [ɹ] and [ð], which take another three to four years to be successfully acquired (Ohala, 2008, p. 19). AmE vowels have been reported to be acquired before the consonantal system (e.g., Stoel-Gammon & Herrington, 1989; see also Menn & Stoel-Gammon, 1995, p. 348), for which early variability resolves into consistent substitutions at a time when vowel productions are often reasonably accurate already.

However, research on the acquisition of vowels was long neglected – the focus was mostly on the acquisition of consonants and their order of acquisition (e.g., Ferguson & Farwell, 1975; Smith, 1973; Templin, 1957), “as vowels are generally thought to be much more difficult to categorize” (Ohala, 2008, p. 32; see also Stoel-Gammon & Pollock, 2008, p. 525). Davis and MacNeilage (1990, p. 16) report a one-to-twenty ratio for studies on the acquisition of vowels, but the field has received increasing attention in recent years (Donegan, 2013, p. 24). As is true for many acquisition studies, the majority of those studies investigating the acquisition of vowel sounds focus on the acquisition of AmE vowels (e.g., Buder & Stoel-Gammon, 2002).

The acquisition of vowel sounds is a complex issue and involves a plethora of factors, e.g., the interaction of quality and quantity. In terms of vowel length in particular, both intrinsic factors such as articulatory differences (e.g., high vowels are generally shorter than low vowels) and phonological factors, as well as extrinsic factors (e.g., vowel length as determined by phonetic context, position of the vowel, and focus accent at a prosodic level) can be taken into consideration. Here, I focus on those aspects that appear relevant for the investigation of vowel sounds in Chapter 8 and for the interpretation of the results.

When looking into the general aspects of vowel acquisition, the relevant literature reports that vowels are acquired early in the language acquisition process, both in perception and in production (Donegan, 2013, p. 25). Perception is acquired even earlier than production skills, i.e., even though a child might not be able to produce a particular vowel contrast, it may well be that the child has long mastered the perception and memory of that distinction. Research on perception has shown that “children’s perception of speech at the onset of word production is relatively accurate and language specific” (Donegan, 2013, p. 34; pp. 30–33 for details; see also Kuhl, 1987). In general, “[t]he age and also the order of mastery of phones, phonemes, and phonemic contrasts is variable across children; only loose probabilistic statements can be made” (Menn & Stoel-Gammon, 1995, p. 359). Still, some general trends, relevant for the present study and its underlying methodology, have been reported. Several studies have shown that vowels are fully acquired, i.e., produced in mainly correct ways, between the ages of three and four at the latest (e.g., James et al., 2001 for Australian English; Dodd et al., 2003 for BrE; Pollock, 2002 and Pollock & Berni, 2003 for AmE [rhotic and non-rhotic]; for an overview, see McLeod, 2009, pp. 385–405). For example, speech production studies have revealed that vowel quality and differences between vowel pairs such as /i/ – /ɪ/ are acquired by the age of three by most children, and this seems generally true for all but the rhotic vowels (cf. Irwin & Wong, eds., 1983; Salidis & Johnson, 1997; Smith, 1973;

Stoel-Gammon & Herrington, 1989; Templin, 1957; see also Buder & Stoel-Gammon, 2002, p. 1855). In general, it has been reported that the high front and high back vowels [i] and [u] are acquired earliest and are among the most correctly produced ones (e.g., Hare, 1983; Paschall, 1983; Stoel-Gammon & Herrington, 1989; see also Davis & MacNeilage, 1990, pp. 16, 20; Menn & Stoel-Gammon, 1995, p. 348).

Turning to the acquisition of vowel quantity, only a few studies have investigated phonemic vowel length (Yuen et al., 2014, p. 1469; Kehoe & Lleó, 2003, p. 528). Similar to what has been found for vowel quality, different factors play into the acquisition of vowel length and pose questions to the researcher, especially “about how and when the interplay between phonemic vowel length and phonological context is learned” (Yuen et al., 2014, p. 1469). What is more, since children produce both long and short vowels right from the beginning but are inconsistent in their early productions, “it is not straightforward to determine when children have acquired a phonological length distinction” (Kehoe & Lleó, 2003, p. 531; see also Fikkert, 1994). For languages where length is robustly durational (e.g., Swedish or Japanese), children differentiate long and short vowels from two years old and earlier (i.e., Ota, 1999 for Japanese; Stoel-Gammon et al., 1995 and Stoel-Gammon & Buder, 1998 for Swedish). For languages such as English, “the question of ‘length’ is an abstract notion of quantity, not just duration” (Donegan, 2013, p. 28), i.e., vowel length is related to spectral aspects of the vowel. It has been shown that the acquisition and production of vowel length also coincides with other factors such as neighboring phonological material, which can result in contextual vowel lengthening. As is well-known, for example, final consonant voicing in English has a strong effect on preceding vowel length: vowels preceding voiced consonants have been reported to be nearly twice as long as their counterparts preceding voiceless consonants (House, 1961, p. 1175; see also Buder & Stoel-Gammon, 2002, p. 1855). Still, studies have shown that vowel length in English is also acquired early, around the age of three if not earlier. For example, a study by Yuen et al. (2014) reports that three-year-old Australian children have a good command of the phonemic vowel length contrast employed in Australian English. A study by Stoel-Gammon and Buder (2002) shows that children acquiring AmE make the long/short distinction from thirty months onwards. A study of children acquiring AmE (Ko, 2007) suggests that children make durational distinctions between lax and tense vowels as early as before the age of two and that by then they can also differentiate vowel duration conditioned by voicing, e.g., what has been referred to as the vowel-length effect (VLE), viz. “[t]he fact that English vowels are longer before voiced than voiceless consonants” (Ko, 2007, p. 1881, following Kluender et al., 1988; see also Stoel-Gammon & Buder, 1999 and above).⁶ This effect appears to be influenced by age, as it has been shown that vowel duration in front of voiced consonants decreases with increasing age (Krause, 1982, p. 392). What the studies by Stoel-Gammon et al. (1995) and Kehoe and Stoel-Gammon (2001) further report is that English-speaking children (age 2;0) distinguish long and short vowels primarily by quality and normally stick

to this strategy in later life. Indeed, other studies have also shown that native speakers of AmE and BrE discern vowel pairs such as /i/ and /ɪ/ mainly on the basis of spectral differences, “making little use of temporal cues” (Kivistö-de Souza et al., 2017, p. 34; see also Bohn & Flege, 1990, p. 304; Escudero & Boersma, 2004, p. 560; Wang & Munro, 1999, p. 127). The opposite applies to EFL (English as a foreign language) learners (e.g., Bohn, 1995; Flege et al., 1997; Ylinen et al., 2009), which is not relevant here but briefly finds discussion in Section 8.2.

Turning to the question of how bilingual children acquire the phonological systems of their languages and, more precisely, the qualitative and quantitative contrasts of English vowels as discussed earlier, the main question to consider is whether bilingual children develop one mixed phonological system or two independent ones. However, other than studies of lexical and grammatical development, the acquisition of the phonological system(s) of bilingual children has received much less attention (Holm & Dodd, 1999, p. 349; Keshavarz & Ingram, 2002, p. 255). Positions range from the unitary model, viz. the idea that bilingual children start out with a single system and only later develop two separate ones (e.g., Leopold, 1970 [1939-49]; Schnitzer & Krasinski, 1994; Vogel, 1975), to the dual hypothesis model/autonomy hypothesis (Bhatia & Ritchie, 1999; Ingram, 1981; Schnitzer & Krasinski, 1996). As recent research suggests, the unitary model is not likely to hold for bilingual phonological acquisition (e.g., Keshavarz & Ingram, 2002). As observed for the development of bi-/multilingual linguistic systems in general (cf. Section 3.1), I consider it most likely that children develop two separate systems but that the languages influence each other (cf. the interdependence hypothesis, as suggested by Johnson & Lancaster, 1998). In this respect, Paradis and Genesee (1996) predict three possible kinds of interdependence, viz. transfer, acceleration (via positive transfer from the dominant language; e.g., Holm & Dodd, 1999), and delay.

Most relevant here is, again, the notion of cross-linguistic influence (transfer), i.e., the question of whether the other L1s the children acquire influence their English phonological repertoire. Cross-linguistic influence has been reported to occur in the bilingual acquisition of phonological systems; its concrete manifestations and significance are, however, controversial. “The emerging consensus in the field views supra-segmental and segmental acquisition as independent but not entirely autonomous,” with interaction between the systems reported in a variety of studies on phonetic repertoires and accuracy of production (Serratrice, 2013, p. 92).

4.2.4 Methodological background

In terms of its methodological repertoire, L1 research has plenty to offer for the present study. There are three general paradigms for the study of language acquisition, viz. language comprehension, perception, and production (Karmiloff & Karmiloff-Smith, 2002, p. 10). To inquire into these areas of language acquisition, a vast number of different test types exist, by which early and

later child language acquisition can be investigated. For the investigation of language production alone, which is at the heart of the present study, plenty of different methods have been employed in L1 acquisition studies. These range from the collection and use of speech corpora of data collected in free interaction (most prominently the CHILDES [Child Language Data Exchange System] database), to elicited narratives, elicited production by nonce words, elicited imitation with spontaneous correction, elicited transformation, and more (cf. Karmiloff & Karmiloff-Smith, 2002, pp. 18–31 for an overview and further details). Methods for investigating language comprehension and language perception are also nicely summarized in Karmiloff and Karmiloff-Smith (2002, pp. 12–18, 31–37) but are not further commented on here. Additionally, child L1 acquisition has frequently been assessed by means of parental questionnaire studies utilizing questionnaires such as the MacArthur Communicative Development Inventory (cf. Karmiloff & Karmiloff-Smith, 2002, pp. 37–39). In such questionnaires, parents are asked to provide information on both their children's productive and receptive abilities. Despite the advantages reported by, for example, Karmiloff and Karmiloff-Smith (2002, pp. 37–39), recent research has repeatedly criticized this technique and has warned against drawing too strong conclusions on the basis of questionnaire studies (cf. Section 4.5.2 for further details).

Many studies on child L1 acquisition measure mean length of utterance (MLU), often in addition to their main focus of investigation. MLU measurements shed light on grammatical development and have often been used for grouping or comparing children, replacing age as a determining parameter. I will also measure MLU (cf. Section 4.5.1).

4.3 Linking the World Englishes and language acquisition paradigms

In the following, I illustrate how I utilize selected findings and methodologies from the World Englishes and Language Acquisition paradigms for the study at hand. To that end, I present the research hypotheses and some general expectations in Section 4.3.1, then outline the methods and procedures of the data collection and analysis in Sections 4.3.2, 4.4, and 4.5.

4.3.1 Research hypotheses

Much of what is elaborated on in the following arises from the cross-linguistic comparison presented in Section 4.1.2 and revolves around the question of whether cross-linguistic influence can be expected to take place in the acquisition of L1 SingE. As we have seen earlier, this is ultimately not predictable, as cross-linguistic influence apparently depends on a variety of factors that cannot all be accounted for here. What is more, it has been shown to be susceptible to individual variation. Still, researchers have argued for some language-internal mechanisms that seem to facilitate cross-linguistic influence, most prominently structural overlap/ambiguity and the existence of a grammatical interface (cf. Hulk & Müller, 2000; Müller &

Hulk, 2001; and the observations in Section 3.1.1). The interface criterion is clearly fulfilled by the first characteristic under observation, viz. the acquisition of subject pronouns. It lies at the syntax/pragmatics interface and has repeatedly been shown to be particularly susceptible to interference effects. The other two characteristics do not constitute such an interface. The second criterion of structural overlap/ambiguity, however, is fulfilled for all cases, simply because of the variability and unsystematicity in the English input the Singaporean children are exposed to.⁷ This constitutes my first underlying assumption. Independent of precisely how standard or non-standard the input is that the individual child receives, viz. what the exact ratio of standard and non-standard realizations of the three features under investigation is (this may indeed vary considerably), we can safely assume that, precisely because of the coexistence of the competing standard and non-standard forms, all children are exposed to both variants of the realization of the three characteristics. This makes the input ambiguous for most children. I briefly consider the three characteristics under investigation as well as the major language pairings in turn.

As stated earlier, I assume that the English input the children receive contains both null and overt subjects. The other local languages the children speak also generally allow for the use of null subjects. Still, the concrete mechanisms licensing zero subjects and their ratios vary from language to language. The English input the children receive is certainly most variable. Whether that affects subject realization in the children's English, viz. leads to higher rates of null subjects when compared to the adult input, remains to be seen and cannot be fully discussed here (cf. Buschfeld, in prep.). Following Hulk and Müller's (2000) structural overlap/ambiguity hypothesis, it may be that the higher rates of zero subjects and the clearer rules in the languages the children have as their other L1s trigger the use of even larger amounts of zero subjects in English. It can safely be assumed that the children produce both zero and overt subjects. Taking into account the various findings discussed in Section 3.1 and the findings on the acquisition of subject pronoun realization in Section 4.2.1, I hypothesize the following:

Hypothesis 1a: All children (from Singapore and from England) drop subject pronouns in their early acquisitional stages. The amount of zero subjects is higher in the Singapore group due to the differences in input (SingE behaves similar to partial null-subject languages, at least at a surface level).

Hypothesis 1b: In later acquisitional stages, the Singaporean children drop subject pronouns at a much higher rate than children acquiring English in a traditional native English setting. The children from England ultimately realize subjects as obligatory sentence constituents.

Hypothesis 1c: Since all other L1s the children speak are null-subject languages,⁸ I do not expect to find differences between the Chinese and Indian groups that are motivated by grammatical criteria. Variability and ambiguity in the input are found in all languages involved in the pairings.

Hypothesis 1d: Individual variation exists between the Singaporean children, due to other input-related and social factors.⁹

A slightly different picture emerges for the acquisition of past tense marking, which leaves room for testing Hulk and Müller's (2000) structural overlap/ambiguity hypothesis against a (to my knowledge) unprecedented background, viz. the acquisition of past tense marking in English. Again, SingE here constitutes a highly ambiguous case in that it offers huge variability in the input the children receive. The Chinese languages/dialects are all typologically highly analytic and therefore do not mark past tense via morphemic markers. The languages spoken by the Indian Singaporeans all mark past tense synthetically and are therefore similar to BrE/AmE in that respect. As Hulk and Müller assume, influence derives from the unambiguous language and affects the ambiguous one (e.g., Müller, 1998; Müller & Hulk, 2001). Because both the Chinese languages/dialects and the "Indian" languages are unambiguous in terms of how they mark the past tense and because SingE offers the structural ambiguity, this allows for an interesting expectation as formulated in Hypothesis 2c. Against the background of the findings on the acquisition of past tense marking outlined in Section 4.2.2, the overall set of hypotheses reads as follows:

Hypothesis 2a: All children (from Singapore and from England) use bare verb forms in their early acquisitional stages. In analogy to the findings on the acquisition of subject pronouns, the amount of bare verb forms is higher in the Singaporean group due to the differences in input.

Hypothesis 2b: In later acquisitional stages, the Singaporean children use unmarked verb forms at a much higher rate than children acquiring English in a traditional native English setting. The children from England ultimately mark their verbs for tense when referring to past events.

Hypothesis 2c: If Hulk and Müller are right, children acquiring a Chinese language/dialect as their other L1 produce much higher rates of unmarked verb forms than children who have one of the Indian languages as their other L1.

Hypothesis 2d: Individual variation exists between all the children, due to other input-related and social factors.

For the analysis of vowel contrasts, the picture is more complex. Glossing over some more fine-grained differences, the Chinese languages/dialects do not employ the KIT–FLEECE and FOOT–GOOSE distinctions. Among the Indian languages, Hindi and Tamil do, but Marathi does not. The English input the children receive is, again, variable. On the basis of these and the previous general observations, I come up with the following hypotheses – with Hulk and Müller's observations, as far as I am concerned, being empirically tested for the phonological domain for the first time:

Hypothesis 3a: The Singaporean children have reduced vowel contrasts between KIT–FLEECE and FOOT–GOOSE (in quality and especially quantity)

when compared to children acquiring English in a traditional native English setting.

Hypothesis 3b: If Hulk and Müller's hypothesis is transferable to the phonological domain, children acquiring a Chinese language/dialect as their other L1 have more reduced vowel contrasts than children who have either Hindi or Tamil as their other L1.¹⁰

Hypothesis 3c: Individual variation exists between all the children, due to other input-related and social factors.

Beyond the validation of these research hypotheses, the present study sheds light on more fine-grained aspects of the acquisition of the three features, viz. age-/MLU-related differences and intra-linguistic differences in the manifestations and internal structures of the characteristics under observation.

4.3.2 Data collection

To validate the research hypotheses and investigate further extra- as well as intra-linguistic aspects of the acquisition of L1 SingE, I employed a multidimensional approach combining different testing procedures and methodologies, to be introduced in the following sections. Given that contextual settings, especially the influence of the researcher and data collection procedures, can have a significant influence on the results of a study, I collected data from both Singaporean children and age-matched children growing up and acquiring English as an L1 in England to inquire into the differences in the acquisitional settings as hypothesized in Hypotheses 1a, 2a, and 3a. I employed exactly the same data collection procedures for both sets of children. This promises a high degree of comparability of the results.

The control group from England contains both monolingual and bi-/multilingual children, all of them growing up in England, either in traditional "ancestral" English families, in families of mixed parentage (with one parent of British English origin) or in migrant families where the children were born in the UK, but none of the parents were. The comparison with the ancestral monolingual children serves the purpose of locating L1 SingE among the traditional native speakers of English. As repeatedly pointed out in Chapter 3, the monolingual British or American native speaker had long been considered the prototype, and L1 research therefore had long focused on this speaker ideal. On the other hand, bi- or even multilingual language acquisition has been gaining ground in England, too, mainly due to post-colonization migration movements and the recent increase in global mobility driven by globalization. This has yielded considerably sized cohorts of children who acquire English together with some other parental ancestral language. The Singaporean participants in my study all have a bi- or even multilingual background, so that a plain comparison with monolingual children would not be adequate due to important differences in the linguistic experiences and cognitive developments between mono- and bi-/multilingual children (cf. Section 3.1). It will be interesting to see to what extent there are similarities or differences

between children who acquire English under such varying conditions and in the different settings – viz. monolingually and bi-/multilingually in England, a country that is one of the old traditional English-speaking bases, as well as in Singapore, a country that has, strictly speaking, no direct L1 English roots and in which the linguistic input is mainly derived from a postcolonial L2 variety of English.

The data were collected in Singapore and England in August 2014 and September 2015, respectively.

The data collection procedures employed all aim at eliciting speech production. I decided to combine different types of data collection, since “a combination of research methods can significantly enrich the data” (Karmiloff & Karmiloff-Smith, 2002, p. 21). In this respect, Nicoladis (2006) points out that “[t]o determine children’s abilities [...] it is necessary to have evidence from both spontaneous speech and a variety of experimental tasks” (p. 18). One might fall short when relying on only one or the other. Spontaneous speech oftentimes fails to provide all relevant structures, or at least the amount of tokens needed for a quantitative analysis. What is more, it is sometimes not clear whether the non-appearance of a structure occurs by chance or because of avoidance strategies on the side of the child learner because he or she has not yet fully mastered the structure under investigation (e.g., Cazden, 1973, p. 226; Menn & Stoel-Gammon, 1995, p. 346; Schnitzer & Krasinski, 1996, p. 561). The opposite effect has also been reported. High accuracy rates in one task can occur as the result of children producing only structures they have already mastered and feel sure of if the task allows them to choose their lexical items and grammatical structures comparatively freely, as, for example, in spontaneous productions and to a lesser extent in story retelling tasks (cf. Nicoladis et al., 2012, p. 473). However, experimental tasks alone “may underestimate children’s abilities because they rely on what children do on a small number of items in short period of time” (Nicoladis, 2006, p. 18).

I therefore collected data by means of the following methods: (1) a parental questionnaire; (2) spontaneous language output (free production and elicited narratives); (3) a self-designed picture naming task; (4) a story retelling task; (5) the Rice/Wexler Test of Early Grammatical Impairment (TEGI; Rice & Wexler, 2001). Depending on the children’s age, cognitive maturity (the TEGI, for example, is a challenging task that most younger children but even some of the older children were not able to master), and their willingness to participate and cooperate in the research project, I conducted either the full set of tasks or only parts of the overall set. Table 4.3 and Table 4.4 in Section 4.4 provide an overview of which children participated in which tasks.

I collected the data from each child in one or two sessions, depending on the parents’ time and preferences. The data collection parts were sequenced according to their degree of formality, playfulness, and complexity. In a first step, I played and talked to the children for a while or let them play with each other to build up some confidence and break the ice. In a second step, I conducted the picture naming task, followed by the story retelling task. After I had established some rapport, I turned to the more complex, “test-like” task, viz. the Rice/Wexler Test of Early Grammatical Impairment.

4.3.2.1 Parental questionnaire

To inquire into the current status and use of L1 children's English in Singapore and to collect the relevant background data for each child, I asked the parents to fill in a two-part parental questionnaire. The first part of the questionnaire inquired into the general background of the child and asked the parents to indicate the child's date of birth, place of birth, sex, ethnicity, and whether the child spent time in other countries that might have influenced his or her language acquisition process. In addition, the parents were asked for information on the linguistic background of their child, i.e., languages acquired from birth, languages the child started learning at a later point, languages used in the home (including a frequency ranking), the strongest/dominant language the child speaks, and the language the child mostly uses in interaction with his or her mother, father, and (if applicable) siblings, to approximate the children's proficiency in English and language dominance (see my comments in Section 3.1.2). Furthermore, the parents provided information about themselves, i.e., date of birth, place of birth, ethnicity, highest level of education, occupation, languages acquired from birth, and languages learned at a later point in their lives.

In the second part, the parents were asked to rate their children's use of English in a number of situations in- and outside the home, i.e., during meals; when reading books; when playing, singing, watching TV or listening to the radio; when talking on the phone; with siblings; with their grandparents; with adult family friends; with playmates; with foreign visitors to the home; outside the home; in their daycare facility, with their nanny, or in preschool (the latter three only if applicable), on a five-point Likert scale from 1 = "never," 2 = "sometimes," 3 = "often," 4 = "mostly," to 5 = "always." This allows conclusions about input quantities and backs up the parents' assessments of language dominance.

When working with parental (or any kind of attitudinal) questionnaires, one has to keep in mind the limitations of such studies. One such pitfall might be the so-called social desirability bias, i.e., the fact that informants might respond in a way they regard as most appropriate and socially desirable (cf. Oppenheim, 1992, pp. 138–140). What further plays an important role is the middle response bias, viz. that respondents often tend to favor the middle values of a Likert scale because they shy away from extreme judgments (Dörnyei, 2003, p. 13) or are insecure and assume that the middle value constitutes some kind of "no opinion," "indifferent," or "don't know" option (Krug & Sell, 2013, pp. 78, 81). I counteracted this tendency by explicitly providing "n/a" (not applicable, no answer) or "I am not sure" options. And indeed, as the results will show, ratings do not show a general tendency toward the middle value, which shows that this pitfall does not seem to be an issue to consider in this study. Finally, one has to keep in mind that Likert scale responses are often interpreted differently by different participants. In this respect, the values "never" and "always" are comparatively

unambiguous, but the difference between, say, “sometimes,” “often,” and “mostly” are relative, at least to some extent, as the distance between the answers is not equal and not fixed (Krug & Sell, 2013, p. 76; Fowler, Jr., 1995, pp. 51, 53–54).

Taking these aspects into consideration when interpreting the questionnaire results, I consider the data valuable as they empirically corroborate the census data presented and discussed in Section 2.3.3.

4.3.2.2 *Spontaneous language output*

“Spontaneous interactions between children and adults, as well as between children and siblings or peers, are regarded as an ideal source of data in language production studies” (Karmiloff & Karmiloff-Smith, 2002, p. 21; see also, for example, Chan et al., 1998; Miller, 1981). I collected such data by videotaping spontaneous verbal interaction between the children and myself and/or their parents and, if possible, the participant children in free interaction with other children. Depending on the participants’ age, I employed different strategies. I played different games with the children (e.g., the card game *UNO* or the two-player guessing game *Guess Who?*) or we played with their Barbie dolls, LEGO sets, or other toys. I also asked them questions about their immediate environment and things of interest, e.g., their favorite animal or color, their favorite dish, their family and friends, things they like to do, things they experienced in the past, things they would like to do in the future, etc. Through this, I could also trigger a range of different grammatical structures and sentence types, pragmatic strategies, and lexical characteristics. I present an overview of the salient characteristics of child L1 SingE in Section 5.3. These “elicited narratives” are slightly less spontaneous and more guided than the free play sequences. Still, I treat them both as instances of spontaneous language production since I just prompted my questions as trigger questions to get the interaction going. Whenever a child brought up his or her own topic of interest or switched the focus to another activity, I happily allowed this as my main goal was to keep the interaction and language production as natural and spontaneous as possible. Often the children’s parents, other family members (e.g., grandparents, siblings), and/or friends were present and also engaged in the interaction, which facilitated a relaxed and natural atmosphere, which, in turn, generated authentic speech data.

4.3.2.3 *The picture naming task*

For the phonetic-phonological investigation, I employed a self-designed picture naming task geared toward triggering vowels in the lexical sets of KIT–FLEECE and FOOT–GOOSE (cf. Wells, 1982). From a methodological perspective, I devised this picture naming task because it is virtually impossible to ensure that informants produce all relevant sounds in free interaction, or in any of the other data collection procedures, to a token frequency convenient for a Praat analysis. What is more, children might consciously or unconsciously avoid the production of

specific words or sounds. They “often appear to be selective in which words they try to pronounce, and hence which they avoid, during the early stages of language production” (Clark, 2009, p. 103; see also Elsen, 1994; Ferguson & Farwell, 1975; Labov & Labov, 1978; Schwartz & Leonard, 1982). This appears to be guided by their language abilities, i.e., sounds and words they know are produced more willingly (cf. my general methodological considerations in Section 4.3). The picture naming task was therefore designed to trigger all four vowels, viz. concepts entailing [ɪ] and [i:] and [ʊ] and [u:] in BrE/AmE. Taking into consideration that, in particular, the smaller children might not be familiar with all objects depicted on the cards, that which objects they know and which they do not might differ from child to child, and that it would be difficult to predict which objects each child would be familiar with, I selected six objects for each sound to make sure that each child produced at least three tokens of each sound. It turned out that most children produced more than the minimum of three sounds, presumably because the concepts were all carefully chosen and child-oriented. I selected the concepts according to the following procedure: I searched the Cambridge English Pronouncing Dictionary (CEPD) for words containing the relevant vowel sounds. From the lists generated by the CEPD, I chose six items for each set according to the following three criteria: (1) I selected only those concepts that can unambiguously be depicted on cards. (2) Of those concepts, I selected those that are likely part of the horizon of experience of young children. To decide on this matter, I examined different children’s books with respect to the concepts they display. (3) Phonetic-phonological criteria were taken into consideration. I excluded items in which the respective vowel follows a [w], [j], or [r], or precedes a [ɪŋ] or [ɪ], “as all these sounds have severe co-articulatory effects on the vowel” (Deterding et al., 2008, p. 162). Ultimately, the following words (cf. Table 4.2) were chosen for exemplarily investigating the acquisition of vowel sounds and length distinctions:¹¹

Table 4.2 Word list for the picture naming task

<i>Set</i>	<i>Example words</i>
KIT	ship, chicken, fish, scissors, pig, lips
FLEECE	bee, cheese, key, leaf, sea, cheek
FOOT	foot, bush, book, cookies, pudding, hook
GOOSE	tooth, spoon, blue, shoe, balloon, moon

These concepts were then drawn with the help of the image processing program GIMP (The GNU Image Manipulation Program) and then printed on cards.¹²

To elicit the words in the data collection process, I employed different strategies, depending on the age of the individual child as well as his or her temper. To many children, especially the older ones, I just showed the cards and asked them to name the objects displayed. To attract the interest of the younger children, make the experiment more interesting and small-child friendly, and increase

their attention and commitment, I introduced a hand puppet named Jimmy. I told the children that Jimmy was new to our planet and that he had taken some pictures of things he had discovered on his journey that were unknown to him. I asked the children to help him learn these words by showing him the cards and naming the objects. As a third strategy, also employed as an ice-breaker for the more introverted children, I played a memory game with some of the children. This is why I had two sets of cards. Whenever the child found a pair, I asked him or her to tell me what he or she found.

If the children did not produce the target item, e.g., *boat* instead of *ship* or *crayons* instead of *chalk* (these were the two most frequent replacements made by the children), I asked them whether they knew another name for the object. With all data collection procedures, I followed a “can-do” approach. I never put too much pressure on the children, so as to keep them motivated and cooperative and to avoid frustrating them. In much of the experimental Language Acquisition research, it seems to be common practice to make about two attempts to probe into the children’s abilities (e.g., Nicoladis, 2006). In my study, the number of times I tried to elicit the targeted structure ultimately depended on the child.

4.3.2.4 *The story retelling task*

For a systematic investigation of the acquisition of subject realization and past tense marking, I decided to implement a story retelling task. This procedure is often employed in Language Acquisition research. I chose the classic tale *The Three Little Pigs* on the basis of the following assumptions: First, this story has repeatedly and successfully been used in earlier studies on the acquisition of similar grammatical phenomena (e.g., Wang et al., 1992). Second, I assumed that most children would know the story, as it is one of the most famous children’s stories. Nevertheless, I made sure the children were familiar with the content of the story. Prior to our meeting, I asked the parents whether their children knew the story already and, if not, asked them to read the story to the children before my visit. Most of the children therefore knew the story by the time of my visit. In the few cases where a child did not know the story, I read the story to him or her myself.

To elicit the story and to make story retelling easier and more interesting for the children, I used a lift-the-flap storybook containing written text and pop-up pictures, i.e., parts inside the book could be unfolded and moved (Tucker & Sharratt, 2009). This allowed the children to actively engage in the story retelling process. I made sure the text was covered for those children who could already read, to prevent them from simply reading the story to me. To make sure the children produced past tense structures, I asked them to tell me the story as though it happened a long time ago. If the children were very shy, felt insecure, or seemed unmotivated, I provided a set of toys, the *Three Little Pigs Play Set*, which comprised three hard rubber pigs and their houses as well as a wolf. I started playing with the children, which motivated them to act out the story. By asking questions

like “What happened next?”, “What did the wolf do to the first little pig?”, etc., I mostly managed to elicit the relevant structures.

4.3.2.5 *The Rice/Wexler Test of Early Grammatical Impairment*

As the last and most formal type of experiment, I implemented the past tense probe of the Rice/Wexler Test of Early Grammatical Impairment (TEGI; Rice & Wexler, 2001) to inquire deeper and more systematically into the acquisition of past tense morphology. I chose exactly this test for several reasons: First, the overall test focuses on the acquisition of finite verb morphology, viz. third person singular *-s* and regular and irregular past tense, as well as on auxiliary forms of *do* and both copular and auxiliary forms of *be*. It therefore offers a test instrument explicitly geared toward investigating the acquisition of past tense morphology. Second, even though it was originally developed to identify, diagnose, screen, and evaluate grammatical impairment in children between three and eight years of age who are acquiring Standard American English, it has frequently been applied in a wide range of different studies. These do not necessarily investigate children with language impairments only, and they focus neither on children acquiring American English nor on first language acquisition or monolingual acquisition modes exclusively. It is also sometimes used for investigating children who do not fall within the original age range of three to eight years. Such wide and flexible application of the test reinforces Rice and Wexler’s (2001) positive evaluation of it and suggests that it can indeed be considered a promising tool for investigating the acquisition of verb morphology. Third, the examiner’s manual (Rice & Wexler, 2001) gives detailed instructions on how to administer the individual probes, which makes the test straightforward and easy to apply. Moreover, the testing materials are all ready-made and appear very appealing.

The past tense probe of the TEGI investigates the acquisition of regular (*-ed*) and irregular past tense forms in the form of a picture elicitation task. The probe contains two practice items and a set of eighteen test items. The children are presented with different pairs of pictures, the first picture of which shows a person performing a certain action. The second picture depicts the same person after having completed the action. Following the instructions in the examiner’s manual, the researcher introduces the first picture to the child, e.g., “Here the boy is raking.” He or she then refers to the second picture with the introduction “Now he is done” and asks the child “Tell me what he did” to elicit the respective past tense form (here, the regular verb form *raked*), expecting an answer such as *He raked the leaves* (Rice & Wexler, 2001, p. 16).

When applying the test, I generally followed the instructions and suggestions given in the examiner’s manual, except for one aspect: the examiner’s manual recommends the researcher to prompt further if the child’s answer is subjectless (e.g., “Raked the leaves”), to trigger a complete sentence. As this is clearly an AmE/BrE-inspired approach to what a complete sentence is, and since I expect the children to produce zero subjects as part of their noun phrase

repertoire, I left such subjectless structures uncommented (for how I treated them in the quantitative analysis, see Section 4.5.4.1). If a child did not produce a simple past tense structure (e.g., “He raked the leaves”) but rather, for example, a past progressive structure (“He was raking the leaves”) – which was not seldom the case – I tried to make the children rephrase the sentence by giving instructions such as “Now try without the ‘was’” or “Just use the simple form,” if I had the feeling that the child had enough metalinguistic competence to understand such instructions. Again, how often I tried to correct the child, if at all, depended on the individual child. Whenever a child reacted with “He’s done” or “He finished,” I again followed Rice and Wexler’s instructions and told the children “Yes, he’s done (or he finished), but tell me what he did to the leaves” or “Use the same word I use” (2001, p. 17).

Another problem that can occur with the TEGI is that the children do not always produce the target verb. For example, instead of answering “He rode the horse” (the target verb according to the TEGI score sheet, p. 4), one boy in my investigation replied: “He tied up the horse in the # [///] like a [stick?]?”, which is what is depicted on the second card. Because I did not use the TEGI score sheet and my aim was not to trigger a specific verb but just to motivate the children to produce any kind of past tense structure, I also coded these structures as either marked or unmarked for simple past tense.

4.4 Participants

The data collected by means of the procedures described earlier come from thirty-seven bi- and multilingual children from Singapore¹³ and fourteen monolingual and seven bi- or multilingual children from England. The study is cross-sectional in orientation, i.e., it investigates a variety of children of different age groups once at a specific point in time, in contrast to investigating acquisition in one particular child as it proceeds (as is found in the longitudinal approach). The big advantage of the cross-sectional approach is that it does not just provide information about the linguistic behavior of an individual child, which can easily be unrepresentative of the group he or she belongs to. The cross-sectional approach offers at least some level of representativeness for a society as a whole or a previously defined subgroup (for a similar line of reasoning, see Valian, 2016, p. 393) – in this case, Singaporean children from academic families.

The Singapore group includes nineteen female and eighteen male child informants aged 1;4 to 12;1, of which twenty-five are of Chinese ancestry, nine are of Indian ancestry, and three are of “mixed” ancestry.¹⁴ Unfortunately, I could not recruit any Malay families for this project for a variety of practical reasons. As outlined in Chapter 2, this is the group least affected by the rapid spread of English as a home language, and the Malay part of the population is strongly

rooted in its own cultural and religious group. As a result of the friend-of-the-friend approach, I was therefore mainly “passed on” within the Indian and Chinese segments of the population.

The monolingual group from England comprises eight female and six male participants aged 2;1 to 10;0; the bi-/multilingual group from England includes five female and two male participants aged 2;3 to 10;9. All children have English as an L1, i.e., they have been exposed to English at home and have acquired it as (one of) their languages from very early on. The Singaporean families live in roughly equal distribution across the island of Singapore. Most of the children from England come from the London area; some reside in Newquay, Cornwall; and one child is from Northampton, East Midlands. Four of the Singaporean participants were not born in Singapore (Nimbu was born in Malaysia; Manikandan, Nithin, and Paru in India), as was one of the older multilingual children from the England group (Mia in Germany). They were nevertheless not excluded from the study as long as they were permanent residents of Singapore or England, had spent major parts of their lives in the country, and/or went through the relevant phases of language acquisition being exposed to either English in Singapore or English in England.

All children come from an academic background, i.e., at least one parent holds an academic diploma from a tertiary educational institution. The data samples are thus not representative of the population of the two countries as a whole, but they provide interesting insights into the linguistic behavior of the educated stratum of the society. This is where, in Singapore, the adoption of English as a home language is most prominent and is where it appears to have spread from (cf. Section 2.3.3). As the discussion of approaches to SingE has revealed, education/social status has been identified as an important variable influencing linguistic choices and options for the realization of standard and non-standard characteristics: the higher the speaker is on the social scale, the wider the range of options for lectal realizations (e.g., Platt, 1975, p. 368). More precisely, those members of the speech community who are comparatively high on the social scale can draw from a broader range of options on the lectal continuum, from basilectal to acrolectal speech, than speakers lower on the social scale, who often only have access to more basilectal speech forms (see also Leimgruber, 2013, pp. 31–33). Focusing on children from families of equal educational/social background therefore not only reduces the number of factors that need to be taken into account. It also enhances the possibility of tapping into the greatest amount of variation when it comes to the realization of standard and non-standard features in child language, since young children receive most of their early input from their parents; i.e., if the parents have great potential linguistic variation at their disposal, they can potentially impart that to their children.

Table 4.3 and Table 4.4 sum up the most important background information for the children. The names provided in the tables are all nicknames chosen by the parents or the children themselves to keep their identities anonymous.

Table 4.3 Participants – Singapore¹⁵

Nr.	Name	Age	Sex	Ethnicity	Linguistic background	Language(s) from birth	Later languages	Strongest/dominant language	Qu	SLO	SR	RW	PN
1	Xuan	1;4	female	Chinese	monolingual (so far)	English		English	✓	(✓)	✗	✗	(✓)
2	Nick	1;5	male	Chinese	multilingual1	English, Mandarin, Hokkien		English	✓	✗	✗	✗	✗
3	Osca	1;5	male	Chinese	multilingual1	English, Mandarin	Hokkien (ao: 1;5)	English	✓	✗	✗	✗	✗
4	Luk	1;6	male	mixed	bilingual1	English	Thai (ao: 1;3)	English	✓	(✓)	✗	✗	✗
5	Lil	1;9	female	mixed	bilingual1	English, Mandarin		English, Mandarin	✓	(✓)	✗	✗	✗
6	Di Di	1;10	male	Chinese	bilingual1	English, Mandarin		Mandarin	✓	(✓)	✗	✗	✓
7	Nimbu	2;5	male	Indian	multilingual1	English, Hindi	Mandarin (ao: 1;8)	English	✓	✓	(✓)	✗	✓
8	An An	2;6	female	Chinese	multilingual2	English, Mandarin	Cantonese (ao: >2;0)	English	✓	(✓)	✗	✗	(✓)
9	S.H.	2;6	male	Chinese	multilingual1	English, Mandarin	Malay (ao: 1;0)	English	✓	✓	✓	✗	✓
10	Kes	2;7	male	Indian	bilingual1	English, Tamil		English	✓	(✓)	(✓)	✗	✓
11	Cass	2;8	female	Chinese	bilingual1	English, Mandarin		English	✓	✓	✓	(✓)	✓
12	Love	2;8	female	Chinese	multilingual1	English	Mandarin (ao: 1;6), Bahasa Indonesia (ao: 1;6)	English	✓	✓	✗	✗	✓
13	Xavier	2;8	male	Chinese	bilingual1	English, Mandarin		English	✓	✓	✗	✗	✓
14	Dee Dee	3;2	male	Chinese	bilingual1	English, Mandarin		English	✓	✓	✓	✓	✓
15	Ana	3;8	female	Indian	bilingual1	English, Tamil		English	✓	✓	✗	✗	✓
16	Lukas	3;9	male	Chinese	multilingual1	English, Mandarin	Cantonese (ao: 1;5)	English	✓	✓	✓	✓	✓

17	Maggie	4;11	female	Chinese	bilingual2	English	Mandarin (ao: 4;0)	English	✓	✓	✓	✓	✓
18	Jun	5;0	male	Chinese	bilingual1	English, Mandarin	English (ao: 0;5)	English, Mandarin	✓	✗	✓	✓	✓
19	Jie Jie	5;0	female	Chinese	bilingual1	English, Mandarin		English	✓	✓	✓	✓	✓
20	Jo	5;2	male	Chinese	bilingual1	English, Mandarin		English	✓	✗	✓	✓	✓
21	Isla	5;2	female	Chinese	bilingual1	Mandarin		English	✓	✓	✓	✓	✓
22	Kabs	5;4	male	Indian	multilingual1	English, Marathi, Hindi	Mandarin (ao: 0;10)	English	✓	✓	✓	✓	✓
23	Pinky Pie	5;6	female	Chinese	bilingual2	English	Mandarin (ao: 2;0)	English	✓	✗	✓	✓	✓
24	Enen	5;7	female	mixed	bilingual1	English	Mandarin (ao: 1;6)	English	✓	✓	✓	✓	✓
25	Qi	5;8	female	Chinese	bilingual1	English, Mandarin	Mandarin (ao: 3;0)	English	✓	✗	✓	✓	✓
26	J.H.	5;9	male	Chinese	bilingual1	English, Mandarin		English, Mandarin	✓	✓	✓	✓	✓
27	Rosie	6;3	female	Indian	bilingual2	English		English	✓	✓	✓	✓	✓
28	Jenny	6;7	female	Chinese	bilingual1	English, Mandarin	Cantonese (ao: 3;0)	English	✓	✗	✓	✓	✓
29	Stella	6;9	female	Chinese	multilingual2	English, Mandarin		English	✓	✓	✓	✓	✓
30	Mechelle	7;0	female	Indian	multilingual2	English, Tamil	Mandarin (ao: 3;0)	English	✓	(✓)	✓	✓	✓
31	Xu	7;1	female	Chinese	bilingual1	English, Mandarin	English (ao: 1;0)	English, Mandarin	✓	✗	✓	✓	✓
32	Manikandan	7;11	male	Indian	bilingual1	Tamil		English, Tamil	✓	✓	✓	✓	✓
33	Ben	8;0	male	Chinese	bilingual2	Mandarin	English (ao: 2;0)	Mandarin	✓	✓	✓	✓	✓
34	Gor Gor	8;0	male	Chinese	bilingual1	English, Mandarin	Mandarin (ao: 4;0)	English	✓	✓	✓	✓	✓
35	Lisa	8;6	female	Chinese	bilingual2	English		English	✓	✓	✓	✓	✓

(Continued)

Table 4.3 (Continued)

<i>Nr.</i>	<i>Name</i>	<i>Age</i>	<i>Sex</i>	<i>Ethnicity</i>	<i>Linguistic background</i>	<i>Language(s) from birth</i>	<i>Later languages</i>	<i>Strongest/ dominant language</i>	<i>Qu</i>	<i>SLO</i>	<i>SR</i>	<i>RW</i>	<i>PN</i>
36	Nithin	8;9	male	Indian	NA	Tamil	English (ao: not specified)	English	✓	✓	✓	✓	✓
37	Paru	12;1	female	Indian	bilingual1	Tamil	English (ao: 1;0)	English, Tamil	✓	✓	✓	✓	✓

The categorization of the children's linguistic background turned out to be a complex task. This reflects not only the linguistic complexity found in present-day Singapore but also the intricacy of the task of defining and conceptualizing bilingualism in light of the disagreement within the Language Acquisition research community on questions such as who can be considered a simultaneous bilingual. The categorization therefore needs further explanation, particularly in terms of the subcategories created for the present study. Assigning each child to either a bilingual or a multilingual group would not do justice to the complex situation in Singapore and the complex realities of bi- and multilingualism. Age of onset in bi-/multilingual language acquisition has been reported to play a significant role in the linguistic outcome. Several benchmarks have been suggested as possible dividing lines between simultaneous and sequential/successive bilingual acquisition. Some approaches suggest age three as such a benchmark (e.g., Paradis et al., 2010; McLaughlin, 1978). Others such as De Houwer (1995, p. 223) employ a much stricter definition of simultaneous bilingualism or bilingual first language acquisition and distinguish between Bilingual First and Bilingual Second Language Acquisition (BFLA and BSLA, respectively). In this strict definition, BFLA includes children who start both (or all) their languages no later than one month after birth. In the present study, I take two years of age as a benchmark for simultaneous bilingual language acquisition (see also Nicoladis et al., 2012, p. 463 and Meisel, 2004 for a more detailed discussion).

I came up with the following classification scheme for the children's linguistic background:

- monolingual: children are exposed to and use only one language before primary school
- bilingual1: children are exposed to and use two languages from before the age of two
- bilingual2: children are exposed to one language before the age of two and start acquiring/using the second language later than age two
- multilingual1: children are exposed to and use three or more languages from before the age of two
- multilingual2: children are exposed to and use two languages from before the age of two and start acquiring/using a third or fourth language later than age two

Beyond these categories defined to categorize the linguistic background of the Singaporean participants, the group from England required yet another category, not found in the Singapore sample. I refer to it as "monolingual+". This group includes children who grow up monolingually and start learning a second language as late as the early school years.

Again, the ethnicity reported for the children from England corresponds to what the parents indicated in the questionnaires. However, I further categorized these children as "ancestral" (i.e., children born to parents who are both of English ancestry), "migrant" (i.e., children born to parents who are both of non-English ancestry and came to the country as migrants at one point), and "mixed" (i.e., children born to one ancestral English and one non-English/migrant parent).

Table 4.4 Participants – England

Nr.	Name	Age	Sex	Ethnicity	Linguistic background	Language(s) from birth	Later languages	Strongest/ dominant language	QU	SLO	PN	SR	RW
1	Elli	2;1	female	British (ancestral)	monolingual	English	none	English	✓	✗	✓	✗	✗
2	Looloo	2;1	male	British (migrant)	monolingual	English	none	English	✓	✓	✓	✗	✗
3	Ida	2;3	female	German-Italian (migrant)	multilingual1	German, Italian, English	none	German	✓	✗	✓	✗	✗
4	Joe Joe	2;3	male	British (ancestral)	monolingual	English	none	English	✓	✓	✓	✓	✗
5	Mimi	2;3	female	British (ancestral)	monolingual	English	none	English	✓	✓	✓	✓	✗
6	Tron	2;4	male	British (ancestral)	monolingual	English	none	English	✓	✓	✓	✓	✓
7	Rocket	2;11	male	British (ancestral)	monolingual	English	none	English	✓	✓	✓	✗	✗
8	Kat	3;2	female	British (ancestral)	monolingual	English	none	English	✓	✓	✓	✓	✓
9	Eve	3;9	female	British (ancestral)	monolingual	English	none	English	✓	✓	✓	✓	✓
10	Musya	4;4	female	Russian (migrant)	bilingual1	Russian, English	none	English	✓	✓	✓	✓	✓
11	Tom	4;7	male	British (mixed)	bilingual1	German, English	none	English	✓	✓	✓	✓	✓
12	Masha	4;7	female	Russian-Italian (migrant)	multilingual1	English, Russian, Italian	none	English	✓	✓	✓	✓	✓
13	Sveta	4;7	female	Russian-Italian (migrant)	multilingual1	English, Russian, Italian	none	English	✓	✓	✓	✓	✓
14	Lea	4;2	female	British (ancestral)	monolingual	English		English	✓	✓	✓	✓	✓
15	Fifi	5;5	male	British (ancestral)	monolingual+	English	French (ao: 5;0)	English	✓	✓	✓	✓	✓
16	Ann	5;10	female	British (ancestral)	monolingual+	English	French (ao: 5;0)	English	✓	✓	✓	✓	✓
17	Leo	6;7	male	British (mixed)	bilingual1	German, English	none	English	✓	✓	✓	✓	✓
18	Laura	7;11	female	British (ancestral)	monolingual+	English	French (ao: 5;0)	English	✓	✓	✓	✓	✓
19	Es	8;5	female	British (ancestral)	monolingual+	English	French (ao: 6;0)	English	✓	✓	✓	✓	✓

20	Lala	10;0	male	British (ancestral)	monolingual+	English	French (ao: > 2;0)	English	✓	✓	✓	✓	✓
21	Mia	10;9	female	German-Italian (migrant)	multilingual2	German	Italian (ao: 1;0), English (ao: 4;0)	German	✓	✓	✓	✓	✓

Both tables also provide overviews of which parts of the data collection procedures each child participated in. As most of the children participated in the majority of tasks, the data is comparatively balanced between and within the groups. It was only with the younger children that I could not conduct all parts of all experiments. The Rice/Wexler Test, in particular, turned out to be too complex for many young children, and some of the children in the Singapore cohort struggled with it, probably due to the fact that the test and the instructions in the examiner's manual are culturally and linguistically geared towards BrE/AmE speakers.

Even though the distribution of testing procedures is mostly even among the children, sometimes the amount of data collected from each child varies considerably. This is mainly due to practical reasons, viz. the amount of time I could spend with the individual children. I was able to spend two whole afternoons with some of the children; with others, I could only spend a few hours because the parents could not or did not want to spare too much time for the investigation. I considered these differences by accounting for speaker effects in the (generalized) linear mixed-effects models in the quantitative part of my data analysis.

4.5 Data analysis and coding

All speech data was compiled as part of the *Corpus of Children's English in Emerging First Language Contexts*.¹⁶ The Singapore component is abbreviated as CHEsS (Children's English in Singapore). The data were all manually transcribed (orthographically) according to the CHAT (Codes for the Human Analysis of Transcripts) format (cf. MacWhinney, 2000), which was shortened and slightly modified to the needs of the present study. To guarantee accuracy and reliability of the transcribed material, all data were transcribed and checked by two transcribers.¹⁷ For each child, I measured MLUs (Mean Length of Utterance; e.g., Paradis et al., 2008, p. 701; cf. Section 4.5.1). The whole set of speech data was then analyzed to identify recurring linguistic characteristics of child L1 SingE on the different levels of language organization, i.e., for phonological, morphosyntactic, lexical, and pragmatic features. Subsequently, the two morphosyntactic features introduced earlier were parsed by means of a self-designed tagging system. The acoustic phonological analysis was conducted with the help of Praat (Boersma & Weenink, 2018). All procedures are described in more detail in the following sections.

4.5.1 Measuring Mean Length of Utterance (MLU)

Measuring children's mean length of utterance (MLU) is a long-established practice in research on child language development, as it has proven successful for determining a child's gross language development. In the course of time, multiple ways to measure MLU have evolved, e.g., as mean length of utterance measured in words (MLUw); mean length of utterance measured in morphemes (MLUm); measurement of "mean syntactic length" (MSL); MLU in syllables (MLUs) (for further details, see Parker & Brorson, 2005, p. 366). Among these, MLUm and

MLUw measures have become established procedures in acquisitional studies to determine the complexity of a child's utterances (cf. Snape & Kupisch, 2017, p. 193).

The MLUm measure computes utterance length by counting morphemes. Brown (1973) defines five stages of development, which are based on and assigned to MLU values of 1.75, 2.25, 2.75, 3.5, and 4.0, respectively. The stages are each associated with particular developmental achievements, e.g., the development and use of grammatical morphemes, negation, question structures, noun phrase and verb phrase elaborations, and complex sentences. The MLU therefore indicates which stage in the sequence of structural acquisition a child is in, or where he or she should be according to age (cf. Chapman, 1985; see also Parker & Brorson, 2005, pp. 365–367). Table 4.5 sums up the most important correlations between Brown's (1973) stages, age in months, mean MLUm, and mean MLU range. It provides the morphosyntactic structures acquired in the respective stages, as well as examples of potential child productions (cf. Bowen, 1998, slightly modified).

Despite some clear guidelines for how to employ the MLUm measure (e.g., Brown, 1973, or the rules for counting morphemes as summarized in Retherford, 2000), limitations to this method have been reported, especially for linguists working with languages other than English (e.g., Brown, 1973; Thordardottir & Weismer, 1998, p. 3; see also Valian, 2016, p. 393). These cannot be discussed in detail here, but such insights, as well as the strong correlations between MLUm and MLUw detected for measurements into Dutch, Irish, and Icelandic languages (Arلمان-Rupp et al., 1976; Hickey, 1991; Thordardottir & Weismer, 1998, respectively), have brought up the question of whether MLUw might not be the better and more reliable measure for calculating MLU. Studies comparing MLUm and MLUw in normally-developing English-speaking children have found a high correlation between the two measures, too (e.g., Parker & Brorson, 2005; Huang, 1999, quoted in Yip & Matthews, 2000b, p. 197). As Snape and Kupisch (2017) rightly suggest, “[t]he decision whether to use MLUm or MLUw should be dependent on the type of languages one compares” (p. 193). In this respect, MLUw may counteract discrepancies when comparing languages, dialects, or varieties of different degrees of syntheticity (e.g., Malakoff et al., 1999 for the difference between Standard English and Ebonics, or Snape and Kupisch's 2017, p. 193 explorations of the differences between Italian and English). However, disadvantages of measuring MLUw have also been reported when, for example, comparing languages of different typologies (e.g., agglutinating vs. isolating, null-subject vs. non-null-subject, etc.; cf. Snape & Kupisch, 2017, p. 193).

Even when taking such aspects into consideration for the present study, such a decision is still not an easy one. First and foremost, L1 child SingE is a linguistic system that has never been fully analyzed, which makes it difficult to come up with typological classifications of the previous type. As predicted by the hypotheses, I assume that L1 child SingE is characterized by null subjects (other than traditional standard varieties), which would speak against using MLUw. On the other hand, I expect that the verbal system is characterized by a loss of inflections (here: past tense endings), which speaks against measuring MLUm.

Table 4.5 Brown's (1973) stages and their correlation with age in months, mean MLUm, and mean MLU range

Brown's stage	Age in months	Age in years; months	Mean MLUm	MLUm range	Morphological structure	Examples
Stage I	12–26	1;0–2;2	1.75	1.0–2.0	after having built a 50- to 60-word vocabulary, stage I sentence types; i.e., “simple,” mostly two-word sentences such as: • nomination • recurrence • negation (denial, rejection, non-existence) • possession • attribution • locative (entity, action) • agent-action • action-object • agent-object	that car more juice no wee wee, no more, birdie go daddy car water hot dolly bed, go pool daddy kiss push truck mummy 'puter
Stage II	27–30	2;3–2;5	2.25	2.00–2.5	present progressive (<i>-ing</i>) <i>in</i> <i>on</i> <i>s</i> -plurals (regular plurals)	it going in box on box my cars
Stage III	31–34	2;6–2;8	2.75	2.5–3.0	irregular past tense 's possessive uncontractible copula (the full form of the verb “to be” when it is the only verb in a sentence)	me fell down man's book Is it Alison? Yes, it is . Was it Alison? Yes, it was .

Stage IV	35–40	2;9–3;3	3.5	3.0–3.75	articles	A ball on the book.
8					regular past tense	She jumped .
9					third person regular present tense	The puppy chews it.
10						Jason likes you.
Stage V	41–46+	3;4–3;8	4.0	3.75–4.5	third person irregular present tense	She does . He has .
11					uncontractible auxiliary (the full form of the verb “to be” when it is an auxiliary verb in a sentence)	Are they swimming?
12						Were you hungry?
						I’m not laughing; she is .
13					contractible copula (the shortened form of the verb “to be” when it is the only verb in a sentence)	She was laughing; not me.
						She’s ready.
						They’re here.
						Daddy’s got tomatoes.
14					contractible auxiliary (the shortened form of the verb “to be” when it is an auxiliary verb in a sentence)	My dog’s lost his collar.
						They’re coming.
						He’s going.
						I’m opening it up.
						We’re hiding.
						It’s freezing.

Taking this into consideration and avoiding overly strong, premature assumptions about the linguistic system of L1 SingE, I decided to measure both MLUm and MLUw for both the Singaporean and the English children.¹⁸ The main goal here was to gain insights into the children's gross morphosyntactic language development and to assign the children to one of three groups, which are related to age as one of the major factors influencing language acquisition (for further details, see Section 4.5.4). MLU values have been reported to be much more reliable than age alone when it comes to children's morphosyntactic development. As Brown (1973) states, "two children matched for MLU are much more likely to have speech that is, on internal grounds, at the same level of constructional complexity than are two children of the same chronological age" (p. 55). Still, a strong correlation between MLU and age is often reported (e.g., Conant, 1987; Klee et al., 1989; Miller & Chapman, 1981; Parker & Brorson, 2005), though, as usual, studies testing this correlation have come up with conflicting results (cf. Garton & Pratt, 1998). This is why I take both aspects (MLU and age) into consideration when assigning the children to one or the other group and when looking into "age"¹⁹ as a potentially relevant factor in the acquisition of the two morphosyntactic phenomena under observation. What is more, comparing MLUs among the children ensures that they are comparable in terms of acquisitional development, and that none of them will look strikingly different than peers of a similar age, for example due to some kind of language impairment or delay. In addition, it will be interesting to see whether any differences exist between the children from Singapore and England, as well as between the monolingual and the bi-/multilingual children. With respect to the former objective, earlier research has shown that children from different cultural backgrounds may perform differently when it comes to such tests and has convincingly argued that this may more likely be the result of cultural and linguistic differences instead of an indicator of diverging, viz. poorer, language skills (cf. James, 1994 on the differences between American and Australian children; see also Chan et al., 1998, p. 100). I present the results as part of Chapter 5.

Turning to the practical aspects of measuring MLU, the procedure appears straightforward and easy to implement – at first sight: MLUw is calculated by counting the number of words in each of a specified number of utterances, and MLUm is calculated by counting the number of morphemes in a specific set of utterances. The number of words and morphemes is then divided by the number of utterances. To gain representative results, the literature suggests to measure the MLU on the basis of 50–100 utterances (e.g., Lahey, 1988; Miller & Chapman, 1981, 2000; Retherford, 2000; see also Parker & Brorson, 2005). However, it has also been shown that the number of utterances does not seem too relevant (cf. Brorson & Dewey, 2005; see also Parker & Brorson, 2005). For economic reasons, I went for the lower limit in the recommended span and measured MLUw and MLUm on the basis of fifty utterances per child. Given the intricacies of defining the notion of "utterance" and the diverging approaches to identifying them, I went for a comparatively simple solution and decided to determine utterances on the basis of punctuation marks and

turn-taking, as also done in some earlier studies (e.g., Parker & Brorson, 2005, p. 371; Aronoff & Rees-Miller, 2001).

On the basis of these considerations and a number of guidelines for measuring MLU (cf. Brown, 1973, p. 54; Parker & Brorson, 2005; Hoodin, 2011, p. 64; Shipley & McAfee, 2009, pp. 260–263), I proceeded as follows: I used only fully transcribed utterances and left out utterances that contained unintelligible (and thus untranscribed) linguistic material. “Best-guess” transcriptions were included because these generally depict the basic morphological structure of the utterance. Imitative productions, i.e., when the child is literally repeating an utterance produced by the researcher, were excluded from the count, as were one-on-one sentence repetitions and rote passages (e.g., nursery rhymes, songs). A simple sentence was counted as one utterance. Main clauses coordinated by *and* were taken to represent two utterances. Longer structures, as well as compound and complex sentences with other conjunctions, were considered one utterance. Stuttering was treated as a single word. In these cases, I counted the word once, viz. the most complete version in a stuttered sequence. If a word was used repeatedly to put emphasis on an utterance (e.g., *no, no, no!*), each occurrence was counted. Fillers such as *mhm*, *er*, or *erm* were not included, but one-word expressions such as *hi*, *yeah*, *yes*, or *no* were counted. If no full sentences were available, which was sometimes the case with the very young children, I defined utterance boundaries on the basis of punctuation – which strongly reflects intonation and inhalation contours – and turn taking. In cases of doubts, I checked for intonation and inhalation in the recordings.

In terms of which fifty utterances to use for measuring MLU, I decided to calculate the MLU on the basis of low-structured situations (cf. Parker & Brorson, 2005, p. 370) since these can be assumed to be the most authentic part of the data. This is why the MLU measure employed in this study is based on the spontaneous language output data and the story retelling task. If enough data was available for both data collection types, I included twenty-five utterances respectively, to counteract any potentially remaining task effects. In the best case, I took the total number of utterances in both the spontaneous language output and retelling parts and divided each by twenty-five. So for example, if a child produced 100 utterances in one of the parts, I selected every fourth; if he or she produced eighty-two, I selected every third; etc. In those cases where a minimum of fifty utterances could not be identified for a given child, I just took the number of utterances available (but this pertained to only a few very young children).

When turning to the analysis of the selected utterances, two further questions emerged: What should be counted as a morpheme and as a word, respectively? The following list provides the criteria for what counts as one morpheme, as more than one morpheme, or does not count at all (and was therefore excluded from the analysis):

Counted as one morpheme:

- all uninflected words
- grammatical morphemes that are whole words

- compound words and closely related word structures (e.g., *bye-bye*)
- indefinite and reflexive compound pronouns (e.g., *herself*, *anything*)
- proper nouns and ritualized reduplications (e.g., *Mr. Smith*, *night-night*, *choo-choo*)
- diminutive forms (e.g., *doggie*)
- catenative forms (e.g., *gonna*, *wanna*, *hafta*)
- irregular past tense verbs and past participle forms; all auxiliary verbs; all inflections; all derivational affixes
- contractions (e.g., *he's*, *don't*): counted as one morpheme if there is no evidence elsewhere in the transcript that the child has used the parts of the contraction separately
- plurals that do not have a singular form (e.g., *clothes*)
- stuttered words (e.g., *my, my, my, ...*; see previous)
- single words or phrases (e.g., *hi*, *no*, *yeah*)

Counted as more than one morpheme:

- contractions (e.g., *he's*, *don't*): counted as more than one morpheme if there is evidence elsewhere in the transcript that the child has used the parts of the contraction separately
- inflected forms
- repeated words, only if produced for emphasis (e.g., *no, no, no!* = three morphemes)

Not counted at all (cf. previous):

- partial utterances
- direct imitations of model utterance
- elliptical answers to questions
- unintelligible utterances
- rote passages
- noises (unless meaningfully integrated in the utterance; e.g., *he said pffffff*)
- fillers
- enumerations (e.g., counting, sequences; e.g., *cow, dog, pig, horse*)

(cf. Brown, 1973, p. 54; see also, for example, Hoodin, 2011, p. 65; Miller, 1981, pp. 24–25; Parker & Brorson, 2005, p. 374; Shipley & McAfee, 2009, pp. 260–263)

The procedure of measuring MLUw is often described as easier, yet the question of what constitutes a word remains (e.g., Plag, 2003, pp. 4–9). I cannot go into any detail with respect to that discussion here; however, I basically followed the criteria and guidelines for measuring MLUm to also calculate MLUw. This worked quite well and was indeed comparatively straightforward to apply, which is maybe the reason that no similarly detailed criteria catalogues of what to count and what not to count as a word when calculating MLUm exist.

Out of my overall data set, I calculated the MLU only for children younger than seven years. As summarized by Brown (1973):

[t]he mean length of utterance (MLU) is an excellent simple index of grammatical development because almost every new kind of knowledge increases length: the number of semantic roles expressed in a sentence, the addition of obligatory morphemes, coding modulations of meaning, the addition of negative forms and auxiliaries used in interrogative and negative modalities, and, of course, embedding and coordinating. All alike have the common effect on the surface form of the sentence of increasing length (especially if measured in morphemes, which includes bound forms like inflections rather than words).

(Brown, 1973, pp. 53–54)

However,

[b]y the time the child reaches Stage V [...] he is able to make constructions of such great variety that *what* he happens to say and the MLU of a sample begin to depend more on the character of the interaction than on what the child knows, and so the index loses its value as an indicator of grammatical knowledge.

(Brown, 1973, pp. 53–54) (*italics in original*; see also Chabon et al., 1982; Hoodin, 2011, p. 64; Johnston, 2006; Miller, 1981, pp. 26–29; Paul & Norbury, 2012)

As Table 4.5 shows, Stage V roughly corresponds to age four. I nevertheless decided to include all children up to the age of seven years because this constitutes the upper age range of group 2 (cf. Section 5.5 for the criteria of group assignment). Additionally, to date, data on MLU measurements and the relationship between age and MLU have relied on British and American children, and we first have to see whether this is applicable to the Singaporean children as well. Calculating the MLU for children older than four years will therefore provide some further insight into Brown's and similar assumptions about the relationship between age and MLU, especially when it comes to the validity of the MLU measure for assessing the language development in children acquiring a "non-traditional," emerging first language variety of English.

In addition to comparing the MLUm and MLUw results of the two groups (viz. Singapore and England), I use the results to assign the children to one of three groups. Those children who should, according to Brown (1973) and other acquisition studies, largely have acquired the adult-like use of subject pronouns and past tense endings are assigned to group 2; those who have not are assigned to group 1 (cf. Section 5.5). It has to be taken into consideration, however, that these guidelines have been developed on the basis of BrE/AmE children and

that it is by no means clear whether the results are transferable to Singaporean children. This question is further discussed against the backdrop of the results.

4.5.2 The questionnaire study

The data from the parental questionnaire were all fed into an Excel sheet. For the section pertaining to the linguistic background of the children (the questions on acquisitional background, linguistic background of the family in general, language dominance, etc.), I transferred all answers given by the parents to the Excel sheet and calculated percentages of how often English was the most dominant language, etc. The findings are presented by means of pivot tables and bar charts, created in Excel on the basis of percentages or raw frequencies, in Section 5.1.

For the section on language use, for which the parents had to indicate on a five-point Likert scale how frequently the children used English in different domains of daily life, I fed the respective numeric values ticked by the parents into an Excel spreadsheet. I subsequently created box plots based on medians in R, illustrating the results for each context (e.g., the use of English during meals) in turn. In Section 5.2, I look into the results for the overall groups as such (viz. Singapore and England), as well as potential sociolinguistic differences between the three Singaporean groups (Chinese, Indian, mixed) and the three groups from England (ancestral, migrant, mixed).

4.5.3 The qualitative feature screening of L1 child Singapore English

For a general overview of child L1 SingE features, I thoroughly examined both the recordings and the transcripts for phonological, morphosyntactic, lexical, and pragmatic features that appear to be characteristic of L1 child SingE, i.e., those that occur on a more or less regular basis and are not just instances of idiosyncratic language use.²⁰ In Section 5.3, I report and describe the individual features and briefly comment on their usage contexts and peculiarities – if necessary and illuminating. For each feature, I provide as many examples as necessary to document the specific usage contexts and possible variations. Most of the features reported occur across ethnicities, if not stated otherwise. With each example, I provide the nickname of the child who produced the utterance as well as a token identifier providing the most relevant background information, viz. age in years and months, gender, and ethnicity.

4.5.4 The quantitative analyses of subject pronoun realization and past tense marking

The quantitative analyses, viz. of the acquisition and realization of subject pronouns, simple past tense marking, and the acquisition of vowel quantity and quality, require more detailed description. For the morphosyntactic analyses, the data were manually coded for the absence and presence of subject pronouns and simple past tense marking. All data were coded twice for reasons of

accuracy. The data were analyzed by means of AntConc (Anthony, 2014), a free-ware corpus analysis toolkit for concordancing and text analysis. I counted raw frequencies of each code, viz. the token frequencies for the characteristics and their specific manifestations, and I calculated percentages in Excel. Results are presented by means of PivotCharts created in Excel, providing percentages as well as raw token frequencies. I present the findings according to intra- as well as extra-linguistic criteria. For the subject pronouns, I take into consideration the different types of pronouns (see Section 4.5.4.1) as well as clause type (main vs. embedded). In the analysis of the acquisition of past tense marking, I differentiate between regular and irregular verbs as well as look into a local SingE strategy that marks past tense by means of *finish*. To validate the hypotheses formulated earlier, I further stratify and present the results according to the following criteria: (1) country – to inquire into the potential differences between the two acquisitional scenarios (traditional L1 context vs. emerging L1 context); (2) ethnicity/group – to investigate the potential differences between the different ethnicities in Singapore and the three groups in England; (3) age/MLU group – to account for the acquisitional and developmental stages the children pass through. I also always report individual differences between the participants.

Assignment to one of the three groups took into consideration the children's MLU values (to be presented and discussed in Section 5.5) in relation to their age. Group 1 consists of all children with MLUs corresponding to Brown's Stage IV (cf. Table 4.5) and lower, approximately corresponding to an age of < 4;0 (the oldest child in the Singapore group assigned to group 1 is aged 3;9, but see the discussion of outliers and the comparison with the groups from England in Section 5.5). All children at an MLU of Stage V and higher were allocated to group 2. Group 3 entails children older than seven, viz. children who had entered formal schooling before the investigation (cf. Section 5.5 for further details). According to earlier studies, the formal standard variety is acquired at school, i.e., in classroom settings (e.g., Kwan-Terry, 1986, p. 15), but outside the classroom the more colloquial variety is widely used among schoolchildren (e.g., Kwan-Terry, 1986, p. 15). Still, it will be interesting to see whether the explicit input of standard features has an influence on the language behavior of these children. This would imply that they clearly behave differently from the two other groups. I will again address this question in the presentation and discussion of results (cf. Chapters 6 and 7).

Statistical testing was carried out by means of different statistical procedures, viz. mixed-effects models, random forests, and conditional inference trees (ctrees), all executed in R (R Core Team, 2014). Earlier research (e.g., Tagliamonte & Baayen, 2012) has identified these three as ideal complementary tools for a variety of reasons, most important of which is the fact that they can cope with some of the prevailing data-related problems in sociolinguistic research, viz. sparsity of the data, inter- as well as intra-individual variation, and uneven distributions across individuals or social groups (cf. Tagliamonte & Baayen, 2012, p. 142).

As a first step, I fitted generalized mixed-effects models and linear mixed-effects models (for the analysis of the continuous variable “vowel length”; cf. Section 4.5.5) using the *lme4* package (Bates et al., 2015). Mixed-effects models offer a big advantage over older regression models in that they provide the researcher with a very powerful tool to measure the importance of different kinds of predictors while at the same time accounting for random effects (e.g., speaker and word). For example, “[a] mixed-effects model with individual as a random effect offers the analyst a statistical validation of the significance of the social and linguistic factors in the model over and above the effect of individual” (Tagliamonte & Baayen, 2012, p. 146). Put simply, mixed-effects models are regression models that can both account for fixed and random effects and also handle repeated measurements, unbalanced data, and hierarchical nested data. This is achieved by modelling “the dependent variable with a different regression line for each subject or item” instead of modelling only one regression line over many subjects (Gries, 2013, p. 333). Random effects are typically created by factors such as speaker or word. Unlike typical fixed factors such as “gender” or “ethnicity,” which have only a small number of manifestations (such as male/female or Singaporean Chinese, Singaporean Indian, British ancestral, etc.), they represent a small sample of a much larger population (e.g., x children out of n million total Singaporean and British children; y words out of about 30,000 total words in the English language). If, say, a speaker or a word strongly deviates from the general behavior or characteristics of the rest of a group (of words or speakers), taking these random effects into account prevents the individual behavior of one particular speaker or the individual characteristics of one particular lexical item from skewing the overall results for that group. If we do not take into account speaker or word as random effects, we might be misled into overinterpreting external factors such as sex or age, as sometimes the variation is caused by individual speakers within those groups (or single lexical items, respectively) and may not be representative of the overall group. However, when we include speaker or word as an independent variable, we might end up having missed something. Factors such as sex or age might thus be underestimated and dropped from a model even though they have a significant influence on the data set (cf. Brato, 2016, pp. 45–46).

I further include “lexical item” as a random effect in the models fitted for the past tense marking and vowel length analyses for basically the same reasons as for including “speaker” as a random effect.

Next to predicting the importance of the factors “MLU group”, “ethnicity/group”, and “gender”; the latter was, however, excluded from the *ctree* and random forest analyses for reasons of simplifying the model and since the mixed-effects model has not returned it as a significant factor. For the statistical analysis of subject pronoun realization, the model further observes the internal fixed factor “type of pronoun” (*I, you, he, she, it, we, you, they*); “subject realization” (zero vs. realized) is the dependent variable. For the analysis of past tense marking, the internal fixed factor is “verb type” (regular, irregular); “marking” (marked vs. unmarked) is the dependent variable. For the analysis of vowel

length, the internal fixed factor is “phone label” (i.e., KIT, FLEECE, FOOT, or GOOSE); the dependent variable is “phone duration.”

I always started with a “full” model including all relevant predictors and removed them one by one until only those which turned out to be significant were left. Because many of the factors (independent variables) investigated in the models have more than two levels (e.g., “MLU group” has three), post hoc testing was conducted by means of Tukey’s Test. This test fits multiple comparisons of means and, by this, reveals which exact manifestations of a variable are statistically significant.

I also began by modelling the major, potentially relevant interactions for the data set (e.g., ETHNICITY/GROUP * MLU GROUP and the internal fixed factors). This, however, mostly caused error/warning messages, most likely due to too little data, viz. a negative relationship between data size and complexity of the model. I therefore dropped these interactions so as to not run the risk of ending up with skewed or too-weak results and fitted the models with simple factors.

This restriction in what mixed-effects models can handle effectively when it comes to such interactions has indeed been identified as a problem in the literature. And “this is where conditional inference trees and random forests provide a complementary technique that may provide insights that are sometimes difficult or impossible to obtain with the linear model” (e.g., Tagliamonte & Baayen, 2012, p. 146).

Another “disadvantage” of the R output for mixed-effects models is that it is comparatively complex and intricate to read and interpret. What is more, it provides only parts of the results, i.e., for specific constellations only. Here, I endeavor to provide a brief “how to read and interpret” instruction, pointing out the most relevant aspects needed for an understanding and interpretation of the results (cf. Table 4.6).

Table 4.6 Sample R output fixed effects (past tense marking according to country)

	<i>Estimate</i>	<i>Std. Error</i>	<i>p-value</i>	<i>Dec</i>
(Intercept)	−0.4407	0.6793	0.516498	
Country: Singapore	1.9649	0.5397	0.000272	***
Verb type: Regular	−0.5091	0.3465	0.141754	
MLU Group 2	−1.4346	0.6848	0.036176	*
MLU Group 3	−2.6207	0.7616	0.000579	***
Country: Singapore * Verb Type: Regular	0.6410	0.3081	0.037468	*

The Intercept in the type of mixed-effects models used here serves as a benchmark for interpretation. It is automatically set in an alphabetical/chronological way. For example, in my model investigating past tense marking as a dependent variable and including “country” as one of the independent variables, the Intercept is set as the combination COUNTRY: England – MLU GROUP: Group 1 – VERB TYPE: irregular. All other estimates (also called log-odds)

are measured against this intercept. The estimate therefore indicates the likelihood of the dependent variable (in my example case, “unmarked for past tense” is the set benchmark, assigned on the basis of similar principles as the Intercept) on the basis of the independent variables. If the estimate is 0, there is no influence of the independent variable on the dependent variable. If the estimate is positive, there is a positive influence of the independent variable on the dependent variable; the likelihood of the occurrence of the dependent variable (here: “unmarked”) is thus increased. If the estimate is negative, its likelihood is decreased. The larger the estimate value, the stronger the effect (cf. Johnson, 2009).

If we want to obtain the estimate for, say, COUNTRY: Singapore/MLU GROUP: Group2/VERB TYPE: irregular, we have to make calculations on the basis of the intercept, viz. the intercept estimate added by the estimates of the factors of interest, here $-0.4407 + 1.9649 + (-1.4346)$. The estimate for the combination COUNTRY: Singapore/MLU GROUP: Group2/VERB TYPE: irregular would therefore be 0.0896. The likelihood of the occurrence of unmarked irregular verbs in group 2 Singaporeans is therefore smaller than that for group 1 Singaporeans but clearly higher than for the ancestral English children of the same MLU group. Against what has been observed in the acquisition literature (viz. the production of bare verbs by BrE and AmE children in the initial stages of language acquisition) and Hypotheses 2a and 2b, this makes perfect sense and will be confirmed by the more detailed results in Chapter 7.

I computed the estimate and thus the likely influence of many possible combinations of independent variables on the dependent variable in some detail. However, due to limitations in space, I report only a selected set of relevant and significant results (cf. my remarks in the preface and acknowledgments to this monograph).

In a next step, I grew conditional inference trees (ctree) and random forests, taking into consideration ETHNICITY/GROUP and MLU GROUP as well as the specific intra-linguistic factors as predictors for the realization of subject pronouns and past tense marking. A ctree analysis applies recursive partitioning algorithms to the data set in order to “classify/compute predicted outcomes/values on the basis of multiple binary splits of the data” (Bernaisch et al., 2014, p. 14). In other words, a ctree analysis investigates a data set in a recursive fashion “to determine according to which (categorical or numeric) independent variable the data should be split up into two groups to classify/predict best the known outcomes of the dependent variable” (Bernaisch et al., 2014, p. 14). As Baayen (2014) summarizes:

The ctree algorithm begins with testing the global null hypothesis of independence between any of the predictors and the response variable. The algorithm terminates if this hypothesis cannot be rejected. Otherwise, the predictor with the strongest association to the response is selected, where strength is measured by a *p*-value corresponding to a test for the partial null hypothesis of a single input variable and the response. A binary split

in the selected input variable is carried out. These steps are recursively repeated until no further splits are supported.

(Baayen, 2014, p. 364)

The final result is a readily accessible and interpretable decision tree (cf. Sections 6.3 and 7.4). As another advantage, ctrees can handle small sets of data characterized by small numbers of observations but large numbers of predictors – a situation not uncommonly encountered in linguistic research (see previous). What is more, ctrees are not overly sensitive to outliers (cf. Levshina, 2015, p. 292).

As the name suggests, random forests (developed by Breiman, 2001) are often used as a follow-up procedure to decision trees (and come with very similar advantages). They basically grow a large number of ctrees, each of which is grown for only a subset of the data sample. The latter is generated on the basis of random sampling without replacement (Tagliamonte & Baayen, 2012, p. 159). By doing so, forests correct for the overfitting commonly seen in single decision trees and “add [...] additional layers of randomness to the analysis” (Bernaisch et al., 2014, p. 14). Through this, “the measures of variable importance are computed” (Levshina, 2015, p. 297). (For a much more detailed description and evaluation of the three approaches, see Tagliamonte & Baayen, 2012).

4.5.4.1 Subject realization

For the analysis of the acquisition and use of subject pronouns (realized vs. zero), I distinguish different types of (zero) subjects, viz.: personal pronouns “with specific reference” (*I, you, he, she, we, you, they*); “referring *it*,” viz. *it* referring to an NP; “prop *it*” (cf. Quirk et al., 1985, pp. 347–349); as well as the demonstratives *this, that, these, those* (cf. Quirk et al., 1985, p. 372). Prop *it* (or expletive *it*) sets itself apart from the rest in that “it is used as an ‘empty’ or ‘prop’ subject, especially in expressions denoting time, distance, or atmospheric conditions” (e.g., *What time is it? – It’s half past five*; Quirk et al., 1985, p. 348). It can have even less meaning when it occurs as an “anticipatory subject in cleft sentences” (e.g., *It must have been here that I first met her*; Quirk et al., 1985, p. 349).

In the analysis, I excluded idiomatic expressions including *it* (e.g., *How’s it going?*; Quirk et al., 1985, p. 349) as it can be assumed that these constitute formalized, lexicalized chunks that do not represent productive grammar. Beyond these prototypical uses of *it*, I looked into what I have labeled “contextual referential *it*,” which roughly corresponds to what Halliday and Hasan (1976) call “extended reference” or “text reference” (pp. 52–53), as some uses of *it* show “a greater degree of referentiality” than others. Imagine, for example, someone talking about a past experience that is not expressed by a single NP but by some larger entity of preceding discourse. When concluding *It was a perfect day* (example from Stirling & Huddleston, 2002, p. 1483), the *it* does not refer to a particular NP, nor is it a real dummy pronoun. It refers back to the whole part of the text that reports on the event and that could also be replaced by

demonstrative *this* (cf. Stirling & Huddleston, 2002, p. 1483; see also Buschfeld, 2013, p. 135).

Pronouns or zero equivalents in question structures were excluded from the analysis as this might have had intra-linguistic effects on the results that could have further complicated the already complex picture. In addition, I excluded those structures from the analysis in which the pronouns are redundant or used for pragmatic reasons such as emphasis. These include: (1) pronouns (and potential zero equivalents) in right and left dislocation structures (e.g., *She's nice, your sister.* and *Susan and Paul, they went to the cinema.*), including structures such as *Rosie, you are getting two points!* (example from the corpus); (2) coordinating structures in which pronouns are optional in BrE/AmE (*I went to the restaurant and went to the cinema.*); (3) imperative structures (*You hurry up!*); and (4) structures including resumptive pronouns (*This is the boy that whenever I see him he sings.*). I thus limited the analysis to declarative matrix and embedded clauses in which subject pronouns would be obligatory in the standard varieties of English. Finally, I excluded any unclear structures, idiomatic expressions, and incomprehensible or uncertain passages, as described in the section on general additional codes later.

To investigate potential differences in the frequencies of zero referential pronouns of *I, you, he, she, we, you, and they*, as well as potential differences between the licensing of null subjects in matrix and embedded clauses, I finally went through all coded structures again and recorded pronoun type and clause type for each token.²¹ For both aspects, the acquisition literature reports important differences, both within languages and between non-null-subject and null-subject languages (cf. Section 4.2.1).

4.5.4.2 *Past tense marking*

Past tense marking was also coded manually and according to very similar principles as for the subject pronouns.

In general, I coded those verbal constructions for the presence or absence of past tense marking that clearly referred back to a concluded past action or circumstance. For reasons of practicability, I focused on simple past and equivalent unmarked structures and excluded continuous forms or other aspectual forms (such as instances where BrE/AmE would require past perfect) from my analysis for reasons of practicability. For the same reason, I did not include *if*-clauses, reported speech, or questions. Modals were also largely excluded from the analysis, as long as they were not used in negated structures (e.g., *He couldn't blow*). Most modal verbs do not have past tense equivalents to the structures investigated in the study. I therefore looked into full verbs and primary auxiliaries only. Structures with *did* + verb were also not coded, since they mostly fulfill the pragmatic function of adding emphasis (e.g., Isla: *I did touch any of them when I use the motorbike.*).

In addition, I often encountered the structures *done* or *finish/finished* in different structural environments and combinations (e.g., just on their own as full verbs or in structures with *finish* + verb-ing: *finish painting, riding*, etc.; not to be

confused with the “*x finish*” structure identified as a specific local variant of L1 SingE: cf. Section 5.3.2.2). This problem is also described in the TEGI manual as a common avoidance strategy (Rice & Wexler, 2001, p. 17) but turns out to be of a much more complex nature in the case of Singapore, because *finish* appears to be used as a past tense marking strategy in different structural combinations. I will go into the details of these structures and their use in the quantitative analysis of past tense marking, in which I devote a whole subchapter to this local past tense marking strategy (cf. Section 7.3). Still, I followed the TEGI manual in that I excluded many instances of *done* so as to not skew the results on the basis of multiply repeated items. I did not code those instances that were highly repetitive, e.g., whenever a child appeared to overuse the phrase “He/she is done,” and I excluded all occurrences that seemed to be copied structures.

Beyond these item-specific restrictions on what was included in the analysis and what was not, I excluded the following structures from both analyses so as to not skew the results: structures in which children imitate another speaker; unclear or incomplete structures; idiomatic expressions/lexical chunks; incomprehensible passages, sometimes along with neighboring material; “best-guess” structures; onomatopoeic verbs in structures such as [*Big?*] *house boom*; routine utterances (e.g., the child singing a song; nursery rhymes).

As mentioned earlier, some of the CHAT codes were utilized in the coding process in that they determined which elements were coded and which ones were neglected. In this respect, structures that were merely repeated (indicated by [/]) were only coded once to avoid unrealistic numbers in terms of token frequencies and thereby a distortion of the results (e.g., [...] *he's* [/] *he* {refer}* *'s my favorite*). In corrected structures (indicated by [/]), independent of whether the correction changed the utterance into a standard or non-standard structure, the coders always coded the second, modified element, assuming that the second structure is the one the speaker ultimately intended to produce (e.g., *It* [/] *He* {refer}* *puffed* {reg>infl}* *and huffed* {reg>infl}* *and* [=!imitates blowing] *the house* [*there would?*] *tumbled* {unclear>structure}*). With respect to rephrased structures (indicated by [//]), whether a target item was coded depended on the lengths and similarity of the syntactic elements involved. Hence, with reformulation of rather long or syntactically dissimilar structures (e.g., *The pig locked* {reg>infl}* # [///] *when he* {refer}* *saw* {irreg>infl}* *the wolf going to his house, he* {refer}* *locked* {reg>infl}* *the door*), both constituents of interest were coded, whereas in short or rather similar structures, only the second, reformulated element was coded (e.g., *I'm not erm* # [///] *You* {refer}* *see erm* # *I* {refer}* *don't really know about* # *erm how to be someone who* [/] *who is a surgeon. # Yeah. But I* {refer}* *want to be one*).

4.5.5 Measuring vowel quantity and quality

The procedures used for analyzing and visualizing vowel quality and vowel length (quantity)²² have to be described largely separately from each other, even though both were conducted in Praat (Boersma & Weenink, 2018). In

general, acoustic software offers a means of visualizing formants (“resonances at different points in the oral cavity”; Kautzsch, 2017, p. 88) in spectrograms and by measuring their frequencies. The two most important formants for the present study are F1 and F2, with F1 corresponding to the close/open distinction and F2 to the front/back distinction. Praat measures the formant values in Hertz (Hz), with frequencies ideally measured at the midpoint of a vowel to avoid (or at least reduce) “co-articulation effects of neighboring sounds” (Kautzsch, 2017, p. 90). Vowels can then be visualized by plotting them as dots in a coordinate system. F1 occurs on the y-axis; F2 occurs on the x-axis. However, different from what is regularly found in coordinate systems, F1 increases from top to bottom and F2 from right to left. Thereby, “the vowels are placed in similar positions as they are in traditional articulatory vowel trapeziums, where close / open (or high / low) corresponds to top / bottom and front / back to left / right” (Kautzsch, 2017, p. 91). Formant extraction can be carried out with the help of scripts, the technical minutiae of which will not be elaborated on here (but see Kautzsch, 2017, pp. 87–91 for a concise summary of how to measure vowels).

In the present investigation, the study of vowel quality is limited to a few exemplary children of MLU/age groups 2 and 3 to reduce age-related “messiness” in vowel productions (cf. Section 4.2.3). For all children included in the analysis of vowel quality, age-related variability in the production of vowel quality can be excluded because the children have all reached an age for which general stability in the vowel inventory can be expected. The youngest child in this category is 3;2 and from the ancestral English group. All other children are clearly older. The Singaporean children are all between age 4;11 and 7;11 and thus clearly in a phase where the vowel inventory, including length differentiations, should have been fully acquired. I report the vowel qualities of ten children from the two broad groups (i.e., Singapore and England).

Vowel quality was measured in Praat, with formants measured at midpoint (viz. 50%). I presegmented the sound files with the help of the program MAUS (Munich AUTomatic Segmentation System; Schiel, 1999), available via an interface (WebMAUS; Kisler et al., 2017) provided through the web services page of the Bavarian Archive for Speech Signals (BAS; at the Ludwig-Maximilians-Universität München), which is part of the CLARIN-D infrastructure.²³ WebMaus Basic produced textgrids that provided presegmented words and phonemes, some of which had to be manually adjusted. Textgrids were then prepared for measuring vowel quality.²⁴ I then measured every vowel six times with different ceilings (at 5500 Hz, 6000 Hz, 6500 Hz, 7000 Hz, 7500 Hz, and 8000 Hz) and extracted both formants and bandwidths (at 50%, i.e., in the middle). The maximum formant (Hz) is the ceiling of the formant search range and a value one must set according to the speech signal characteristics of the individual speaker under investigation. The standard value for an average adult female is at 5500 Hz; for a male, it is at 5000 Hz. For children, such values are not easy to determine and I do not know of any default value similar to those provided for adults, which is why I implemented multiple measurements of each vowel.

From the six measurements, I subsequently selected one for plotting, taking into consideration bandwidth criteria. I chose the vowel measures that have the minimum sum of F1 and F2 bandwidths.²⁵

Even though Praat provides the technical means of visualizing vowels in an F1/F2 plot, vowel formants were subsequently plotted by means of the package “Vowels: Vowel manipulation, normalization, and plotting in R” (Kendall & Thomas, 2018a). Even though the website “NORM. The Vowel Normalization and Plotting Suite” (Thomas & Kendall, 2007–2015) offers the opportunity for online plotting, I plotted vowels in R because this offers a wider range of functionality and customizability (cf. Kendall & Thomas, 2018b, p. 2).

Results are always presented as a comparison of the corresponding pairs, viz. the qualitative realizations of KIT and FLEECE tokens are depicted in one plot and the realizations of FOOT and GOOSE tokens are presented in another plot. I first present the individual results for each child to account for potential individual variation beyond the age-related variability described in the L1 acquisition literature. As a next step, I present the results for the different groups, viz. all tokens of KIT and FLEECE and all tokens of FOOT and GOOSE for the Chinese and Indian groups from Singapore and the ancestral and migrant/mixed groups from England.²⁶ Results are again presented in a pairwise fashion (viz. all KIT and FLEECE tokens in one plot and all FOOT and GOOSE tokens in one plot) and for each of the four groups in turn. I subsequently summarize all tokens of each group and present them as mean values for a group-wise comparison of KIT vs. FLEECE and FOOT vs. GOOSE. This comparison pursues the goal of investigating the qualitative overlap or relative distance between the respective sets. However, “[a] problem that arises when plotting different speakers at the same time is that a mere computation of the formants’ mean values across speakers would distort the results severely” (Kautzsch, 2017, p. 96). This is because different speakers have different mouth sizes and, resulting from that, produce different formant values. Formant values therefore need to be normalized, “i.e. physiological differences need to be filtered out mathematically” (Kautzsch, 2017, p. 96; cf. Thomas & Kendall, 2007–2015: “About vowel normalization”). To that end, different normalization methods exist (Thomas & Kendall, 2007–2015: “NORM’s Vowel Normalization Methods [v. 1.1]”). Because I look into only a few specific vowels of the overall vowel set of L1 SingE (and of the children growing up in England, respectively), “the only reasonable normalization procedure is the Bark Difference Metric” (Kautzsch, 2017, p. 97). This method is vowel-intrinsic and “is immune to differences in the phonological inventories of dialects or languages” (Thomas & Kendall, 2007–2015: “NORM’s Vowel Normalization Methods [v. 1.1]”). It is implemented in the R vowels package and was used for normalization when plotting and comparing group means. In a final step, I plotted the group means for all four vowels according to lexical set for a direct comparison of the realization of the vowels among the four groups. Whenever presenting mean values, I also include the standard deviation from the respective mean value for a more accurate and accessible comparison of between-group results.

For the acoustic analysis of vowel length, the initial procedure of measurement was the same as described earlier. After presegmentation by means of WebMaus Basic, postprocessing was specifically geared toward capturing the exact vowel lengths; i.e., onset and offset of the vowel were manually refined, if necessary. Here, I took into consideration the overall formant structure, excluding devoicing or aspiration due to delayed voicing of a preceding voiced consonant. Phone duration was measured in milliseconds (msecs). Results are presented by means of notched and regular box plots generated in R (the differences between the two types and the motivation for making use of both formats will be briefly explained in Section 8.3) and bar charts (all indicating vowel length). Similarly to the morphosyntactic analyses, the results are always presented for the groups as a whole, comparing the data from Singapore to the data from England but also taking into consideration the sociolinguistic parameters of age/MLU and ethnicity. To test for the statistical significance of the results and account for the influence of independent variables on the realization of the dependent variable, viz. vowel length (phone duration), I fitted a linear mixed-effects model (as described in Section 4.5.4). The predictors again are age or MLU GROUP, ETHNICITY/GROUP, and SEX. More specific to the analysis, I further included phone label (viz. KIT, FLEECE, FOOT, and GOOSE) in the analysis. As random effects, I again included speaker and word.

Notes

- 1 For a concise overview of the vowel inventory of the local languages in Singapore, see Lim (2004, pp. 25–27).
- 2 Note again that it is highly debatable whether we can really speak of a merger or whether it is not more accurate to speak of a convergence of these sounds in quantity and quality (cf. Section 2.4.1).
- 3 Note, however, that null subjects in Chinese are more restricted than in languages such as Italian and follow different mechanisms in realization. This cannot be elaborated on within the confines of this monograph; the interested reader is referred to, for example, Yang (2002, pp. 114–116), who comprehensively summarizes and explains these differences.
- 4 I would like to thank Qin Xi and Jingshi Xuan for their further clarifications on Chinese zero subjects and the realization of the FLEECE, KIT, FOOT, and GOOSE vowels.
- 5 Hokkien is part of the “Min dialect family” (Thurgood, 2003, p. 6). Because phonological research specifically on Hokkien is rather limited, most references in this row of the chart refer to the Min family as a whole.
- 6 Note, however, that this phenomenon has been well-known for a long time (e.g., House, 1961; Lisker, 1974). However, whether the acquisition of the VLE is an automatic or controlled process – or, more precisely, whether it is a universal phonetic process or a language-specific pattern that has to be learned – has been debated (e.g., Ko, 2007). This will not be discussed further in the present study as it is irrelevant for the observations to follow.
- 7 Wherever (here and in the following) I suggest that the input the children receive is “ambiguous,” “unsystematic,” or “most variable,” this does not imply that the variation found in the adult system is unsystematic as such. As rightly pointed out by one of the external reviewers, sociolinguistic, variationist research has convincingly shown that variation is never fully random, but guided by social and (intra)linguistic

principles. What I am suggesting here is simply that this variation may, at least at times, appear unsystematic or ambiguous to the child population.

- 8 I am deliberately glossing over fine-grained differences here as these cannot be accounted for within the confines of the present study. But see, for example, the brief discussion of Marathi as a partial null-subject language (cf. Section 4.1.2; Holmberg et al., 2009).
- 9 As repeatedly pointed out above, individual variation has also been observed for “traditional” bilingual contexts and also for monolingual language acquisition to some extent. Still, I focus here on the Singaporean group only (and the same is true for Hypotheses 2d and 3d).
- 10 The difference in Marathi should not be too important here since it is only spoken by one of the children in a trilingual context. I therefore will not discuss the difference in the presentation and discussion of results.
- 11 Note that there are, of course, further pairs of phonemes that are often differentiated by length (e.g., LOT vs. THOUGHT and BATH vs. STRUT). These and items in other related sets bring in issues of vowel quality, mostly related to a variety of English (BrE vs. AmE) that cannot be accounted for within the confines of this study.
- 12 I am grateful to my friend and literary colleague Heidi Weig, who drew all twenty-four concepts and prepared them for printing.
- 13 It has to be noted that one of the Singaporean children was described as “monolingual” in the questionnaire. However, she was the youngest participant and only 1;4 at the time of data collection and thus had not really been exposed to many contexts outside the home due to her young age. As Singapore is such a highly multilingual country, it can be expected that she, too, will soon start to acquire at least one more language outside or inside the home domain (both parents being of Chinese-Singaporean origin).
- 14 The differentiation into ethnic groups mainly follows what the parents indicated in the questionnaires.
- 15 Here and in the table summarizing the participants from England, abbreviations translate as follows:

QU = parental questionnaire

SLO = spontaneous language output

SR = story retelling

RW = Rice/Wexler Test

PN = picture naming

ao = age of onset, i.e., age at which the child started acquiring a language if it is not (one of) the initial language(s) from birth

The different categories of “linguistic background” will be explained in more detail later.

- 16 The idea behind setting up an overarching corpus is to leave open the option of adding further subcorpora similar to the Singapore component. One such corpus, viz. a corpus of L1 child English in Namibia, is in its planning stages already (together with Anne Schröder, Bielefeld University).
- 17 I am grateful to Ann-Sophie Sanwald, Elisabeth Poxleitner, and Elin-Marie Schweiger for their invaluable help in the transcription and coding processes.
- 18 For other studies employing both measures, see, for example, Juan-Garau and Pérez-Vidal (2000) and Comeau et al. (2003).
- 19 Age is put in quote marks since, strictly speaking, it is not age I am looking into, but rather MLU under consideration of age.
- 20 Such descriptions might at times refer to the “standard” varieties of English, i.e., BrE and AmE, as means of comparison. This, however, should by no means imply that I consider L1 SingE an inferior system; these comparisons are just meant as points of

reference against which the L1 SingE features are described. Even if it sometimes criticized in the literature, this is a common procedure in variational linguistics and unproblematic as long as one counteracts the ideological burden carried by such a procedure.

- 21 This included more than 6,000 tokens all in all (see Table 6.1 in Chapter 6). I would like to thank Lisa Westermayer for her support in this strenuous task.
- 22 In the following, I refer to it as “vowel length” because, strictly speaking, vowel quantity in English is more than just a matter of duration (cf. Section 4.2.3).
- 23 <https://clarin.phonetik.uni-muenchen.de/BASWebServices/interface>
- 24 My deep gratitude here goes to Thorsten Brato for providing the script and to Alexander Kautzsch and Thorsten Brato for sharing their expertise in these procedures.
- 25 This was suggested as a possible (though not guaranteed) way to handle the problem and choose the “best” measure by Paul Boersma in an email conversation with Alexander Kautzsch in March 2017.
- 26 Here and in the presentation and discussion of the morphosyntactic features, I often treat the migrant and mixed groups as one group for reasons of simplicity. They are not the focus of investigation and they share a common acquisitional background in that the children are all bi-/multilingual. Going into the differences between these groups at all times would go far beyond the scope and feasibility of this study.

5 L1 Singapore English

Acquisitional background, usage domains, and features

The first part of the empirical study sets the sociolinguistic scene for the quantitative feature analyses in Chapters 6, 7, and 8. In the present chapter, I report the most important results from the questionnaire study. The results on the acquisitional background are presented as raw numbers and percentages and visualized by means of bar charts created in Excel (cf. Section 5.1). The language choice and use results are presented in the form of box plots created in R (cf. Section 5.2).

After the investigation of the children's acquisitional background and usage domains of English, I provide the qualitative feature screening of L1 child SingE (cf. Section 5.3) and present the MLU results for both groups (cf. Section 5.5). In Section 5.6, I bring together and discuss this first set of findings.

5.1 Acquisitional background

When turning to the first aspect of the questionnaire study, the acquisitional background of the participants, a fairly straightforward picture emerges. As illustrated in Figure 5.1, a huge majority of the children are bilingual of type 1, viz. they acquire two languages starting before the age of two (cf. the classification presented in Section 4.4). The other categories are all represented as well, though less prominently, with the type “multilingual1” (viz. the acquisition of three or more languages starting before age two) as the second strongest constellation. There are no important differences between the ethnic groups in that respect, and the one child from the Chinese group who has only one language, i.e., English, from birth and could thus be classified as monolingual was still very young at the time of observation (1;4). Xuan did not really speak any language yet and had not reached the decisive age, viz. two years, against which categorization into one of the groups was undertaken.

What can therefore be concluded for the case of Singapore is that it constitutes a heterogeneous linguistic landscape of different acquisitional scenarios but that most children acquire two (or sometimes even more) languages from birth. A comparison of the Singapore data with the data collected in England makes the linguistic heterogeneity in Singapore even clearer. Even though I deliberately included children from families with migration backgrounds or of mixed parentage, the picture is a lot more homogeneous (as illustrated in Figure 5.2).

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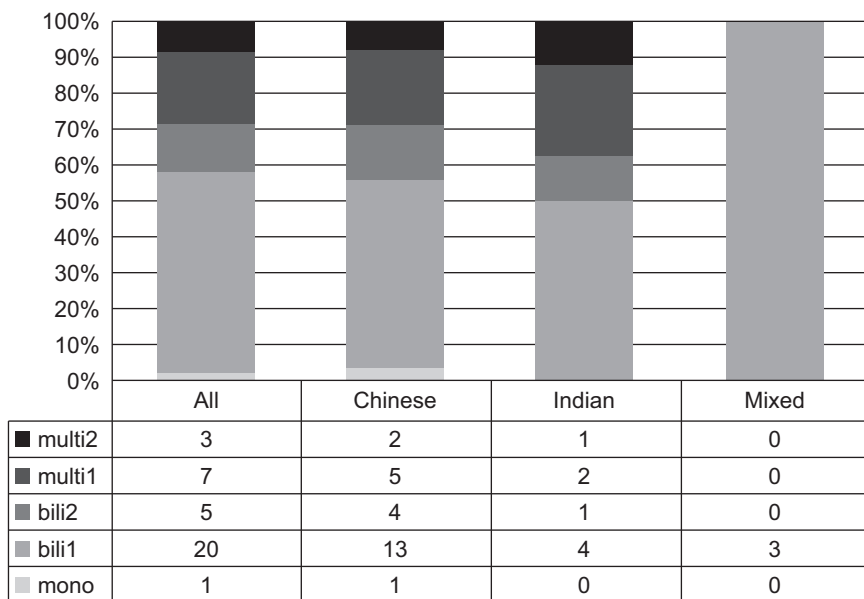


Figure 5.1 Linguistic background of Singaporean participants

Those children with an ancestral English background are still invariably monolingual English, and even one of the migrant children (Looloo) has English as his only language. Yet, again, one has to consider the respective age of the child. This boy is still very small and might acquire at least one of his ancestral home languages (German and Italian) at a later point. For the mixed group, the prevailing type is simultaneous bilingualism, viz. the bilingual1 category, which makes perfect sense as these children grow up with two languages at home (English from the English-speaking parent and the other language from the non-English-speaking parent). In the migrant group, multilingualism from birth (multilingual1) is the most widespread type, as these children are normally exposed to two different languages at home and acquire English in their mainly English-speaking environment outside the home.

As a next step, I delve into the details of the children's background and into the question of language dominance. As Figure 5.3 reveals, next to English, the Singaporean children have Mandarin, Tamil, Hindi, Hokkien, and Marathi at their disposal, of which English and Mandarin are the most frequent, and acquiring both of the latter is the most frequent combination (cf. Leimgruber et al., 2018 for similar findings). This clearly illustrates the governmental policy of English-based bilingualism and the propagation of Mandarin as described in Chapter 2. I indicate raw token numbers of languages mentioned here, since, naturally, multiple answers per child were possible. This is why the overall number of answers exceeds the number of participants.

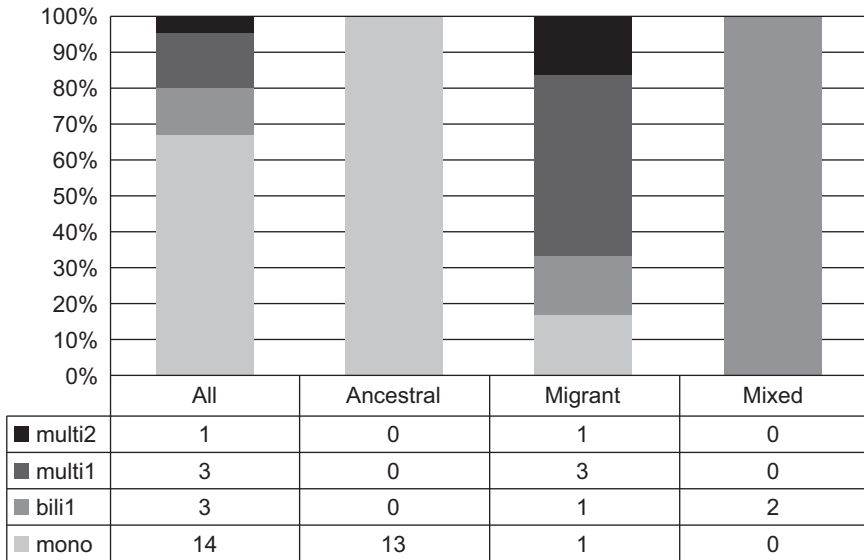


Figure 5.2 Linguistic background of participants from England

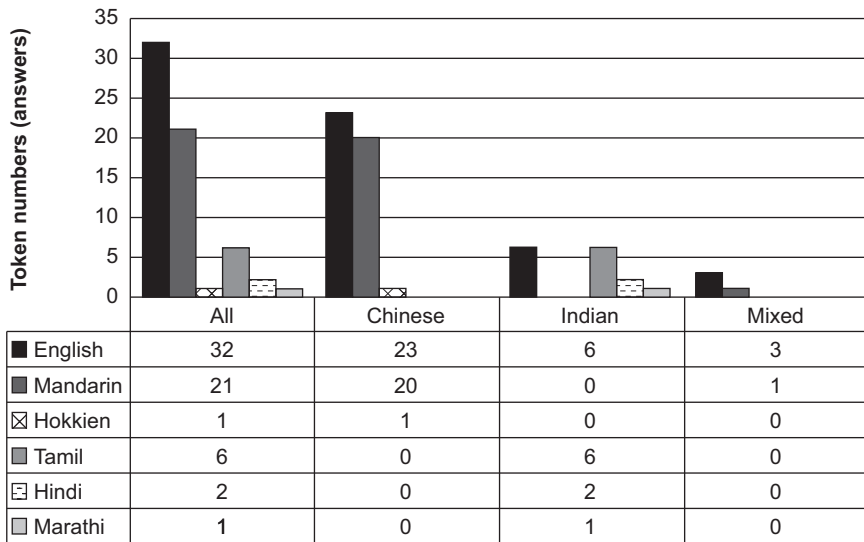


Figure 5.3 Language(s) from birth of Singaporean participants

When considering percentages and speaker numbers only, 86.5% (thirty-two children) of all participants acquire English as their language from birth (here measured in the strict sense, i.e., this number includes only those children who have been growing up with English from the very beginning). In the

Chinese group, the number amounts to 92% (twenty-three children); in the Indian group, to approximately 67% (six children); and in the mixed group, to 100% (three children). The numbers indicate a clear trend, viz. that English has become an important first language in Singapore and the most important one for the participants of my study. Only a few children in my study started out with a language other than English. However, the number of children with English only from birth (with the other languages entering their linguistic repertoires at any later point in time) amounts to approximately 22% (eight children).

When comparing these findings with the data from England, the following picture emerges (see Figure 5.4): English is the most frequently indicated language from birth, and only in the migrant and mixed groups do children speak languages other than English (here: German, Italian, and Russian). All children but one (Mia), who immigrated to the UK with her parents when she was already four years old, have English as their initial language, and about 67% (fourteen children) of all children began by acquiring English only. For some of them another language than English was added to their linguistic repertoires at some point; many children in the cohort from England, however, remain monolingual. They move into the “monolingual+” category later in their lives when they enter the school system and start learning a foreign language.

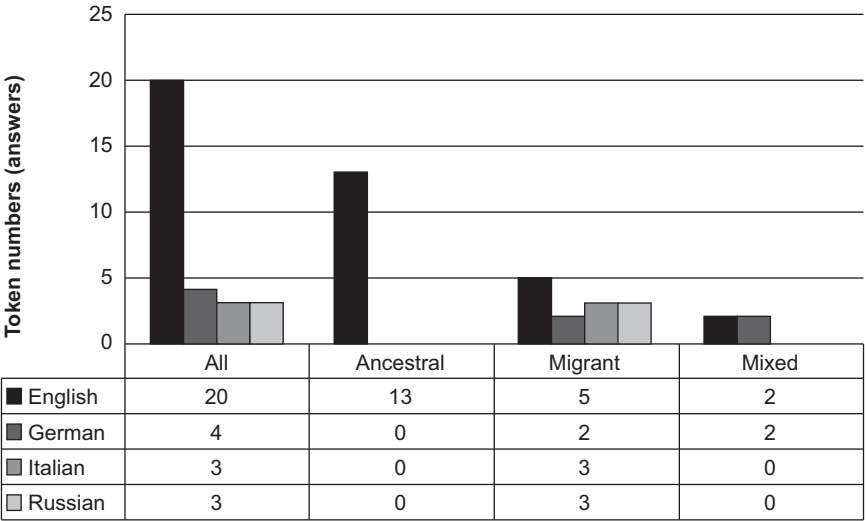


Figure 5.4 Language(s) from birth of participants from England

When comparing the situation of languages acquired from birth in Singapore with that in England, it becomes clear that, although English has assumed a highly important role as an initial language in Singapore in recent years, the acquisitional background there is still different from that in traditional native speaker contexts like England. This is most likely due to Singapore’s ethnic as well as linguistic diversity and its widespread bi- and multilingualism.

Even though bi- and multilingualism are becoming more common in the traditional native speaker bases as well, England is a long way from Singapore's ethnic and linguistic diversity.

Turning to the question of what the strongest/dominant language is for the children in my study, a similar, even stronger picture emerges. In the Singapore group, only English, Mandarin, and Tamil are spoken as strongest/dominant languages, the latter two distributed according to ethnicity (see Figure 5.5). Again, raw token numbers of answers given by the parents are presented as multiple answers where possible. Some parents indeed indicated more than one language as their child's strongest/dominant language.

English is by far the most frequently indicated strongest language for the Singaporean children in my study. This largely correlates with what the parents indicated about the most frequently used home language, i.e., whenever the parents stated that English was the strongest/dominant language of their child, it was also normally the language most frequently used in the home. For four of the Chinese children – Jun (5;0, male, Chinese), Qi (5;8, female, Chinese), J.H. (5;9, male, Chinese), and Xu (7;11, female, Chinese; Jun's sister) – the parents indicated that the children's two languages were equally dominant, but they reported Mandarin as the language most frequently used at home. For one boy of Indian ethnicity, Nithin (8;9, male, Indian), the parents stated that English was the strongest/dominant language, even though he did not acquire English from birth and the parents indicated that Tamil was the most frequently used home language. Obviously, this constellation does not necessarily rule out dominance in English. English was the second most frequently used language at home and therefore had home language status, and the boy had already reached school age and was thus exposed to English outside the home on a daily basis.

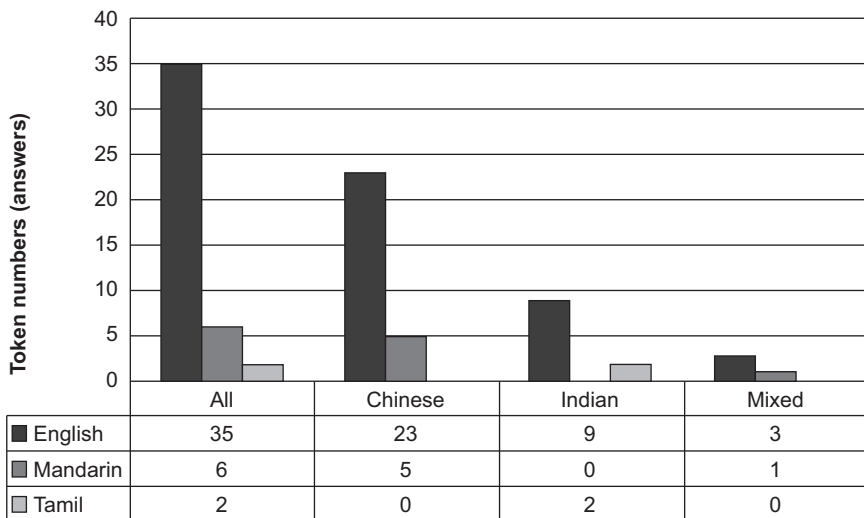


Figure 5.5 Strongest/dominant languages of Singaporean participants

Mandarin comes in second in the overall assessment in Figure 5.5 but at quite some distance. In the Chinese group, Mandarin is the second strongest/dominant language; in the Indian group, this role is fulfilled by Tamil. Chinese languages do not play a role in the Indian group and vice versa. This finding is certainly not too surprising. Yet, it shows that, even if later at school the choice of language for what is called “mother tongue education” is sometimes arbitrary and does not necessarily correspond to ethnic belonging, at home families still entertain their ethnic languages as home languages. When looking into overall speaker numbers and distributions, approximately 95% of all children (thirty-five children) have English as their dominant language, 78% of all children (twenty-nine children) have English as their only dominant language, and only 5% (two children, both in the Chinese group) do not have English as their dominant language at all – but Mandarin.

When comparing the results to the data from England (see Figure 5.6), a much simpler picture emerges again; English is the only dominant language for all but two children, no matter whether they are growing up in ancestral English families, migrant families, or mixed families.

Therefore, what sets Singapore apart from traditional L1 English contexts is again its multilingual background, which grants English the status of a very important L1 nowadays. English enjoys high prestige in Singapore, and its importance is reinforced even when looking into aspects of language choice and dominance in individual families. Isla (5;2), a girl of Chinese ethnicity, for example, acquired Mandarin as her only language from birth and started English at a later point only (ao: 0;5 and then more intensively at 1;10). Still, English is her strongest/dominant language today, which must be the result of a strong societal bias toward English, combined with parental readiness – if not eagerness – to let

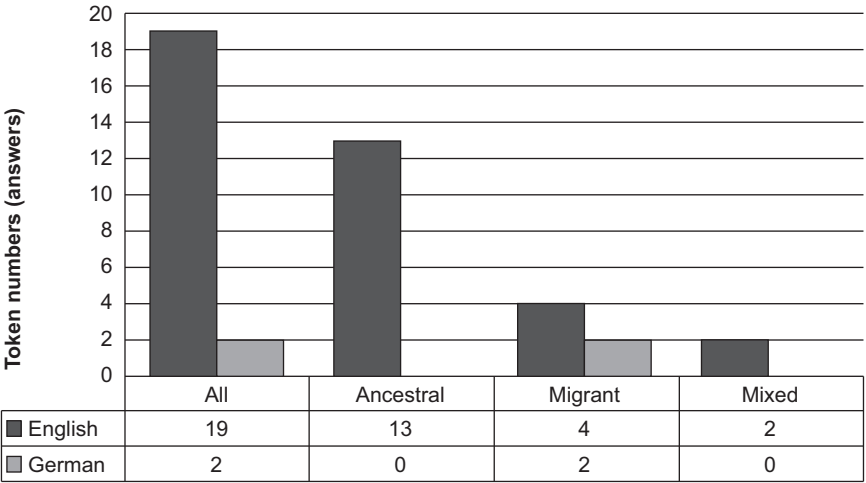


Figure 5.6 Strongest/dominant languages of participants from England

English enter their homes, even if at the expense of their ethnic family language(s). Indeed, this interpretation is implicitly corroborated by the strong value assigned to English by the parents. Some parents even stated that they considered it comparatively unimportant for their children to learn Chinese because their children's future success was all in the hands of the English language. What such attitudes imply for the future of English in Singapore and for the other local languages remains to be seen.

5.2 Usage domains

Having set the acquisitional scene, I present the results of the “language choice and use” part of the questionnaire. Here, I inquired into the children's language use in the different domains of their daily lives. The groups identified in the figures below contain the following number of participants: Singapore: all = 37, Chinese = 25, Indian = 9, Mixed = 3; England: all = 21, Ancestral = 13, Migrant = 6, Mixed = 2. In the questionnaire, parents had the option to tick “not applicable,” which, in certain cases (especially for “when listening to the radio,” “in daycare facility,” “with nanny,” “in pre-school”) led to a reduction of the number of participants. In cases where this might have an effect on the interpretation of the results, I comment on that in the description.

Before presenting the results, I provide a brief introduction to how to read the box plots. The Box-and-Whisker Plot (box plot) is an exploratory graphic that illustrates and compares the distribution of a data set, including potential outliers, in a directly accessible way. It displays the results in quartiles, with the box (hence the name) spanning from the first to the third quartile and comprising the 25% of all given answers that were above the median and the 25% that were below the median, i.e., the middle 50%. The median (the black line in the center of the illustration) can be defined as a “simple measure of central tendency” (Stat Trek, 2015). The whiskers represent the other 50% of the data – that is, the 25% of the data falling outside the upper quartile and the 25% outside the lower quartile. The dots above and below the whiskers represent the outliers of that data set. These latter represent tokens which are at least 1.5 interquartile ranges below the first quartile or 1.5 interquartile ranges above the third quartile. Of course, for example, the top whisker could be longer than the bottom one or the upper dots more numerous, which would indicate that more participants provided high Likert scale values than low ones – or vice versa. Therefore, box plots can also reveal which way a data set sways (cf. FlowingData, 2007–2017; see also Kautzsch, 2017, pp. 107–108 for a concise description of how to read box plots).

Starting with the use of English during meals, when reading books, when playing, and when singing, the results (presented in Figure 5.7, Figure 5.8, Figure 5.9, and Figure 5.10) generally reinforce the important role of English in Singapore identified in the previous section, but they also reveal differences in usage frequencies of English in Singapore and in England.

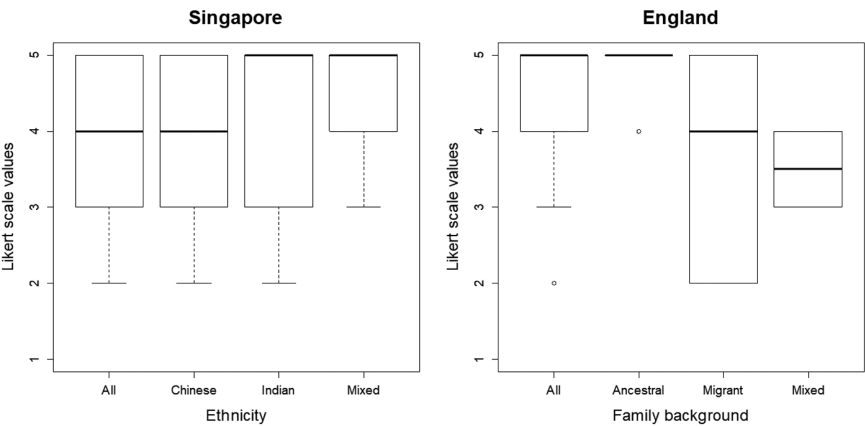


Figure 5.7 Use of English during meals

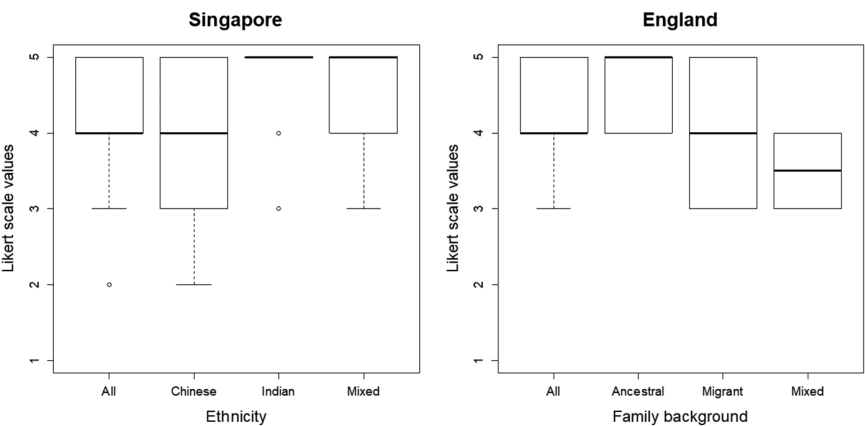


Figure 5.8 Use of English when reading books

Looking into this first set of usage domains, a consistent picture emerges. Most importantly for the present study, English in Singapore is used by the children investigated to a very high extent. The median is always at 4.0 (“mostly”) for the overall and Chinese groups; for the Indian and mixed groups it is even higher, viz. at 5.0 (“always”). Only small parts of the data range below 3.0 (“often”), viz. the lower 25% in the Chinese group when playing and reading books, as well as for all groups during meals. This suggests that the latter domain is the one in which the influence of the children’s other language(s) is strongest, but all in all English plays a highly important role in their daily activities.

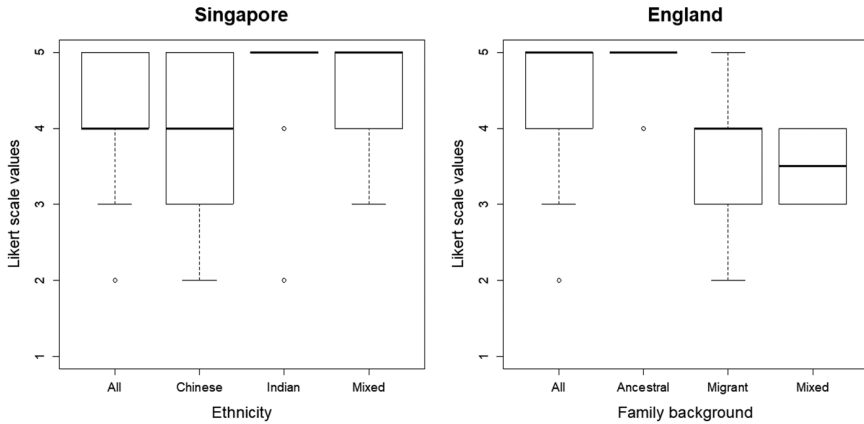


Figure 5.9 Use of English when playing

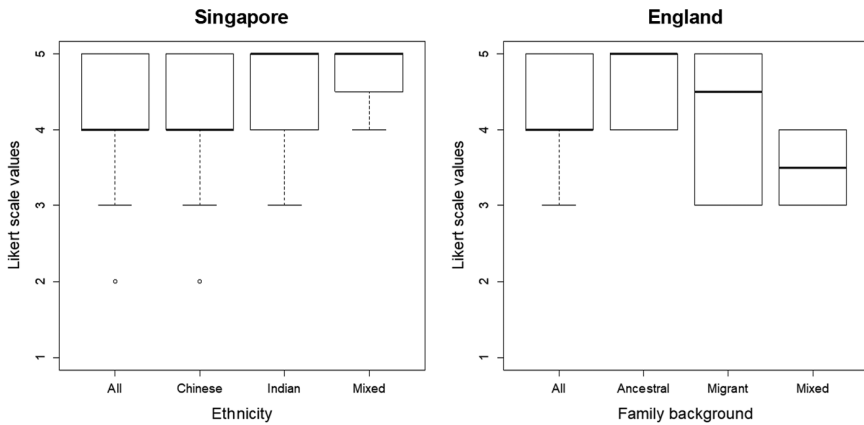


Figure 5.10 Use of English when singing

When looking into the results from England, it shows that differences exist between the three groups in England and also when compared to the Singapore data. Not surprisingly, the use of English in England is even stronger than in Singapore, though the difference between the two countries is by no means as prominent as might have been expected. Here and in the following, I do not elaborate on all the details for the England group but rather focus on those that are of immediate relevance for the comparison and interpretation of the Singapore data. What is interesting in this context are the results for the mixed group, as these clearly range below the Singapore groups even though the former live in a traditional English-speaking country and, even more importantly, have a traditional native speaker of English at home. This difference can best be explained in terms of the special status of English in Singapore – not least in the parents' attitudes – and in terms of issues regarding identity constructions: whereas the

Singaporean families have deliberately decided to introduce English into their families (due to the governmental advice and influence and also due to their personal beliefs that English is advantageous for the personal development and future success of their children), there is no compelling reason to do so in the traditional English context, as the children are automatically exposed to English anywhere outside the home. Related to that, I suggest that the parallels between the Singaporean and the migrant groups, as well as the higher use of English when compared to the mixed group from England, are due to the absence of an ancestral native speaker of English in the family. This might lead to a situation where parents feel a stronger external pressure to create an English-language background and identity if one wants to participate in the global, economic, and personal advantages the English language is perceived to bring with it. Such behavior is well documented in linguistic research into migration contexts. It is not unusual that migrants, in particular, give up or reduce the use of their heritage language in favor of the majority language (often English) in pursuit of becoming a full member of the majority or socially favored speech community (Schmid, 2002, pp. 19, 26–27).

What can also be seen when comparing the two major groups is that the results from England are less scattered than the results from Singapore (except for the migrant group, which is not really surprising as this group is a lot more heterogeneous than the ancestral English group). What the results nicely illustrate is that, as soon as a family has more than one language at its disposal, usage frequencies for the individual languages (here: English) decrease. Therefore, having medians of 4.0 or even higher in those families (from both Singapore and England) indicates that English must have a very prominent role in their daily lives, even though many of the parents are L2 speakers of English.

When looking into the domain of media use, viz. watching TV, listening to the radio, and phone calls, a very similar picture emerges. I do not go into further detail here as this would be largely repetitive, but see Figure 5.11, Figure 5.12, and Figure 5.13 for illustration.

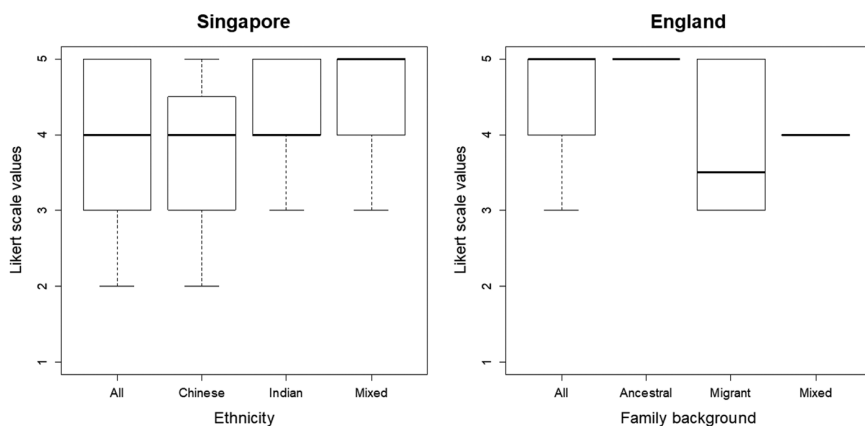


Figure 5.11 Use of English when watching TV

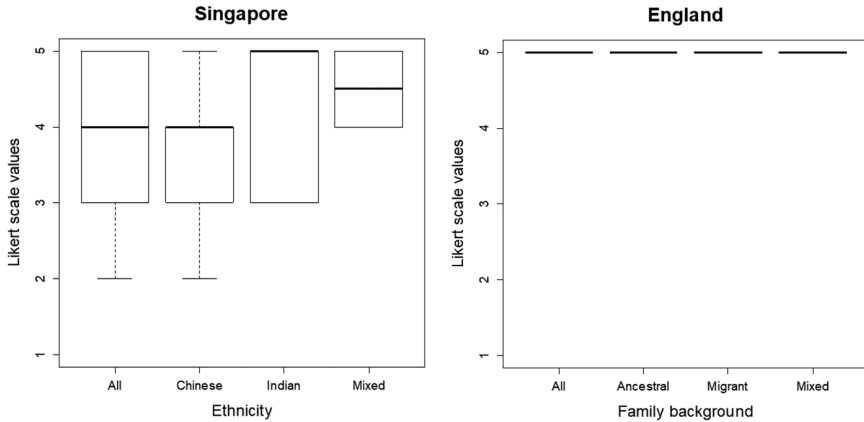


Figure 5.12 Use of English when listening to the radio

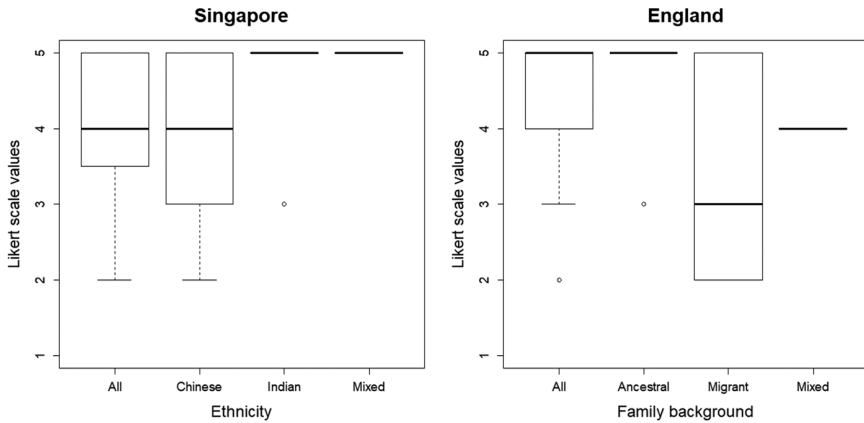


Figure 5.13 Use of English during phone calls

Still, what one should keep in mind here and for the domains to follow is that in the immediate home domain (use of English during meals, when reading books, when playing, when singing), the parents have a wider scope of choice and can most actively promote a language (or not). Language choice in terms of media can only partly be influenced by the parents, or not at all, as can, for example, be seen in the result for “Use of English when listening to the radio.” The results from England are homogeneous. All parents indicated that it is English-only when listening to the radio (median = 5.0, “always”), and that is without exception (there is no single outlier). This suggests that the parents don’t have much choice here. Therefore, these usage contexts, as well as the domains to come, are no longer mainly framed by the parents viz. by what they actively choose for communication but are also influenced by the linguistic choices of the wider community or the government.

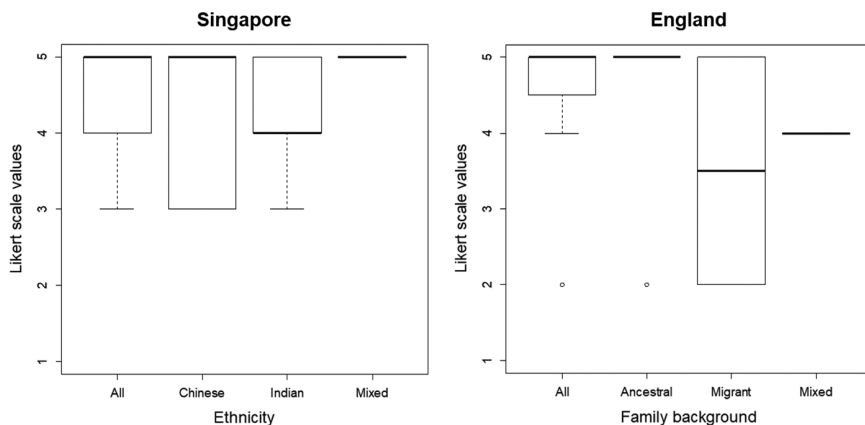


Figure 5.14 Use of English with siblings

The results for the use of English with different groups of people, viz. with siblings, grandparents, adult family friends, playmates, or a nanny,¹ are a lot more heterogeneous among and between the groups and do not always correspond to what has been observed in the domains mentioned earlier. Summarizing the results in this domain is therefore not always possible, which is why I go through the results context by context.

When looking into the use of English with siblings (see Figure 5.14), an interesting picture emerges in the Singapore group. For the first time, the Chinese group has the highest median (5.0). The Indian group shows a slightly lower value than in the other usage contexts (median = 4.0). If this is representative for the two groups in Singapore in general, this can be interpreted as reinforcing what was noted in Section 2.3, viz. that the Chinese group might be catching up with the Indian group when it comes to the use of English as a home language.

Another highly interesting finding emerges with regard to the use of English with grandparents (see Figure 5.15). The English group is generally stable in its results; the results for the Singapore groups, however, are fundamentally different from the results for all the other usage contexts in that medians are much lower. This is most likely due to the generally more limited English proficiency of most of the grandparents in this group (and the same is true for the migrant group from England). It also empirically corroborates the ongoing change in status of SingE from L2 to L1.

The median value for all Singapore groups is as low as 2.0 (“sometimes”), and the same holds for the Chinese group. The Indian group still has a median of 4.0 but shows a comparatively high dispersion of the results, covering the whole range of possible values. The mixed group has a mean of 3.5, shows huge dispersion as well, but consists of two children only; this suggests that the two

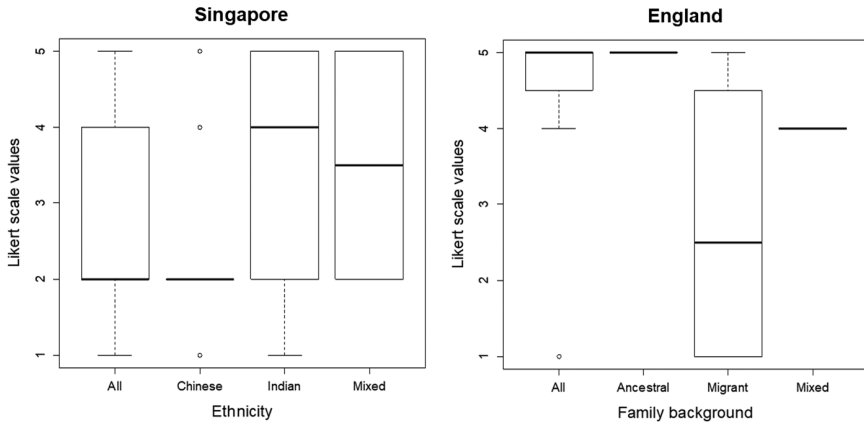


Figure 5.15 Use of English with grandparents

children must be at the two extremes (2 = “sometimes” and 5 = “always”), which reinforces a similar heterogeneity as found in the Indian group. This heterogeneity and the difference between the Chinese and Indian groups can only be explained as a chance finding and the result of the general linguistic background of the children’s families, I assume. It might be that some of the Indian children have grandparents who are able and willing to communicate with their grandchildren in English, while others do not. Indeed, the children’s family background varies in terms of whether English had already been a home language in the parents’ generation. Despite the fact that the Chinese group is a lot more homogeneous in its low median value, the few extreme outliers can be explained in a similar way. Even though I do not have information on the language use and proficiencies in the grandparents’ generation, the general family background appears important here. The three children for whom the parents indicated that they always used English with their grandparents (Luk, Lisa, and Maggie) come from families in which English had already been a home language in the parents’ generation. The same is true for the children using English “mostly” (Likert scale value 4) with their grandparents (Xu, S.H., Dee Dee). The four outliers at the lower end (Jie Jie, Jo, Jenny, and Stella) come from families in which English was not a home language in the parents’ generation or where at least the mother (as the primary input provider in the early years of language acquisition) started learning English at a comparatively late point in her life (e.g., Jenny and Jo’s mother, who only started learning English at the age of seven).

Looking into the use of English with the children’s nannies (though this only applies to less than half of the children in each group) (see Figure 5.16), adult family friends (Figure 5.17), playmates (Figure 5.18), and foreign visitors (Figure 5.19), the results are again quite consistent with the earlier findings

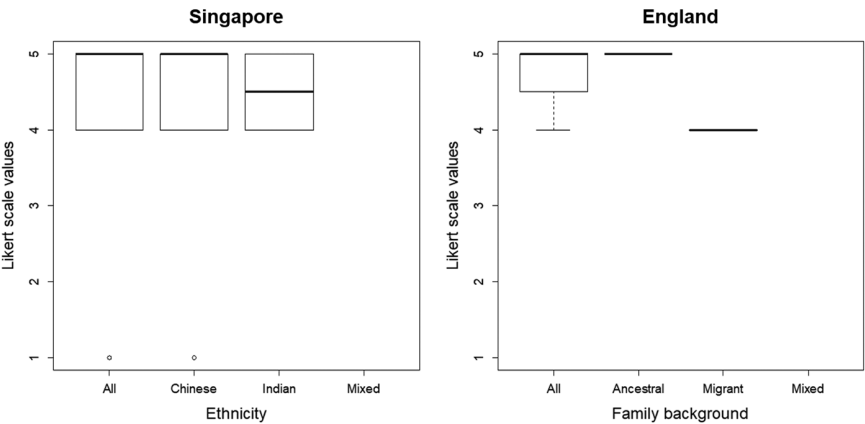


Figure 5.16 Use of English with nanny

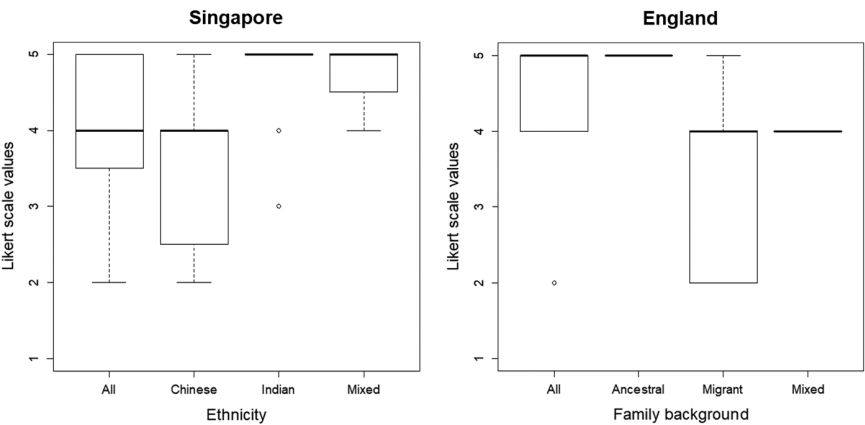


Figure 5.17 Use of English with adult family friends

from the other domains, viz. high median values for all groups from Singapore with, again, a tendency for values to be highest for the Indian group and the mixed group. The use of English within this general domain is highest when conversing with foreign visitors and with nannies, which is not surprising as these latter groups often speak a different language than the children's other home language(s). Nannies in Singapore, for example, often come from surrounding Southeast Asian countries like the Philippines or Myanmar.

Turning to the last domain, viz. the use of English outside the children's home (see Figure 5.20, Figure 5.21, and Figure 5.22), a very similar picture again emerges for the Singaporean groups, viz. high medians and some dispersion in the results, though not too much.

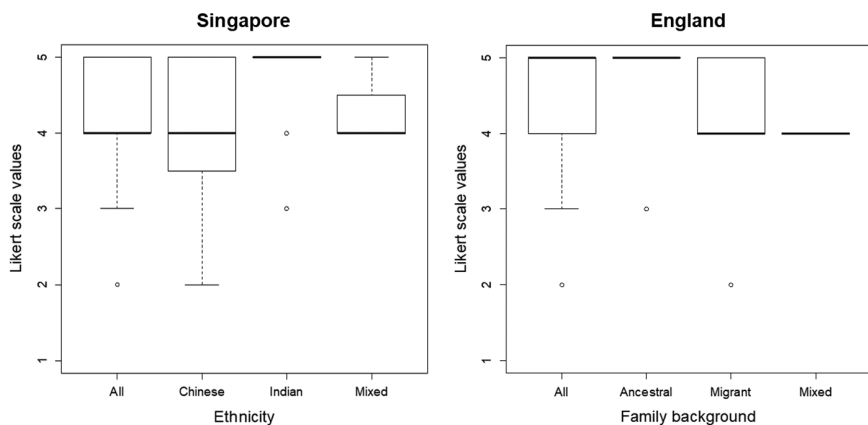


Figure 5.18 Use of English with playmates

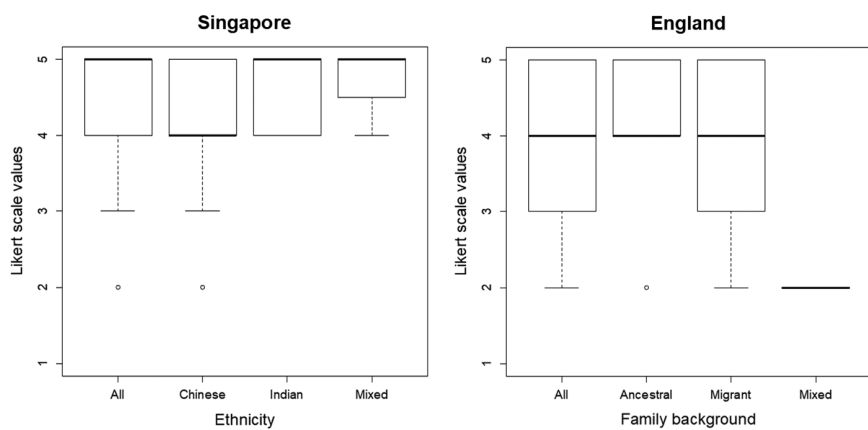


Figure 5.19 Use of English with foreign visitors

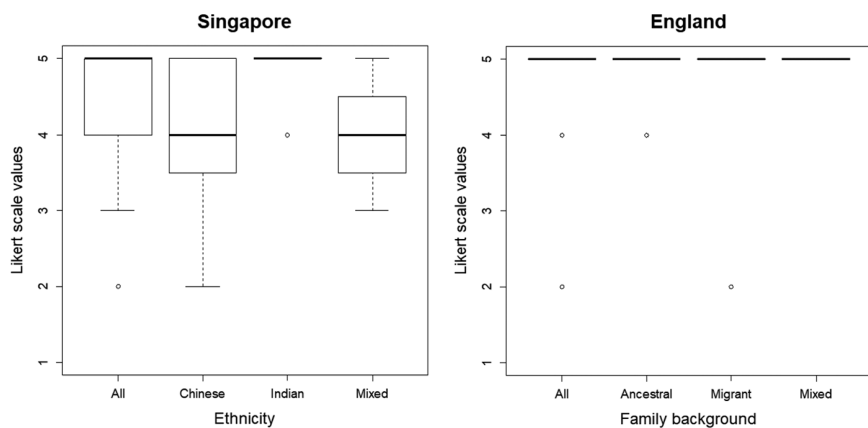


Figure 5.20 Use of English outside home

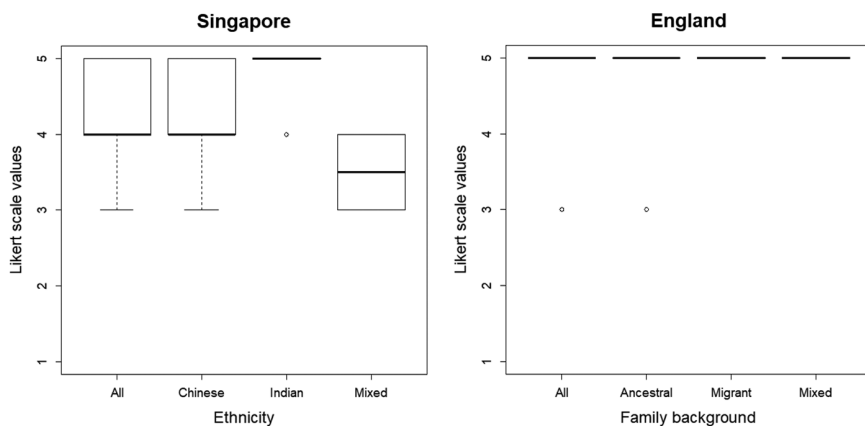


Figure 5.21 Use of English in daycare facility

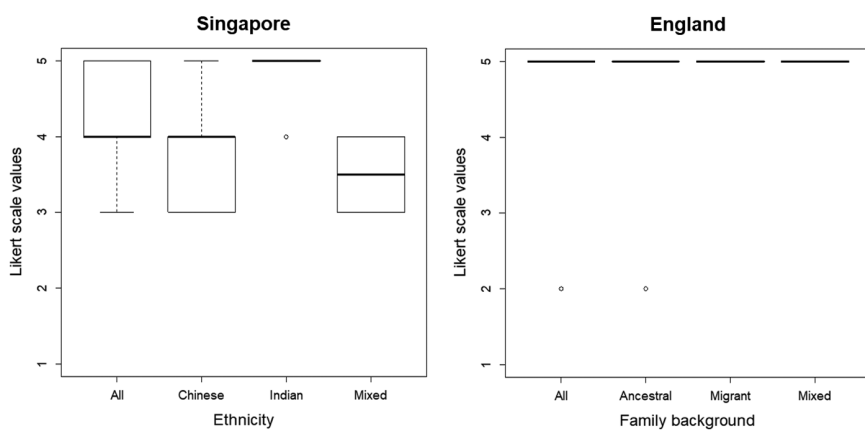


Figure 5.22 Use of English in preschool

How this overall set of findings ties in with the results from the quantitative feature analysis (cf. Chapters 6–8) is discussed in Chapter 9. It will be interesting to see whether differences in usage domains and frequencies show in the use of the specific grammatical structures and pronunciation patterns, when comparing the two groups in general but also when looking into the differences between the Singaporean groups and the migrant families in England. These are the families that most resemble each other in their linguistic setup. They are all at least bilingual, and whenever English is spoken as a home language, the input comes from speakers who speak some kind of contact variety of English. The big difference, however, is that migrant children in England grow up in a mainly monolingual,

English-dominant setting, whereas the Singaporean children generally grow up in a multilingual setting in which English had mostly been an L2 variety for a long time. However, note again that many of the Singapore-born parents in the present study also have English as a first language already. This is certainly due to the fact that the children all come from academic families. Still, two important things have to be considered here when assessing the overall situation.

First of all, no matter whether the children's parents already had acquired English as one of their first languages, the overall situation has emerged from a second-language English situation, and many parents (and especially the grandparent generation) still speak other languages than English as their L1. Many of the parents who already have English as their initial language mostly also acquired it in a dominantly second-language context and thus from second-language speakers of English, not from traditional native speakers. However, I do not agree with Meisel (2011), who refers to such contexts as being the result of "incomplete acquisition" (p. 121). Such a stance would wrongly characterize the newly emerging L1 variety as a defective system and would counteract the recognition of SingE as an L1 variety of equal status.

Second, the majority of children in my study come from monoethnic families, i.e., the parents are from the same ethnic background and speak the same ethnic language. There is therefore no compelling reason to use English as the home language, as would be in the case of inter-ethnic marriages. This confirms Leimgruber's (2013) supposition that "this [the widespread use of English as a home language] cannot be a result of inter-ethnic marriage alone. [...] There must [...] be parents who speak the same mother tongue, but who decide to use English with their children or between themselves" (p. 9). There definitely are. The reasons for using English in such mono-ethnic families again lie in the specific sociolinguistic background and language policies of Singapore (as outlined in Section 2.3) and the parents' positive attitudes toward English. English is omnipresent and certainly still on the rise in Singapore. Yet, it is not to be expected that the children acquire anything different from what their parents provide in the input. To validate this assumption, the following section provides a qualitative overview of characteristics frequently identified in the data and which thus appear to be characteristic of L1 child SingE.

5.3 A feature screening of L1 child Singapore English

With the previous sections having set the theoretical, methodological, and sociolinguistic scene for an analysis of L1 SingE, the following section provides a qualitative analysis of the data collected, viz. a feature screening. I report mainly those characteristics that are different from what is found in the standard varieties of English (and are therefore associated with colloquial language use) and that occur frequently in the data and not just as idiosyncratic instances of language use. What is more, features characteristic of particular ethnic groups might exist. Leimgruber (2013, p. 60), for example, postulates that "when

searching for examples of ethnic indexing in the data, phonological variables are of paramount importance” (see also Deterding, 2007). However, Leimgruber claims that the differences observed are not really that big, and, indeed, most of the features I report occur in the productions of children from all three groups investigated. I make occasional mention of ethnic differences. However, the main purpose of the following sections is to give an overview of the most characteristic, pan-Singaporean features shared by the majority of the children.

5.3.1 Phonological features

In general, L1 child SingE seems to be mainly similar to BrE in pronunciation. The lexical sets BATH and LOT, for example, are mostly realized close to the BrE variants /ɑ:/ and /ɒ/, respectively. This basically corresponds to what has been reported for the adult L2 variety, especially at the more acrolectal end of the spectrum (e.g., Brown, 1988b, p. 132; Tay, 1982). Nevertheless, AmE has clearly found its way into SingE as well (e.g., Deterding, 2007; Tan, 2016), and this trend is clearly confirmed by my child data. Most children, however, do not show consistent pronunciation patterns, which is why pronunciation varies between and within individual children. Paru, for example, shows a clear orientation toward a BrE pronunciation most of the time but sometimes also produces AmE patterns. Compare the following examples:

- (9) Paru (12;1, female, Indian): The boy has painted ['pɛntəd].
 (10) Paru (12;1, female, Indian): She ice-skated ['aɪsskɛɪtɪd].

Rosie, too, shows variable pronunciation, clearly AmE rhotic in Example (11)

- (11) Rosie (6;3, female, Indian): Door [dɔ:ˈr]!² A door [dɔ:ˈr]? [=!laughs]

but in the very same conversation, just shortly after, shows clearly BrE pronunciations, both in terms of vowel quality and rhoticity:

- (12) Rosie (6;3, female, Indian): A doctor ['dɒktə].

Variation even shows in immediately successive utterances of the very same kind by the same child, as the following examples illustrate:

- (13) Love (2;8, female, Chinese): Frog. # He can jumping in the water ['wɔ:ˈtɒ].
 Sarah: [=!laughs]
 (14) Love (2;8, female, Chinese): [/] can jumping in the water [wɔ:ˈtɒ].

When looking into vowel realization in L1 child SingE, another area where BrE and AmE show important differences, the data again reveal variation within and across children:

- (15) Rosie (6;3, female, Indian): Socks [sɒks]!
 (16) Rosie (6;3, female, Indian): Oh my God [gɑ:d]!
 (17) Lisa (8;6, female, Chinese): She might not [nɒt] have time to play 'cause she's like a researcher or something.
 (18) Maggie (4;11, female, Chinese): You watch [wɑ:tʃ], we play.
 (19) Qi (5;8, female, Chinese): Also got [gɒt] spider and a mouse.
 (20) Stella (6;9, female, Chinese): [...] then we dance [dɑ:ns] and play, right?
 (21) Stella (6;9, female, Chinese): We are going to dance [dæns], okay?
 (22) Pinky Pie (5;6, female, Chinese): [...] until I ask [ɑ:s] him the last [la:s] time [...]
 (23) Pinky Pie (5;6, female, Chinese): She plant [plænt] all the flowers.

When it comes to yod-dropping, the data appear to be largely BrE in orientation; I did not come across examples of AmE pronunciation here:

- (24) Rosie (6;3, female, Indian): This wolf is already in a stew [stju:].
 (25) Stella (6;9, female, Chinese): You are coming to the tune [tju:n], okay?

Though based on the two traditional native varieties of English (although with a bias toward BrE), L1 child SingE exhibits many local characteristics as well, most of which can also be found in adult SingE. For reasons of economy, I report these in the form of lists and provide examples for illustration. I provide selected examples from different age groups so that acquisition effects can be mostly ruled out as the sole explanation for the occurrence of the features. Similarly, I provide examples from the different ethnic groups, if possible, to attest the pan-Singaporean character of the characteristics identified.

- no distinction between long and short vowels, with mostly the long vowels being shortened, and sometimes slight changes in vowel quality:

- (26) Sarah: So here the man is erm ...
 Enen (5;7, female, mixed): Sweeping ['swɪpɪŋ]?
 (27) Stella (6;9, female, Chinese): She's talking ['tɒkɪŋ] to nobody.
 (28) Ben (8;0, male, Chinese): Cheek [tʃɪk]

Sometimes, however, I also noted the opposite effect, viz. short vowels that are lengthened:

- (29) Qi (5;8, female, Chinese): Then this [ði:s] one's the strong one the wolf cannot blow the house.
 (30) Pinky Pie (5;6, female, Chinese): Cookies, scissors [si:'zaz], teeth, a tree.

Related to this observation, the data have revealed a variable convergence of vowel sets, i.e., the convergence is not used consistently by all children and also varies among individual children:

- convergence of LOT, CLOTH, NORTH, and THOUGHT to /ɔ/

- (31) Jo (5;2, male, Chinese): Lock [lɔ]. Fork [fɔ]
 (32) Xu (7;1, female, Chinese): A dog [dɔk].
 (33) Pinky Pie (5;6, female, Chinese): Erm. She caught [kɔt] the ball [bɔ:l].
 (34) Pinky Pie (5;6, female, Chinese): A horse [hɔ:ʔs].
 (35) Pinky Pie (5;6, female, Chinese): Door [dɔ:l]

Other mergers reported in the L2 SingE literature, e.g., between the vowels in the STRUT, PALM, and START set, could not be detected in the data set at hand.

- monophthongization of mid-high diphthongs /eɪ/, /əʊ/, and /eə/

- (36) Enen (5;7, female, mixed): [...] she doesn't want to skate [sket] anymore.
 (37) Stella (6;9, female, Chinese): Oh! Why nobody want to play [ple:]?
 (38) Rosie (6;3, female, Indian): [...] The second piggy just escaped [ɛs 'ke:pt] away [ə'we:] and came [ke:m] to # the brother [...].
 (39) Paru (12;1, female, Indian): [...] if you are a foreigner and you go [gɔ:] er visit the country [...]
 (40) Rosie (6;3, female, Indian): You have to phone [fon] XX.
 (41) Maggie (4;11, female, Chinese): A boat [bo:t].
 (42) Dee Dee (3;2, male, Chinese): [...] Pooh Bear [bɛ:].
 (43) Qi (5;8, female, Chinese): He want to brush her hair [hɛ:], [...].
 (44) Jun (5;0, male, Chinese): his hair [hɛ:].

- voiceless inter-dental fricatives replaced by stops; this seems to be the default choice in pronunciation variants, especially with the function words *the*, *this*, and *that*:

- (45) Isla (5;2, female, Chinese): You know my brother had three [tɹi:] toys?
 (46) Stella (6;9, female, Chinese): The [dɛ] Three [tɹi:] Little Pigs
 (47) Kabs (5;4, male, Indian): What's this [dɪs]?

- voiceless aspirated fortis plosives, especially [p] and [t] (not so much [k]), pronounced as voiced fortis unaspirated plosives close to [b], [d], or [g]:

- (48) Rosie (6;3, female, Indian): Yah, he can't [gɑ:nt] sit properly because [bi'gɔz] he's just a doll.
 (49) Xu (7;1, female, Chinese): And this is a puppy [bɑ'bi].
 [...] Xu: This is a cookie ['kugɪ] and it really crunchy.
 (50) Qi (5;8, female, Chinese): [...] if he very tired ['daɪəd], then he rest.
 (51) Pinky Pie (5;6, female, Chinese): [...] until [ʌn'dɪl] I ask him the last time [daim] [...].

- consonant deletion/cluster reduction:
 - (52) Qi (5;8, female, Chinese): [...] The wolf [**uf**] cannot blow his house.
 - (53) Ben (8;0, male, Chinese): [...] then the pig set off an& in a big green field [**fi:l**] # [...].
 - (54) Manikandan (7;11, male, Indian): [...] I think [**tʌŋ**] erm [=stammers] Malaysia to Singapore, Singapore to Malaysia is okay.
 - (55) Qi (5;8, female, Chinese): [...] banana and toothbrush ['**tu:bɹɑ:f**] [...]
 - (56) Qi (5;8, female, Chinese): First [**fɜs**], the three little pig hug her mommy and kiss her mommy, [...]
 - (57) Sarah: Mhm. [=shows Jo the next picture]
Jo (5;2, male, Chinese): Lock [**lɔ**]. Fork [**fɔ**]
- use of only one weak form for the indefinite article, i.e., [ə]; no use of [ən] preceding vowels:
 - (58) Enen (5;7, female, mixed): A [**ə**] astronaut.
 - (59) Isla (5;2, female, Chinese): And # a [**ə**] apple and a toothbrush.
 - (60) Love (2;8, female, Chinese): And this one is a [**ə**] apple.
 - (61) Xu (7;1, female, Chinese): This is a [**ə**] astronaut.
- use of only one weak form for the definite article, i.e., [ðə]; no use of [ði] preceding vowels:
 - (62) Paru (12;1, female, Indian): So after the # erm erm [/] the [**ðə**] army shot the plane, so er the [**ðə**] SQ got erm allerted [...].
 - (63) Love (2;8, female, Chinese): Oh [=whispers], the [**ðə**] iPad.
 - (64) Pinky Pie (5;6, female, Chinese): He went to the [**ðə**] other [...].

Alongside many unique stress and intonation patterns, the data show a strong tendency toward syllable-timing, varying from child to child but not necessarily depending on ethnic group. It is, for example, very strong in Stella (6;9, female, Chinese) and Manikandan (7;11, male, Indian). Another clear pronunciation pattern is stress-shift toward the final syllable and high pitch pronunciation, predominantly in the Chinese group.

- (65) Jenny (6;7, female, Chinese): The wolf is hungry [**hʌŋ'gri:ʔ**].
- (66) Pinky Pie (5;6, female, Chinese): And then this is a chicken [**tʃi'kenʔ**].
- (67) Qi (5;8, female, Chinese): The fire [**fai'ɜ:ʔ**].
- (68) Xu (7;1, female, Chinese): [...] then you will use the key to open [**ou'benʔ**].
- (69) Qi (5;8, female, Chinese): [...] so the boy give present to the mommy [**ma'mi:ʔ**].
- (70) Pinky Pie (5;6, female, Chinese): Cookies, scissors [**si:'zazʔ**], teeth, a tree.

5.3.2 Morphosyntactic features

As is true for adult SingE grammar and as is illustrated in the following, the grammar of L1 child SingE is characterized by a multitude of zero options –

i.e., elliptical morphemes but also syntactic constituents like phrases – when compared to BrE/AmE, both in the nominal and the verbal domains. Again, it has to be kept in mind that the use of such features varies from child to child, and even within individual children, and depends on a variety of factors such as idiolect, situational context, task type, ethnicity, and age, some of which are discussed in more detail alongside my reports of the quantitative results.

5.3.2.1 *The nominal domain*

- zero subjects (referential and expletive; cf. the detailed analysis in Chapter 6):

(71) Sarah: I think you have to take them out, right? As soon as you find a pair, you take them out because it's yours. So you keep them.

Rosie (6;3, female, Indian): [Ø I] Shall remove my pair.

(72) Enen (5;7, female, mixed): He's combing his hair, then he was done. [...]

Enen: [Ø HE] Is playing football.

(73) Sarah: Ah, there is the CD, right! Wow, you found it. Very good.

Jie Jie (5;0, female, Chinese): [Ø IT] Was in here.

(74) Manikandan (7;11, male, Indian): I think in MH370, I think they can find because # [Ø IT] is easy to go there [...].

(75) Sarah: [...] what do you do with your friends? Do you play with them?
Pinky Pie (5;6, female, Chinese): [Ø I] Play with them. Sometimes drawing.

Sarah: Mhm.

Pinky Pie: Sometimes [Ø WE] play some fun things.

(76) C: Boy boy, what is this?

S.H. (2;6, male, Chinese): [Ø THIS] Is # cheese.

- zero objects:

(77) Xu (7;1, female, Chinese): He build a bird house and then she # [/] and then he build finish [Ø OBJECT] for the birds.

(78) Stella (6;9, female, Chinese): [...] I have the comb. But don't know where I put [Ø OBJECT].

(79) Rosie (6;3, female, Indian): She was going to carry a box. And later she was going to put [Ø OBJECT] in a place.

Resulting from these two characteristics, L1 child SingE, like L2 adult English, is characterized by the use of *can* – and likewise its negated form *cannot* – as a complete utterance, i.e., without a subject or an object, sometimes reduplicated for pragmatic reasons (cf. Section 5.3.4). It may also be used as a question tag, as in Example (83).

(80) Sarah: But it's okay. Let's call it a donkey then.

Rosie (6;3, female, Indian): Okay, **can can!** Okay, **can!**

- (81) Stella (6;9, female, Chinese): Oh, yah, **can can**.
 (82) Sarah: Mhm. Can he eat the spider?
 Cass (2;8, female, Chinese): **Cannot**.
 (83) Stella (6;9, female, Chinese): Just help to pack. **Can or not?**

Similarly, L1 child SingE is also characterized by other extremely abridged structures, like the one in Example (84), where not only are the subject and the object dropped, but the completeness of the action is marked not by a past tense marker but by *already*:

- (84) Dee Dee (3;2, male, Chinese): Close **already**. ("They closed the door")

- zero plural inflection:

- (85) Qi (5;8, female, Chinese): First, the three little pig[Ø PL.] hug her mommy and kiss her mommy [...].
 (86) Love (2;8, female, Chinese): [...] Two frog[Ø PL.] [...].
 (87) Maggie (4;11, female, Chinese): Does either of your # guy[Ø PL.] # have red moust& [/] I mean a moustache?
 (88) Rosie (6;3, female, Indian): [...] Let's see who has more point [Ø PL.]

- zero genitive inflection:

- (89) Mechelle (7;0, female, Indian): [...] the first and second pig went to the third little pig[Ø GEN.] house.
 (90) Xu (7;1, female, Chinese): He give the mommy the present because he # [/] is his mother[Ø GEN.] birthday.
 (91) Manikandan (7;11, male, Indian): [...] So they do go to the third little pig [Ø GEN.] house and the wolf say [...].
 (92) Qi (5;8, female, Chinese): Because is mommy[Ø GEN.] day, so [/] so the boy give present to the mommy.
 (93) Ben (8;0, male, Chinese): So, the [///] so, instead of letting the wolf [/] the wolf let eat him, he decided to escape and then to [/] to his neighbor[Ø GEN.] house.

- irregular use of pronouns (esp. male/female distinction):

- (94) Sarah: [...] And this girl is lifting a box with all the toys. Mhm. And now she's done. Tell me what she did before that.
 Qi (5;8, female, Chinese): **She** want to play, then **he** pour everything, then [/] then **he** don't want to play, then [Ø PRN.] keep.
 (95) Sarah: Mhm. And this guy is giving a present +/. |Shall we move a little bit?
 Isla (5;2, female, Chinese): |To [/] to **her** mum.
 (96) Sarah: And he's painting a fence.
 Gor Gor (8;0, male, Chinese): **She** painted the fence.
 (97) Rosie (6;3, female, Indian): **She** finished two # [///] **He** eated [/] eated two more cookies.

- missing relative pronouns:

- (98) Stella (6;9, female, Chinese): Yeah, but it is only this one [Ø PRN.] got sound, the rest don't [/] don't have.
- (99) Paru (12;1, female, Indian): [...] there are some pilots [Ø PRN.] know how to # balance the [/] the plane in the midair, you know?
- (100) Stella (6;9, female, Chinese): There's some of them [Ø PRN.] doesn't belong to her.
- (101) Sarah: Where did you get yours, huh?
Jie Jie (5;0, female, Chinese): XX from my birthday parties [Ø PRN.] someone give me as a present.

- pluralization of mass nouns:

- (102) Rosie (6;3, female, Indian): The wolf has eaten all the **foods** in house.
- (103) Jie Jie (5;0, female, Chinese): Brush the **hairs**!
- (104) Nithin (8;9, male, Indian): I bought some **stuffs**.

- use of *scissor* instead of *scissors*:³:

- (105) Enen (5;7, female, mixed): Is a **scissor**.
- (106) Love's mother: Good job! What is this?
Love (2;8, female, Chinese): **Scissor**.
- (107) Cass (2;8, female, Chinese): [=!exhales] Look. There's a scissors # and another **scissor**.
- (108) Paru (12;1, female, Indian): The foot. A horse. **Scissor** again.

- article use: zero definite and indefinite articles in various syntactic constructions:

- (109) Enen (5;7, female, mixed): Actually, I ride ponies. My daddy say [Ø INDEF. ART.] horse is too big. (zero indefinite article with subject; generic interpretation)
- (110) Isla (5;2, female, Chinese): I got [Ø INDEF. ART.] idea. (zero indefinite article in direct object)
- (111) Cass (2;8, female, Chinese): She got [Ø INDEF. ART.] spider. (zero indefinite article in direct object)
- (112) Xavier (2;8, male, Chinese): [...] The big [/] the story have [Ø INDEF. ART.] big bad wolf. (zero indefinite article in direct object)
- (113) Paru (12;1, female, Indian): It's [Ø INDEF./DEF. ART.] official language XX? (zero indefinite or definite article in subject complement)
- (114) Nithin (8;9, male, Indian): He blowed but he cannot blow because it's [Ø INDEF. ART.] house of bricks. (zero indefinite article in subject complement)
- (115) Manikandan (7;11, male, Indian): [Ø DEF. ART.] First little pig went to [Ø DEF. ART.] second little pig. (zero definite articles in subject and prepositional complement)

- (116) Isla (5;2, female, Chinese): He is scared of [**Ø** DEF. ART.] big bad wolf.
(zero definite article in prepositional complement/direct object)
- (117) Stella (6;9, female, Chinese): Mommy, [**Ø** DEF. ART.] teacher already had one. (zero definite article in subject)
- (118) Rosie (6;3, female, Indian): Yeah. # The wolf has eaten all the foods in [**Ø** DEF. ART.] house. (zero definite article in prepositional complement)
- (119) Kes (2;7, male, Indian): I got [**Ø** INDEF. ART.] motorbike.
- (120) Rosie (6;3, female, Indian): Is **a** Singaporean food. (indefinite article with mass noun)
- (121) Xu (7;1, female, Chinese): The three little pigs is the brothers and then the mother say erm they need to build **a** own house because erm the babies is going to born. (indefinite article instead of possessive determiner; see also the use of indefinite article *a* before vowels, as described in Section 5.3.1)
- (122) Love (2;8, female, Chinese): At **the** Christmas. (definite article with proper nouns)
- (123) Stella (6;9, female, Chinese): Er, I need **a** scissors. (indefinite article with plural noun)

5.3.2.2 *The verbal domain*

- past tense marking

L1 child SingE is characterized by different strategies for referring to the past tense, in addition to the traditional strategies employed in BrE/AmE. Often, past tense marking is simply omitted, especially when past time reference is inherent in the context, already introduced, or introduced by a past time adverbial. In this respect, my data confirm a finding also reported for adults, viz. that speakers (for example, when telling a story) often begin by using the past tense but then slip into the present tense (e.g., Deterding, 2007, pp. 46–47; Fong, 2004, p. 77).

- (124) Kabs (5;4, male, Indian): but he couldn't. And then he took a ladder and **climb**⁴ up the [/] the chimeney [=chimney].
- (125) Jun (5;0, male, Chinese): Then he wanted to climb a ladder to a chimney. Then the big bad wolf **is** in the pot. Then all the water **splash** and the carrot and the onion.
- (126) Pinky Pie (5;6, female, Chinese): [...] he took some [...] sticks and then [...] he **make** a [/] a stick house.

These changes from overt past to non-past marking apparently also take place as a deliberate decision, as the boy in Example (127) “corrects” his structure from a marked to an unmarked verb form:

- (127) J.H. (5;9, male, Chinese): Then # he # ran this way, took [/] **take** a ladder and **climb** up.

Next to the absence of past tense marking, the data have revealed a local past tense marking structure that, to my knowledge, has so far not often been reported in the L2 SingE literature, viz. the use of completive *finish* (but see Bao, 2005, pp. 248–249; Leimgruber, 2013, p. 80). As an aspectual marker, it was apparently transferred from Mandarin Chinese *wán* (“to finish”) and got relexified in colloquial SingE. In the data at hand, *finish* follows verbs, both regular (Examples (128)–(130)) and irregular (Examples (131)–(133)), as well as bare verbs and already marked forms:

- (128) Isla (5;2, female, Chinese): She **tie finish** her s& [/] shoes.
- (129) Enen (5;7, female, mixed): She **plant finish** it.
- (130) Mechelle (7;0, female, Indian): He **painted finish**.
- (131) Jenny (6;7, female, Chinese): He **eat finish** everything.
- (132) Mechelle (7;0, female, Indian): [...] she **blowed finish** her candles.
- (133) Jenny (6;7, female, Chinese): He **rode finish** the horse.

The structure can also be interrupted by an intervening lexical element, as in Examples (134) and (135):

- (134) J.H. (5;9, male, Chinese): She **ride** the horse **finish**.
- (135) Pinky Pie (5;6, female, Chinese): Erm, he **comb** it **finish**.

The existence of this structure in Mandarin also explains the frequent use of *finish* as a main verb or as part of a verbal construction indicating completeness in the Rice/Wexler test (for a more detailed analysis, see Section 7.3). Often, the children did not use the lexical verb aimed for in the test; rather, they simply used *finish/finished*, either alone or as part of another verbal construction, most often followed by an *-ing* form, as in Examples (136) and (137).

- (136) Rosie (6;3, female, Indian): [...] She **finished cleaning** the room.
- (137) Stella (6;9, female, Chinese): He **finish raking** the leaves.
- (138) Nithin (8;9, male, Indian): [...] Like she’s **finish** [=!laughs].
- (139) Maggie (4;11, female, Chinese): He **finish** his cookies.
- (140) Sarah: She is, whoopsa, tying her shoelaces.
Gor Gor (8;0, male, Chinese): Then she **finish**, and then she **tied** # her shoelaces.
- (141) Sarah: And here, the boy is making a bird’s house. A house for birds, right? Oh. Tell me what he did.
J.H. (5;9, male, Chinese): She only **finish** and **put** on the tree.

Another aspectual marker that also marks completeness in this context is *already* (transferred from Mandarin *le*).

- (142) Lukas (3;9, male, Chinese): Mama, I finish the water **already**.

- (143) Rosie (6;3, female, Indian): [...] and the pigs said [“]Hip, hip, hooray! This wolf is **already** in an stew.[“]
- (144) Jie Jie (5;0, female, Chinese): Mh, no. But they went holiday **already**.
- (145) Mechelle (7;0, female, Indian): She catch **already** the ball.
- (146) Jie Jie (5;0, female, Chinese): She [=points to Grandma] win **already**.
- (147) Gor Gor (8;0, male, Chinese): I **already** say he fell inside the cauldron.
- (148) Kabs (5;4, male, Indian): Look at mine! I make so many **already**.
- (149) Qi (5;8, female, Chinese): He take everything because [/] because **already** plant finish.

- subject-verb agreement

In the data at hand, subject-verb agreement often does not correspond to what is found in the standard varieties of English. Most prominently, 3rd person singular verbal *-s* is missing, as illustrated in the following:

- (150) Isla (5;2, female, Chinese): The baby stay[Ø -s] with the mother.
- (151) Rosie (6;3, female, Indian): She [/] She teach[Ø -s] Chinese.
- (152) Manikandan (7;11, male, Indian): No. No when my sister go[Ø -s] to tuition, my mother let[Ø -s] me [finding some little play racing games?].
- (153) Xavier (2;8, male, Chinese): [...] The big [/] the story **have** big bad wolf.
- (154) Mechelle (7;0, female, Indian): Elsa not want to [/] Elsa do[Ø -s] not want to stop all the freezing.
- (155) Stella (6;9, female, Chinese): She do[Ø -s]n’t need to stay there because ...
- (156) Jun (5;0, male, Chinese): This girl is climbing because she want[Ø -s] to paint a wall.

Example (154) is particularly interesting since it involves a self-correction by the speaker. Initially, Mechelle produces a structure lacking *do*-support; she then corrects herself but uses the structure lacking the 3rd person singular marker. What this clearly shows is that the structure I have just described here – and this is certainly true for most features in this qualitative overview – is not the result of a performance error but rather is part of a linguistic system that is apparently getting rid of the very last remnants of a once-synthetic language.

However, the opposite phenomenon also shows in the data, viz. missing subject-verb agreement when the subject is plural or first- or second-person singular but the verb is explicitly marked as being 3rd person singular. This mostly occurs with forms of (*to*) *be*, but not exclusively:

- (157) Isla (5;2, female, Chinese): The **pots is** inside [...]
- (158) Xu (7;1, female, Chinese): The three little **pigs is** the brothers and then the mother say erm they need to build a own house because erm the **babies is** going to born.
- (159) Lukas (3;9, male, Chinese): There **is sweets**. # **It’s nice sweets**.
- (160) Ana (3;8, female, Indian): I think I want to see [chalk?]. **I thinks**.

- missing infinitive marker *to*

- (161) Rosie (6;3, female, Indian): I want [Ø to] play memory card by myself.
 (162) Manikandan (7;11, male, Indian): Erm because # when I grow up, I want [Ø to] teach everybody how to do mathematics.
 (163) J.H. (5;9, male, Chinese): XXX I like to [/] I like [Ø to] keep it.

- copula deletion

- (164) Xu (7;1, female, Chinese): This [Ø BE] a chicken.
 (165) Qi (5;8, female, Chinese): [...] if he # [Ø BE] very tired, then he rest.
 (166) Love (2;8, female, Chinese): This [Ø BE] the spider.
 (167) Isla (5;2, female, Chinese): Because he [Ø BE] very scared of the big bad wolf.
 (168) Xavier (2;8, male, Chinese): Superboy [Ø BE] very good boy.
 (169) J.H. (5;9, male, Chinese): They [Ø BE] scared.
 (170) Xu (7;1, female, Chinese): This is a cookie and it [Ø BE] really crunchy.

- auxiliary deletion

- (171) Xu (7;1, female, Chinese): [...] they need to build a own house because erm the babies is going to [Ø BE] born.
 (172) Qi (5;8, female, Chinese): Then he blow until [/] until the house [Ø BE] broken.
 (173) Stella (6;9, female, Chinese): I [Ø BE] going to download all my s& [/] favorite stuff.
 (174) Jun (5;0, male, Chinese): She [Ø BE] just writing.
 (175) Isla (5;2, female, Chinese): He # [Ø BE] eating the biscuits.

Copulas and auxiliaries are also omitted in question structures:

- (176) J.H. (5;9, male, Chinese): What [Ø BE] this thing?
 (177) Isla (5;2, female, Chinese): Oh, oh, where [Ø BE] the helmet? Oh, there.
 (178) Stella (6;9, female, Chinese): What [Ø BE] she making?

5.3.2.3 *Clause level*

At the clause level, my data show interesting manifestations of question structures, similar to what has been reported in the L2 SingE literature. Most prominent here is the missing inversion of the auxiliary verbs (cf. Examples (179)–(182)) and lack of *do*-support (cf. Examples (183)–(187)).

- (179) Kabs (5;4, male, Indian): Why her cap is flying up?
 (180) Rosie (6;3, female, Indian): How I can close the box?
 (181) Kabs (5;4, male, Indian): Why this one can't open?

- (182) Isla (5;2, female, Chinese): Where you can see the pictures?
 (183) J.H. (5;9, male, Chinese): But how I open?
 (184) Rosie (6;3, female, Indian): And now, what I have to do next?
 (185) Jo (5;2, male, Chinese): [=addressing his sister] You know how to do?
 (186) Stella (6;9, female, Chinese): Oh! Why nobody want to play?
 (187) J.H. (5;9, male, Chinese): What this mean?

The characteristic reported for adult L2 SingE that, in *wh*-questions, the interrogative pronoun remains in situ does not occur in the child data, even though they include a fair amount of question structures.

The invariant question tags *is it?* and *or not?* also do not occur in the child data. For the latter tag, only one example came up:

- (188) Stella (6;9, female, Chinese): Just help to pack. Can **or not?**

However, the tag *or not?* was oftentimes used by the parents in my study. Whether that constitutes a difference in the linguistic systems of the parents and the children or is due to coincidence, the nature of the data collected, or the reduced complexity of child language cannot be conclusively answered here. Still, it constitutes an interesting finding, in particular because the child data indeed show some qualitative and, especially, quantitative differences when compared to adult data, as will briefly be discussed in Chapter 9.

5.3.3 Lexical features

Lexical features are hard to investigate in a comparatively small corpus like the one at hand. What is more, large parts of the corpus consist not of free speech data but of data elicited by specific experiments, which triggers only certain kinds of vocabulary. I therefore cannot give any detailed information on the use or existence of the lexical characteristics commonly identified for L2 SingE. Still, some localisms show in the data, e.g., lexical borrowings from the local languages, as in the following examples:

- (189) Mother: What is your favorite [meal?]?
 Rosie (6;3, female, Indian): **Laksa**. (a Singaporean noodle soup)
 (190) Stella (6;9, female, Chinese): No, no, no, no, not the zoo. The zoo is **Jurong**. (geographical region in the southwest of Singapore)
 (191) Stella (6;9, female, Chinese): Er, I went out shopping. At **Bishan**. (geographical region in central Singapore)

I also report on a few interesting findings that, though uncommon overall, caught my attention because they are not unique to individual children. I therefore assume that they are not idiosyncrasies but have at least some tendency toward more general usage, even though I cannot document frequent usage for these features. Of course, most of these could also be accounted for as, for example,

grammatical (e.g., preposition use) or phonological features (e.g., the use of *chimene*y as an instance of epenthesis). Here, I treat them as lexical features because these processes manifest themselves in precisely these lexical items.

- use of *chimene*y instead of *chimney*:

(192) Kabs (5;4, male, Indian): [. . .] And then he took a ladder and climb up the [ɪ] the **chimene**y.

(193) S.H. (2;6, male, Chinese): XXX **chimene**y.

This feature occurs only a very few times; one of the adults involved in the recordings also makes use of it. What is interesting here is that it is used by at least two totally independent children from different ethnicities – and more than once. This might suggest that it is not just an idiosyncratic mispronunciation or slip of the tongue but might be, or turn into, a lexical characteristic of L1 SingE. However, a much larger corpus would be needed to investigate such highly specific forms.

- use of *keep* instead of *tidy up*⁵

(194) Stella (6;9, female, Chinese): Stop wasting the battery. # Oh, can you help me **keep** the toys # and [ɪ] and inside the purple box.

(195) Sarah: This girl is lifting a box. Okay? # What did she do? With the box? # Mh? What did she do with the box? # What do you think?

Jo (5;2, male, Chinese): **Keep**.

(196) Qi (5;8, female, Chinese): She want to play, then he pour everything, then [ɪ] then he don't want to play, then **keep**.

- innovative use of (*to*) *off* (≈ “turn off,” “out”)

(197) Stella (6;9, female, Chinese): Mommy, can you help me **off** the aircon?

(198) Nithin (8;9, male, Indian): She # er [//] the candle was **off**.

(199) Jo (5;2, male, Chinese): Turn **off** the candle.

- innovative use of prepositions and specific collocations

(200) Xu (7;1, female; Chinese): You can go swimming # **on** the sea.

(201) Stella (6;9, female, Chinese): Not really. We are not **on** the same school.

(202) Nithin (8;9, male, Indian): [. . .] he kicked the f& [//] paw **in** the door but there his, er, foot was painful.

(203) Jie Jie (5;0, female, Chinese): Mh, no. But they went [**Ø PREP**] holiday already.

(204) Stella (6;9, female, Chinese): No, no, no, no, not the zoo. The zoo is [**Ø PREP**] Jurong.

What further became evident in the context of the story retelling is that *blow down/out* is frequently used without a preposition in the child data:

- (205) Kabs (5;4, male, Indian): The pig didn't let him in so he **blew** [Ø PREP] the house.
- (206) Maggie (4;11, female, Chinese): She **blew** [Ø PREP] a candle.
- (207) Rosie (6;3, female, Indian): She **blow** [Ø PREP] the candle.
- (208) Nithin (8;9, male, Indian): He blowed but he cannot **blow** [Ø PREP] because it's house of bricks.

5.3.4 Pragmatic features

An investigation of the pragmatic features of L1 SingE faces similar obstacles as encountered for the lexical characteristics. The corpus size and kinds of data I collected do not fully lend themselves to a pragmatic analysis. I therefore cannot offer a full account of pragmatic features but will point out two eye-catching characteristics that occur even in the data at hand.

- use of discourse particles

As shown in Section 2.4, the use of discourse particles is categorized as one of the highly frequent and stereotypical features of L2 CSE (e.g., Leimgruber, 2013, pp. 84–96). In relation to this observation, I did not find many discourse particles in my data, which is certainly due mainly to the data collection procedure rather than to a lack of existence of such particles in L1 child SingE. Such particles are mainly used in very informal, unguided conversation, mostly among local Singaporeans, most of which does not apply to the data at hand. Still, the instances of free interaction among the children and/or between the children and their parents have yielded some examples. The use of particles – in fact, the whole range of particles reported in the literature on L2 CSE – therefore can be generally attested for L1 child SingE.

- (209) Stella (6;9, female, Chinese): Help to pack, **leh!**
- (210) Stella (6;9, female, Chinese): Er cannot **lah** [/] you cannot.
- (211) Kes (2;7, male, Indian): No, I didn't wreck up, **ah**.
- (212) Stella (6;9, female, Chinese): Well, next time [/] next time, **mah**, if you [/] if someone asks you to keep with, somebody, **ah**, you don't say, **ah**: ["You keep yourself, I go"].
- (213) Stella (6;9, female, Chinese): **Hah**, how come like that one?
- (214) Rosie (6;3, female, Indian): Made a house.
Sarah: Okay.
Rosie: This is the one who made it. **What!** Oh my God!
- (215) Sarah: What did he do?
Rosie (6;3, female, Indian): **Ah**, made a tree!

Finally, the data also revealed the reduplication of elements as a pragmatic strategy, again very similar to what has been observed for adult SingE.

- (216) Stella (6;9, female, Chinese): Oh, yah, **can can**.
- (217) Rosie (6;3, female, Indian): Okay, **can can**! Okay, can!
- (218) Lisa (8;6, female, Chinese): **Always always**, yes.
- (219) Ana (3;8, female, Indian): **Ciao ciao, bye bye**.
- (220) Nimbu (2;5, male, Indian): XXX after **go go**, I **go go**.
- (221) J.H. (5;9, male, Chinese): [...] he eat spider and mouse together. Then XX together become **big big**.

5.4 Some interim conclusions

The preceding sections clearly support the census data and the repeated observations that SingE has become an important first language, especially for the younger generations of Singapore. Only very few of the children in my study did not start to acquire English right from birth; it is the dominant language for the great majority of children. Usage frequencies in nearly all of the domains investigated are very high and manifest themselves in medians of 4.0 or 5.0 (“mostly” and “always”). That usage frequencies are still slightly lower than in England is, I suppose, due not to a lower status or importance of English as L1 in Singapore but to the multilingual setup of the community. In Singapore, in contrast to England, English exists alongside many other languages regularly spoken as first languages and each child has at least two, sometimes even more languages at his or her disposal. Similar to the observation in the bilingual acquisition literature that bi-/multilingual children experience less input in their languages, usage contexts, too, have to be shared between languages. In England, English is still the only official language and, even though multilingualism exists, is clearly the dominant language, widely spoken as an L1 in the society. The results from the questionnaire study therefore clearly suggest that SingE is fully in the process of emerging as an equipollent first language variety, with the differences in the general linguistic setup of the country (when compared to England) resulting in slightly lower usage frequencies.

In the second part of this chapter, I identified a range of features that frequently occur in the child data. Most of these features are identical with the most prominent characteristics of adult SingE. This is, of course, not surprising because input is one of the very strong factors influencing language acquisition. Still, the feature overview also revealed small qualitative differences between what has been reported for adult L2 SingE and my data, viz. characteristics reported for L2 adult English not found in the child data and vice versa. For example, my feature overview has revealed missing (or minimal) aspiration of initial voiceless plosives, so that [p] and [t], in particular, sound like [b] [d] [g]. This feature has also been reported for adult L2 SingE. However, what is interesting is that Deterding and Poedjosoedarmo (1998, p. 157, quoted in Deterding, 2007, p. 20) report it to be a feature of Malay origin and therefore typical of speakers of Malay ethnicity. Because my data does not contain any

Malay-origin speakers at all, direct cross-linguistic influence of this kind can be excluded. Still, the feature occurs in both Chinese Singaporean and Indian Singaporean speakers. This implies a possible earlier spread of the feature in the L2 variety and thus further homogenization already present in the adult varieties. It might also be indicative of a blending of ethnic differences in SingE by way of first language acquisition. If more examples of that were found, this would suggest that the children can be considered as agents of levelling ethnic – and maybe also socially and formally stratified – differences in SingE.

What has also been reported as being frequent in everyday adult SingE is code-switching (e.g., Leimgruber, 2013, pp. 58–59). However, it occurs only very rarely in my data set. The reasons are somewhat different to what is reported by Leimgruber (2013, p. 59), who ascribes the absence of code-switching in his data to the interview setting (school setting) and the participants' awareness of being recorded. In my case, the children were certainly also aware of being recorded but most of them were very relaxed and appeared very authentic in their behavior, especially in the less formal parts of data collection. It may be that the children did not code-switch because they were aware of my inability to speak any of the other local languages of Singapore, or, related to that, because I was obviously an outsider in the setting. Still, even an extensive passage in which some of the children were recorded in playful interaction in a group without me being present does not show any instances of code-switching. Even though this is admittedly not representative, it may point to an important aspect of L1 child SingE. Perhaps they just do not code-switch as extensively as adults do. This in turn may be related to the fact that English is so much more dominant and entrenched for the children or that the children are so much more proficient in English that it is their first choice and they do not use the other language(s) that much. Whether these observations suggest that L1 child SingE may indeed be partly different from the adult/L2 variety is debatable and cannot conclusively be answered on the basis of the feature screening. Still, it is interesting to note that many of the structures identified earlier – e.g., copula deletion, missing past tense marking, and zero subjects – are especially frequent in the very small children. This is, in the first place, an acquisitional effect that can also be found in the early English of BrE/AmE children. However, the Singaporean children receive positive feedback for such structures in their input, which likely reinforces the use of colloquial SingE characteristics. In a nutshell: it seems that the contact-variety input (which is in itself the product of language acquisition) strengthens the effects of early language acquisition. It could therefore be that the occurrence of colloquial features is generally higher in the children than in the adult input they receive and that formality of context becomes less important for feature “choice” (see my critical comments on the strong speaker agency employed in Alsagoff's (2007) and Leimgruber's (2013) accounts of SingE; cf. Section 2.3.2). I am not claiming here that children do not develop an understanding of formality or of differences between certain situations and their respective linguistic requirements. In fact, Language Acquisition research has shown that children, too, are influenced by speaker attitudes and the linguistic behavior of their parents (cf. Section 3.1.2). However, the effect I am

contemplating here operates beyond the level of consciousness and is merely an effect of language acquisition and input. Meisel (2011) voices a similar idea, viz. that if L2 speakers constitute the only or strongly predominant input for children acquiring the same language as an L1, the input they receive can contain the triggers for language change. This would not only explain but give reason to expect differences between the adults' and children's English in Singapore. I come back to this aspect when I discuss the quantitative results in Chapter 9.

The number of well-entrenched local characteristics in the children's language once more reinforces the unique and independent character and status of L1 English. Together with the strong role and usage frequencies of English in the Singapore context, we can safely assume that we are confronted with the emergence of a new first-language variety of English, unprecedented in its origin and development and yet subject to the same general mechanisms of first language acquisition. In the following, I report the MLU results for both groups as an examination of how the Singaporean children compare to the children living in England when it comes to grammatical complexity and its development. It will be interesting to see whether the Singaporean children still follow the general developmental sequences suggested by Brown (1973) and whether the features investigated previously have an effect on MLU.

5.5 Mean length of utterance

Table 5.1 and Table 5.2 summarize the MLU scores of all children below the age of seven (i.e., before they enter school) from Singapore and from England. The columns first present the MLUs in the individual parts investigated (SR = story retelling, FI = free interaction) and then the overall MLU scores for MLU word and MLU morpheme (MLUw and MLUm, respectively). Finally, I provide the respective stage the child can be allocated to according to Brown (1973; cf. Table 4.5, Section 4.5.1).

As can be seen from the tables and as illustrated in Figure 5.23, both groups show a general increase in MLU with an increase in age. Heterogeneity is greater in the Singapore group than in the England group, but the overall differences between the two child groups and between MLUw and MLUm are rather small. MLUm is slightly higher than MLUw in both groups, and the children from England show generally higher MLUs than the children from Singapore (except for Cass; see my discussion of outliers to follow). What is noticeable is that the differences between the two groups become more prominent for the older children, especially beyond the age of approximately fifty months. The same is true for the differences between MLUw and MLUm, which are a lot closer together for the younger children. Because the literature has already suggested that MLUw and MLUm scores in normally developing English-speaking children basically match each other (cf. Section 4.5.1), this might be another indicator that MLU values decline in significance once the children have passed a certain stage of grammatical complexity (Brown, 1973, p. 54).

Table 5.1 MLUw and MLUm, participants from Singapore

<i>Child</i>	<i>Age</i>	<i>MLUw</i> <i>SR</i>	<i>MLUw</i> <i>FI</i>	<i>MLUm</i> <i>SR</i>	<i>MLUm</i> <i>FI</i>	<i>MLUw</i> <i>overall</i>	<i>MLUm</i> <i>overall</i>	<i>Brown's</i> <i>stage</i>
Xuan	1;4	—	1.06	—	1.06	1.06	1.06	I
Luk	1;6	—	1.2	—	1.28	1.2	1.28	I
Di Di	1;10	—	1.12	—	1.16	1.12	1.16	I
Nimbu	2;5	1.64	1.75	2.0	1.83	1.72	1.88	I
S.H	2;6	1.6	2.52	1.76	2.56	2.06	2.16	II
An An	2;6	—	1.88	—	1.88	1.88	1.88	I
Kes	2;7	—	2.1	—	2.18	2.1	2.18	II
Love	2;8	2.08	1.96	2.28	2.2	2.02	2.24	II
Cass*	2;8	6.32	4.8	6.96	5.08	5.56	6.02	> V
Xavier	2;8	3.23	3.45	3.59	3.91	3.28	3.66	IV
Dee Dee	3;2	2.67	3.02	3.33	3.57	2.92	3.5	IV
Ana	3;8	—	3.52	—	3.8	3.52	3.8	V
Lukas	3;9	2.92	3.48	3.24	3.8	3.2	3.52	IV
Maggie	4;11	7.76	3.6	8.96	3.96	5.68	6.46	> V
Jie Jie	5;0	5.56	4.56	5.92	5.12	5.06	5.52	> V
Jun	5;0	5.88	2.44	6.49	2.44	5.26	5.76	> V
Jo*	5;2	2.76	2.67	3.00	2.83	2.74	2.96	III
Isla	5;2	5.16	4.36	5.76	4.8	4.76	5.28	> V
Kabs	5;4	4.92	5.52	5.16	6.08	5.22	5.62	> V
Pinky Pie	5;6	6.64	7.08	7.16	8.36	6.86	7.72	> V
Enen	5;7	5.7	4.67	6.17	5.33	5.13	5.72	> V
Qi	5;8	5.32	2.44	5.85	2.56	4.4	4.8	> V
J.H.	5;9	4.36	3.6	4.52	3.92	3.98	4.22	V
Rosie	6;3	5.28	4.4	5.92	4.84	4.84	5.38	> V
Jenny*	6;7	4.14	2.63	4.55	2.63	3.74	4.04	V
Stella	6;9	9.12	6.92	10.16	7.84	8.01	9.0	> V

When comparing the children's age with Brown's average MLUs and stages, the figure and tables reveal that many of the Singaporean children range slightly below their age-matched MLUs and stages, whereas some of the children from England, notably the younger ones of English ancestry, range slightly above their age-matched MLUs and stages. These results, however, are by no means to be interpreted as problematic, nor do they suggest that the Singaporean children are linguistically lagging behind their peers growing up in England. As the trendlines in Figure 5.23 illustrate, the differences between the two groups are not huge and they can be fully explained in linguistic terms. If L1 child SingE is characterized by diverse options for zero elements and missing inflections, it is by no means surprising that both MLUw and MLUm range below those of age-matched peers acquiring BrE. This suggests that the results do not have to be interpreted as indicating a developmental delay in the Singaporean children; rather, they just corroborate the general assumption that Singaporean children must be acquiring a different variety of English. Still, the results for the Singaporean children and the children acquiring BrE seem qualitatively very similar. An argument similar to the one put forward in Language Acquisition research, viz. that the differences between monolingual and bi-/multilingual children are mostly quantitative and not qualitative in nature, seems to hold here, too.

Table 5.2 MLUw and MLU, participants from England

Child	Age	MLUw SR	MLUw FI	MLUm SR	MLUm FI	MLUw overall	MLUm overall	Brown's stage
Looloo	2;1	–	1.66	–	1.74	1.66	1.74	I
Elli	2;1	–	2.44	–	2.82	2.44	2.82	III
Joe Joe	2;3	–	2.52	–	2.76	2.52	2.76	III
Mimi	2;3	–	3.12	–	3.46	3.12	3.46	IV
Ida	2;3	–	1.36	–	1.42	1.36	1.42	I
Tron	2;4	–	3.24	–	3.64	3.24	3.64	IV
Rocket	2;11	–	3.36	–	3.74	3.36	3.74	IV
Kat	3;2	5.2	4.44	5.68	4.92	4.82	5.3	> V
Eve	3;9	4.96	4.36	5.48	4.72	4.66	5.1	> V
Lea	4;2	5.24	4.2	5.72	4.68	4.72	5.2	> V
Musya	4;4	4.44	4.76	4.8	5.12	4.6	4.96	> V
Sveta	4;7	4.91	5.57	5.14	6.32	5.28	5.8	> V
Masha	4;7	5.2	6.36	5.4	6.68	5.78	6.04	> V
Tom	4;7	4.32	4.68	4.72	5.08	4.5	4.9	> V
Fifi	5;5	5.96	5.76	6.32	6.16	5.86	6.24	> V
Ann	5;10	8.04	6.04	8.68	6.76	7.04	7.72	> V
Leo	6;7	6.71	5.59	7.38	6.34	6.06	6.78	> V

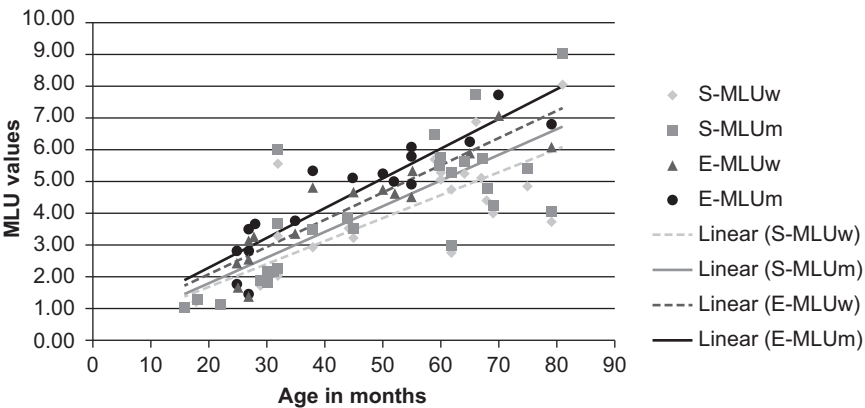


Figure 5.23 MLUw and MLUm, Singapore and England (individual results and trend lines)

Looking into the Singapore group in more detail reveals four outliers, i.e., children who distinctly range above or below their age-matched values: Cass's MLU values are clearly higher than those of her peers; the values for Jo and Jenny are conspicuously low; and J.H., too, also shows comparatively low MLU values. Cass had already caught my attention when I worked with her, as she was not only noticeably talkative and self-confident, but also clearly

above age-matched average in her linguistic skills. The results for the three children who clearly range below the expected level can be explained by two inter-related reasons. First, all three children are of the rather introverted type and were noticeably shy and reticent during data collection. This certainly had an effect on the complexities and lengths of their utterances. This ties in with the second potential explanation – Brown’s (1973) observations on the usefulness of measuring MLU in older children. Recall that

[b]y the time the child reaches Stage V, however, he is able to make constructions of such great variety that *what* he happens to say and the MLU of a sample begin to depend more on the character of the interaction than on what the child knows, and so the index loses its value as an indicator of grammatical knowledge.

(Brown, 1973, p. 54)

According to Brown, Stage V corresponds to an age of 3;4–3;8 (or forty to forty-four months) and older, which the three outliers had all long passed at the time of the recording. This would be the most straightforward solution and might well be the case, particularly because all three children were conspicuously taciturn and vivid communication with them did not develop, as it did with most of the other children. What is more, Figure 5.23 clearly illustrates that somewhere around the age of 3;4–4;2 (forty to fifty months), heterogeneity in MLUs increases in both the Singapore and the England groups. This corroborates Brown’s observations.

In addition to that, the heterogeneity beyond Stage V is apparently even higher within the Singaporean children. This suggests that one should take into consideration other factors that might be responsible for the outliers in the Singaporean group. The two factors that definitely have to be considered here are (1) language dominance and acquisitional background in the bi-/multilingual settings and (2) the influence of input and thus of the linguistic differences between L1 BrE and L1 SingE. In terms of the latter aspect, the quantitative results on the realization of subject pronouns and especially past tense marking will indeed show that there is a slight tendency for the outliers to be more colloquial in feature use, viz. in the use of zero elements and missing inflections. The question of the influence of language dominance is somewhat tricky. I can only rely on what the parents indicated in the questionnaires, but the findings are not too conclusive. For both Jo and Jenny, the mother indicated that English is the dominant and most frequently used language in the home; they therefore do not depart from the usual pattern. J.H.’s father indicated that Mandarin was the most frequently used language at home and that his son was equally dominant in English and Mandarin. From this perspective, the questionnaire results only help explain J.H.’s slightly divergent behavior, as he is one of the few children in the whole sample for whom English was not unambiguously indicated as both the most frequently used as well as the only dominant language at home.

Whatever the reasons for these children's lower MLU values, I decided to exclude all four children from the quantitative analysis; I compare and discuss their results individually against the background of the aggregate findings. This is motivated by a variety of reasons: First of all, including them might involve the risk of distorting the results because they clearly behave differently from the other children of their age. However, I also do not want to just include them in the group that theoretically matches their MLU values (i.e., put Cass in group 2 and Jenny, J.H., and Jo in group 1) because in Singapore it might be that other factors than grammatical complexity (as indicating linguistic development) affect the MLU results. One of these might well be the extent to which a child makes use of colloquial features. What is more, just putting the children who perform below what is expected for their age group in the other group would pose an ideological problem for the present study. It might suggest that they are delayed in their language acquisition process. Still, I would rather assume that their results are related to other factors such as these children's extreme shyness or the slightly higher amount of zero elements and lack of inflections.⁶

All remaining children were assigned to groups on the basis of their age-matched MLU values. I utilize these groups when investigating effects of age in the acquisition of the three characteristics under closer scrutiny in the chapters to follow. Because the MLU results in the Singapore group are not fundamentally different from the results in the group from England, I orient toward what Brown (1973) suggests in terms of the grammatical development and the acquisitional steps the children pass through. According to Brown, children should have acquired adult-like past tense marking, both irregular and regular, sometime toward the end of Stage IV, thus approximately around the age of three. He does not suggest anything about the time frame for the adult-like acquisition of subject pronouns, but because these appear to be acquired at roughly the same age as past tense marking (cf. Section 4.2.1), I treat the end of stage IV as the cut-off point for group assignment. All children at an MLU corresponding to Stage V were allocated to group 2; all children below this stage (Stages I to IV) were assigned to group 1. Group 3 encompasses all children age seven and older, as this is when formal schooling starts in Singapore (cf. Ministry of Education, Singapore, 2017).⁷ This might have an influence on their linguistic behavior, viz. their use of standard and non-standard features of SingE.

Taking these aspects into consideration and having excluded the outliers in the Singapore group, the groups are composed as follows:

- Singapore – Group 1: Xuan, Luk, Di Di, Nimbu, S.H., An An, Kes, Love, Xavier, Dee Dee, Lukas ($n = 12$)
- Singapore – Group 2: Ana, Maggie, Jie Jie, Jun, Isla, Kabs, Pinky Pie, Enen, Qi, Rosie, Stella ($n = 10$)
- Singapore – Group 3: Mechelle, Xu, Manikandan, Ben, Gor Gor, Lisa, Nithin, Paru ($n = 8$)

England – Group 1: Looloo, Elli, Joe Joe, Mimi, Ida, Tron, Rocket ($n = 7$)

England – Group 2: Kat, Eve, Lea, Musya, Sveta, Masha, Tom, Fifi, Ann, Leo ($n = 10$)

England – Group 3: Laura, Es, Lala, Mia ($n = 4$)

5.6 Discussion of results

All in all, the questionnaire study has revealed that English is indeed a very important L1 in Singapore. It is the dominant language for most of the children and is the most frequently used language in the majority of households investigated. English is also used in a variety of domains outside the home. Therefore, it can be safely concluded that Singaporean children receive regular English input. In terms of quantity, input is therefore stable. However, input quality varies in that for many linguistic characteristics both a standard and a local variant exist to which the children are more or less variably exposed. The latter are strongly associated with local and colloquial language use but are still not used according to any truly systematic pattern (at least, to my knowledge, they have not been described as such in the literature). The effect this might have on L1 child SingE and ultimately on the future development of SingE, is discussed in Chapter 9.

I have placed L1 SingE as an independent and structurally unique variety of English. It is structurally different from BrE in many respects, but this should not be interpreted as a defective trait. In fact, the opposite can be argued for when looking into the historical development and spread of English at its current state. AmE (and the same would be true for the other settlement contexts, of course), the second most widely accepted standard variety, has also emerged as an offspring of BrE – admittedly under different sociolinguistic conditions and with a lot more time depth and a much higher degree of linguistic continuity (in that English was mainly acquired from traditional native speakers). Still, it has also been shaped through processes of language (or dialect) contact, acquisition and innovation, and to some extent feature selection. The difference here is “just” a difference in sociolinguistic background, in transmission of English, and, resulting from that, in the exact manifestations and strengths of these processes. This most prominently shows in the fact that the main input variety for L1 SingE has always been a second-language variety of English, originally spoken by non-native speakers only. Therefore, processes and mechanisms of language contact and cross-linguistic influence have played a much stronger role in the context of Singapore.

The MLU results mainly confirm this stance because nothing here would support an interpretation of L1 child SingE as a defective system having emerged as the result of “incomplete acquisition” (for more on this notion, see Meisel, 2011). The MLUw and MLUm rates in the Singaporean children are only slightly lower than in the English group. The differences, however, seem more of a quantitative than qualitative nature and can be explained in light of the linguistic characteristics the data have revealed. In what follows, I look into three of these characteristics in more detail.

Notes

- 1 If applicable; not all children have siblings, a nanny, etc.
- 2 The superscript *r* here indicates that pronunciation is rhotic, though less prominently than in the second example.
- 3 Whether this is the result of a general tendency occurring with other nouns that always have a plural *-s* attached (e.g., *trousers*, *glasses*, *clothes*) or whether *s* deletion is lexically determined here cannot be resolved on the basis of the data set. *Scissors* occurs frequently in the data because it is one of the items in the picture naming task; in almost half of all instances, it occurs without the final *s*.
- 4 Note that this can, of course, also be the result of phonological processes such as consonant cluster reduction as described above (cf. Section 5.3.1). However, zero past tense marking also occurs with irregular verbs, for which such an explanation can be ruled out. This is why I treat these examples here as instances of a general tendency, viz. missing past tense marking, probably reinforced by phonological processes.
- 5 This is not mentioned in the account of L2 SingE features above because it is not frequently reported in the literature. Leimgruber (2013, p. 67) identifies the characteristic as an instance of semantic shift, meaning “put away.”
- 6 Again, this procedure nicely illustrates the integrative character of the present study. On the one hand, it employs Language Acquisition methodology, which makes the results comparable with earlier studies and with the acquisitional routes portrayed for BrE/AmE. This is important when seeking to locate L1 SingE on the map of other L1 varieties of English. On the other hand, it also pays attention to the ideological issues involved in that it counteracts the temptation of degrading the children as deficient or lagging behind just because they do things differently from the traditional native speakers. Rather, it follows a sociolinguistic concern in that it looks into individual differences, explaining linguistic behavior against the backdrop of extralinguistic criteria.
- 7 Note, however, that education (at least in the wider sense) often starts earlier than that, with preschool starting at age three, followed by kindergarten; however, both are optional in Singapore.

6 The acquisition of subject pronouns

The data for the study on the acquisition of subject pronouns come from between thirty and fifty children¹ and amount to 6,745 tokens of realized and non-realized subject pronouns, distributed among pronoun types and among the different groups and ethnicities, as illustrated in Table 6.1. I also provide both mean age and standard deviation as well as the age-in-months median for each group for a more accurate comparison and interpretation of the results.

I begin with an investigation of the influence of intra-linguistic factors on the results, viz. the type of subject pronoun and the clause type (main vs. embedded) in which the pronouns or their zero equivalents appear. Pronouns and their zero equivalents were also coded with respect to whether they occurred in finite or non-finite clauses, but this distinction is neglected in the analysis because the children almost exclusively produced finite structures.

6.1 The influence of intra-linguistic factors: type of pronoun and clause type

When first looking into the overall results, viz. the general rates of zero and realized subjects across pronoun types (see Figure 6.1), the following picture emerges: The Singapore group omits more subject pronouns than the ancestral group from England, which interestingly produces more zero structures than the migrant/mixed group. This might be the result of the higher mean age or age median for the migrant/mixed group because, as Section 4.2.1 has shown, the use of zero subject pronouns in BrE/AmE is largely determined by age. Despite the fact that the Singaporeans have the highest mean age/age median, which, from a traditional L1 English perspective, would give reason to expect lower rates of zero subject pronouns, they have the highest percentage of zero subjects. I inquire into the inter-ethnic differences between the Indian and Chinese groups of the Singapore cohort in more detail in Section 6.2.

A similar trend can be noted for the realization of zero referential subjects, including the pronouns *I*, *you*, *he*, *she*, *we*, *you*, and *they*, as shown in Figure 6.2. Referential *it* is treated as a separate class for the reasons outlined in Section 4.5.4.1.

Table 6.1 Summary of the number of tokens and participants in the subject pronoun study

Referential pronouns (<i>I, you, he, she, we, they</i>)				
	<i>Number of participants (total = 50)</i>	<i>Token number (total = 5,626)</i>	<i>Age (months)</i>	
			<i>Mean + standard deviation (SD)</i>	<i>Median</i>
Singapore:	20	2,176	63 (5;3)	62 (5;2)
Chinese			SD: 23 (1;11)	
Singapore:	9	980	75 (6;3)	75 (6;3)
Indian			SD: 38 (3;2)	
Singapore:	1	114	67 (5;7)	67 (5;7)
mixed				
England:	13	1,426	56 (4;8)	45 (3;9)
ancestral			SD: 32 (2;8)	
England:	7	930	64 (5;4)	55 (4;7)
migrant/mixed			SD: 33 (2;9)	
Referential <i>it</i>				
	<i>Number of participants (total = 49)</i>	<i>Token number (total = 397)</i>	<i>Age (months)</i>	
			<i>Mean + standard deviation (SD)</i>	<i>Median</i>
Singapore:	18	109	64 (5;4)	62 (5;2)
Chinese			SD: 23 (1;11)	
Singapore:	9	84	75 (6;3)	75 (6;3)
Indian			SD: 38 (3;2)	
Singapore:	1	3	67 (5;7)	67 (5;7)
mixed				
England:	13	139	56 (4;8)	45 (3;9)
ancestral			SD: 32 (2;8)	
England:	8	62	60 (5;0)	55 (4;7)
migrant/mixed			SD: 33 (2;9)	
Contextual referential <i>it</i>				
	<i>Number of participants (total = 30)</i>	<i>Token number (total = 59)</i>	<i>Age (months)</i>	
			<i>Mean + standard deviation (SD)</i>	<i>Median</i>
Singapore:	12	19	67 (5;7)	64 (5;4)
Chinese			SD: 26 (2;2)	
Singapore:	3	7	88 (7;4)	75 (6;3)
Indian			SD: 52 (4;4)	
England:	10	17	65 (5;5)	58 (4;10)
ancestral			SD: 32 (2;8)	
England:	5	16	74 (6;2)	55 (4;7)
migrant/mixed			SD: 33 (2;9)	

Expletive *it*

	Number of participants (total = 34)	Token number (total = 128)	Age (months)	
			Mean + standard deviation (SD)	Median
Singapore: Chinese	12	32	66 (5;6) SD: 23 (1;11)	64 (5;4)
Singapore: Indian	6	22	91 (7;7) SD: 34 (2;10)	90 (7;6)
Singapore: mixed	1	4	67 (5;7)	67 (5;7)
England: ancestral	9	36	64 (5;4) SD: 34 (2;10)	50 (4;2)
England: migrant/mixed	6	34	71 (5;11) SD: 30 (2;6)	55 (4;7)

Demonstratives (*this, that, these*)

	Number of participants (total = 49)	Token number (total = 397)	Age (months)	
			Mean + standard deviation (SD)	Median
Singapore: Chinese	18	207	59 (4;11) SD: 26 (2;2)	61 (5;1)
Singapore: Indian	9	49	75 (6;3) SD: 38 (3;2)	75 (6;3)
Singapore: mixed	1	5	67 (5;7)	67 (5;7)
England: ancestral	13	190	56 (4;8) SD: 32 (2;8)	45 (3;9)
England: migrant/mixed	8	84	60 (5;0) SD: 33 (2;9)	55 (4;7)

The percentages here are highly similar to the percentages of the general results. The Singapore group shows slightly lower numbers of zero subjects for referential pronouns than for the overall set.

With respect to the distribution of zero referential pronouns (see Figure 6.3), the three groups behave mostly similarly. *I* is the subject pronoun dropped most often by far, followed by *he* and *she*. *You* occurs only in singular number; no single instance of zero plural *you* could be found in the data. In the plural, *they* is dropped more frequently than *we*. These results make perfect sense against the background of what has been reported in the literature. The use of zero subjects both in null-subject languages and in the early acquisitional phases of English goes hand in hand with pronominal reference, viz. the zero subject can normally be inferred from the context (e.g., Bloom, 1970; Hyams, 1989, p. 222). Here, *I* has the clearest and most specific reference; *he* and *she* are also comparatively straightforward in reference and are more specific than, for example, plural *you*, which often denotes a less specific group of people.

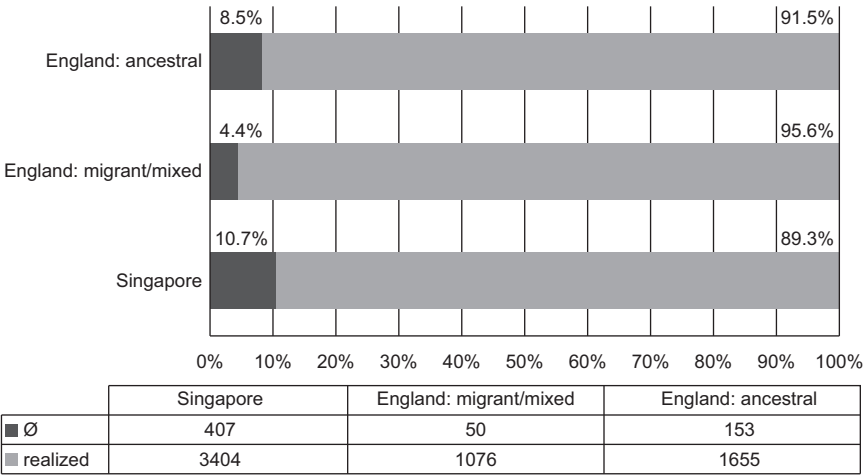


Figure 6.1 Zero vs. realized subjects (all types) according to country/speaker group

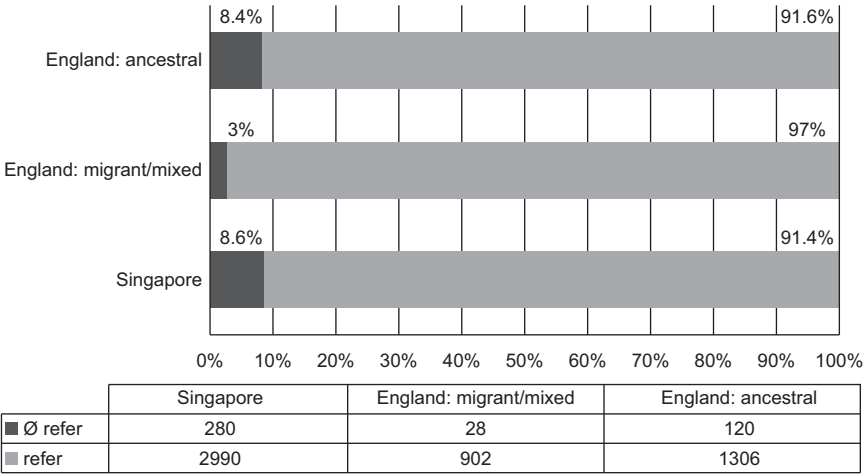


Figure 6.2 Zero vs. realized referential subjects according to country/speaker group

This observation is also confirmed by the results for zero vs. realized referential *it*, contextual referential *it*, and expletive *it*, as these three types behave significantly differently from the other pronouns observed earlier. The results for the three types of *it* turned out to be largely similar, which is why I discuss them together. They are illustrated in Figure 6.4, Figure 6.5, and Figure 6.6.

For all three subtypes of *it*, the results from the Singapore group hover around 40% (38.5% for contextual referential *it*, 40.8% for referential *it*, and 41.4% for expletive *it*). For the migrant/mixed group from England, zero *its* range between

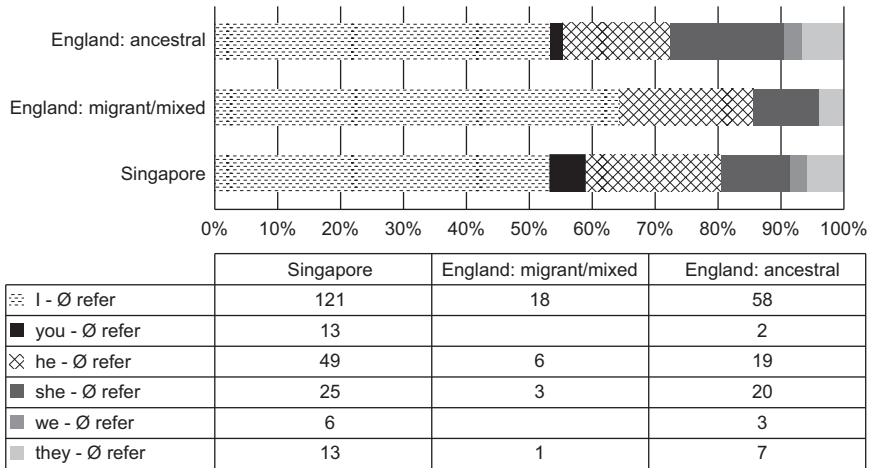


Figure 6.3 Zero referential subjects according to country/speaker group: distribution of subtypes

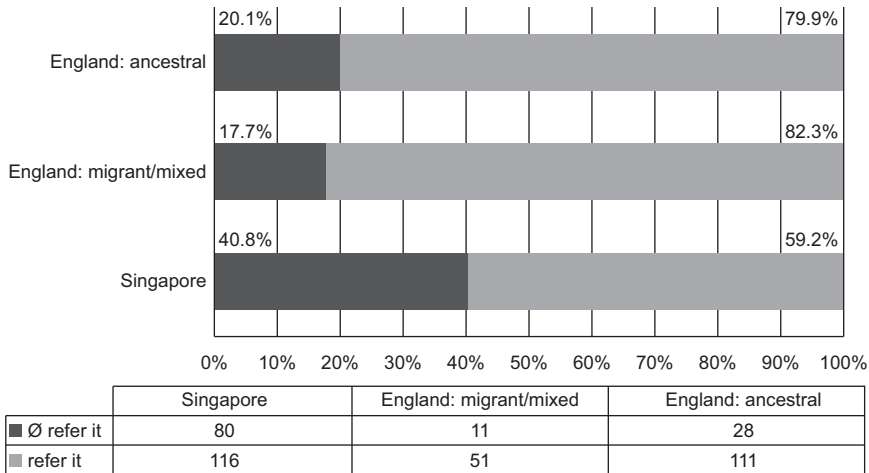


Figure 6.4 Zero vs. realized referential *it* according to country/speaker group

14.7% and 18.8%. The ancestral English group shows highly diverse rates of zero *it*, ranging from 0% to 20.1% across the three types. Again, we must take the age differences between the groups into consideration. These differences would, for example, explain the 0% rate of zero subjects for the contextual referential *its* in the English ancestral group (cf. Figure 6.5), as the mean age/age median is comparatively high for this group as compared to the other types and other groups. The low token numbers should also be kept in mind when performing detailed analyses of these results.

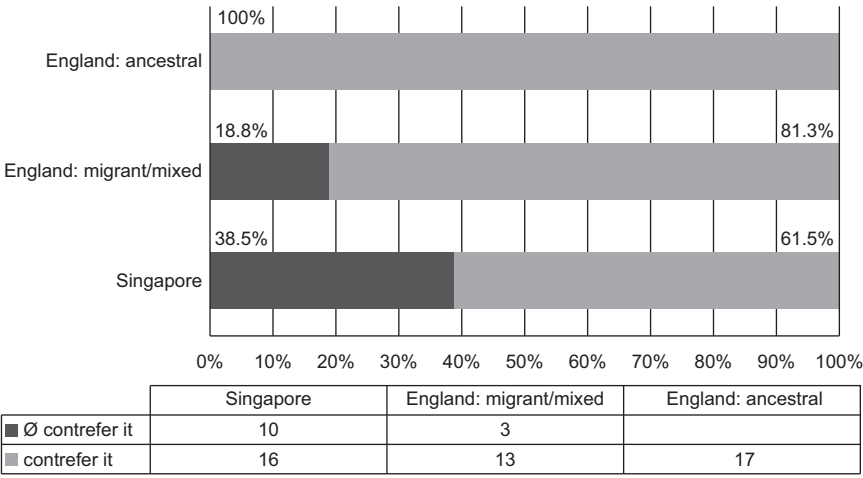


Figure 6.5 Zero vs. realized contextual referential *it* according to country/speaker group

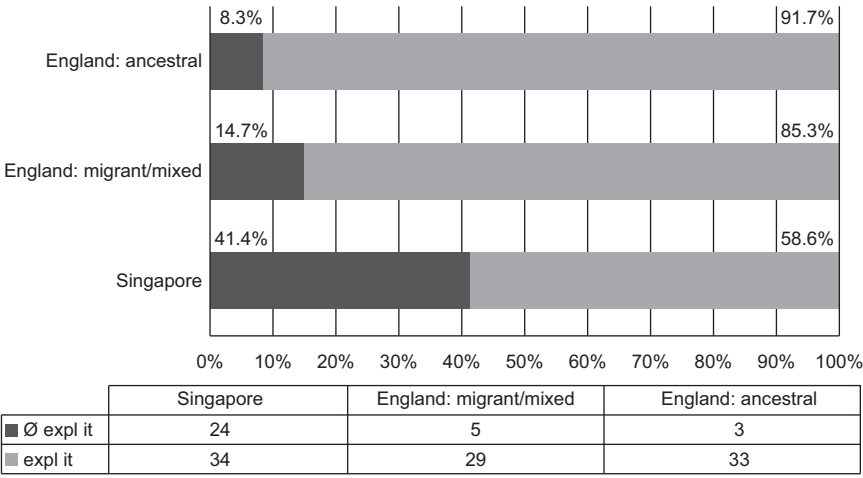


Figure 6.6 Zero vs. realized expletive *it* according to country/speaker group

Results for the realization of demonstrative pronouns as subjects are again quite different, and zero pronouns are even lower than for the referentials across groups. Still, the Singapore group exhibits the highest percentage of zero demonstratives (5%), followed by the migrant/mixed group from England (3.6%), and the ancestral group (1.1%). Consider Figure 6.7 for illustration.

In terms of the distribution of pronouns, the analysis has revealed that *those* was not attested at all in the corpus and that *these* appears only in its realized form.²

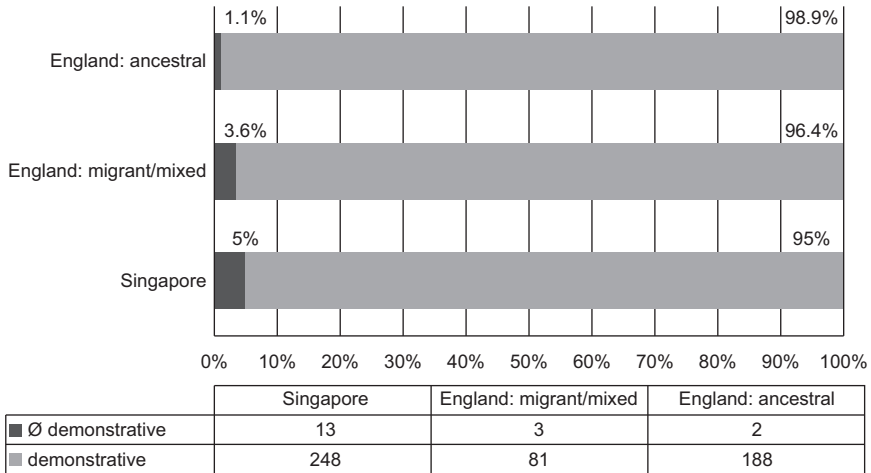


Figure 6.7 Zero vs. realized demonstratives according to country/speaker group

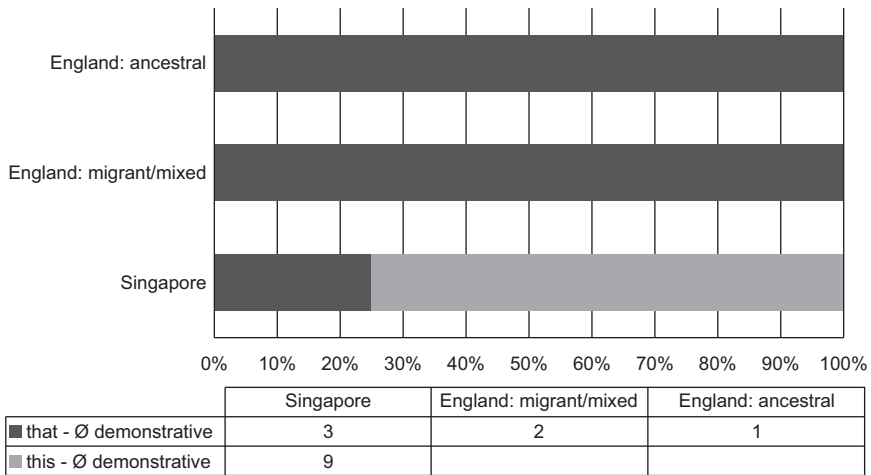


Figure 6.8 Zero demonstratives according to country/speaker group: distribution of subtypes

Figure 6.8 illustrates how *this* and *that* distribute in their zero forms. Token frequencies are extremely low, which is why I refrain from speculating on why zero *this* occurs only in the Singapore data. In general, we have seen that zero demonstrative pronoun use is higher in Singapore than in England, where it has been shown to be extremely low (only five zero realizations, out of 274 instances in both groups from England all in all), which might also be the reason for the absence of zero *this*.

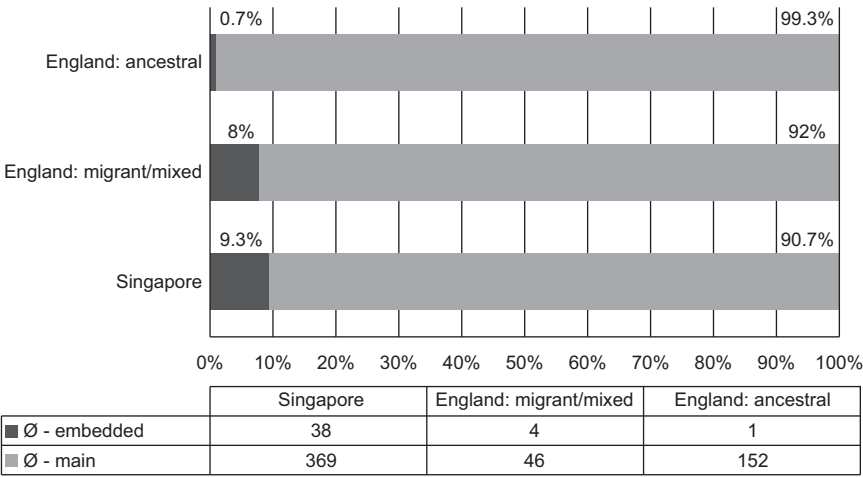


Figure 6.9 Zero pronouns (all types) according to country/speaker group: main vs. embedded clauses

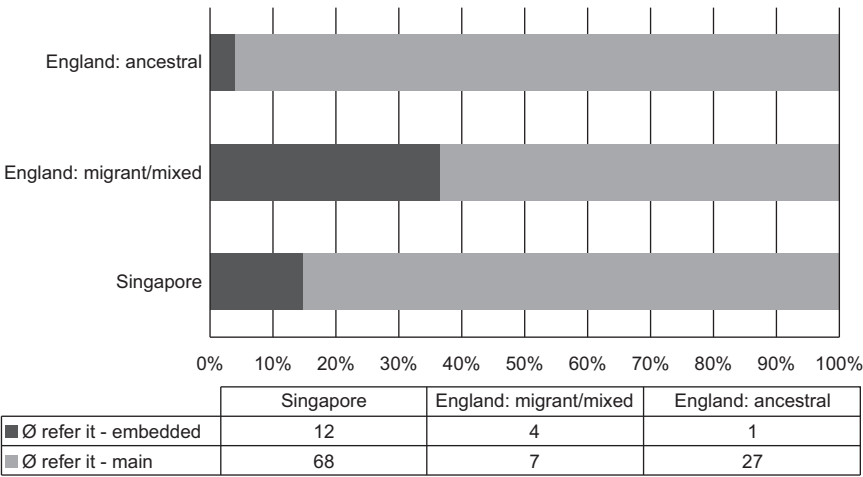


Figure 6.10 Zero referential *it* according to country/speaker group: main vs. embedded clauses

Another very interesting difference between the groups is evident in the use of zero referential subjects in main vs. embedded clauses. As Figure 6.9 reveals, the Singapore group uses zero subjects in embedded clauses to the highest extent (9.3%), followed by the migrant/mixed group (8%), and – at some distance – the ancestral group (0.7%). What is interesting here is that, as the more detailed results show (see Figure 6.10), the few instances of zero pronouns in embedded

clauses used by the migrant/mixed group from England as well as the ancestral group are all instances of zero *it*. For all other types, the two groups' rates of zero subjects in embedded clauses amount to 0%.

This should not be overinterpreted, though, due to the low token frequencies. Still, the exclusive restriction of zero pronouns to referential *it* for the two groups, which otherwise do not produce a zero subject in embedded clauses at all, is striking. Examples (222) to (226) illustrate the five instances found in the data:

- (222) Kat (3;2, female, ancestral English): Yeah. # This one is very spreading out. [=Sarah turns the card] Let's do on XX down. And you don't see anything, he might tell your mommy what [Ø it] is.
- (223) Musya (4;4, female, migrant English): No, because [Ø it] is too tro& [//] strong.
- (224) Musya (4;4, female, migrant English): And that one. Because [Ø it] is too strong. But this one can # do it.
- (225) Musya (4;4, female, migrant English): No, 'cause [Ø it] is too big in his tummy.
- (226) Sveta (4;7, female, migrant English): 'Cause [Ø it] is b& with bricks.

Example (222) is the only zero subject pronoun found in an embedded clause for the ancestral English group and might easily just be an idiosyncratic utterance, if not a slip of the individual child. The remaining four examples come from two children with migrant backgrounds growing up in England. Both children have languages that license zero subjects as their other L1s: Italian, spoken as the other L1 by Sveta, is one of the classical pro-drop languages, in which subjects can be omitted in basically any clause type. Russian, spoken by both Sveta and Musya as their other L1, has been argued to be a partial pro-drop language in that it allows null subjects but under more restricted conditions than in consistent null-subject languages like Italian (Bizzarri, 2015, p. 335; Holmberg et al., 2009, p. 59). One of these conditions applies "when the subject is controlled by an argument in a higher clause" (Holmberg et al., 2009, p. 60), which is what pertains to Examples (223) to (226). However, transfer of this general condition alone cannot be the only cause for these exceptions. A certain systematicity seems to be in place here. All four missing pronouns are *its* with clear anaphoric reference to an antecedent NP, which makes them grammatically and contextually retraceable (and this basically corresponds to the situation described in the earlier quote). In addition to this syntactic/semantic explanation, phonological criteria might play a role here, as this is the only way of explaining why referential *it* can be zero in such clauses but not the other referential subjects. In this respect, the phonological weakness of *it*, together with the general tendencies of phonological reduction of *it's* into *is*, which appears to be facilitated by the preceding word-final sibilant of *because/'cause*, can be considered responsible.

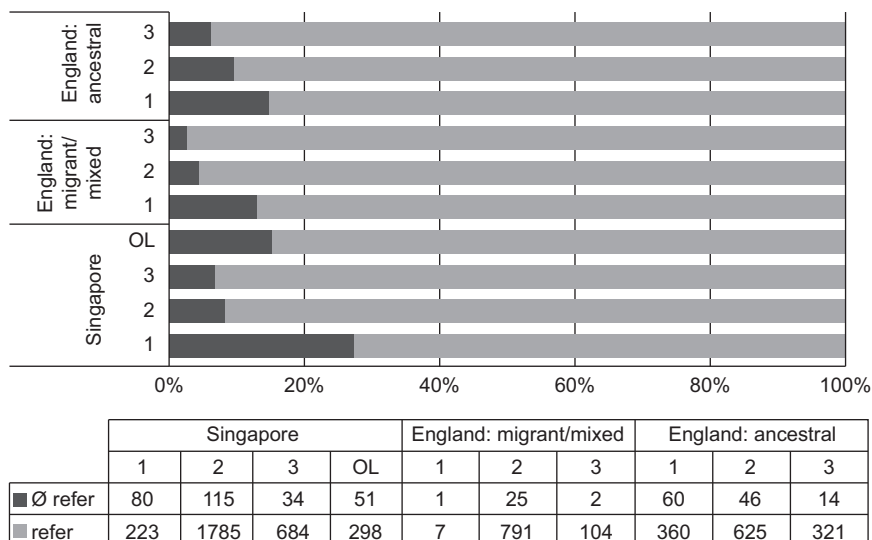


Figure 6.11 Zero vs. realized referential subjects according to MLU group and country/speaker group

Another parallel between the four examples is that they are all subordinate clauses that come as embedded structures in complex sentence structures that are produced without their matrix clause. It might thus also be that the children interpret these structures as main clauses, which is why they allow zero subjects in such constructions.

In general, and with the exceptions accounted for, the results for the two groups from England are in line with what has been reported for children acquiring a non-null-subject language, viz. that they do not use null subjects in embedded clauses. However, this observation does not hold for the Singapore group. When considering the fact that children acquiring a null-subject language use null subjects even in embedded clauses, do the results then suggest that L1 child SingE should be characterized as a null-subject language? This is an interesting question, particularly in light of the finding that zero subjects in L1 child SingE are not restricted to young children only (cf. Figure 6.11 and 6.13, and the discussion in the following section).

6.2 The influence of extra-linguistic factors: MLU group/age and ethnicity

For the analysis of the influence of age/MLU group as well as ethnicity in the Singapore group, I look into the effects of these factors on two of the subject types investigated earlier as examples: viz. referential subjects (because

they offer high token frequencies) and referential, contextual referential, and expletive *it* conflated into a general category “*it*,” because this type enhances the token frequencies and because the earlier results have revealed that the three types behave very similarly in the licensing of zero subjects.

MLU group/age has a clear influence on the realization of subjects in all three groups (see Figure 6.11). The children assigned to group 1 on the basis of their MLU values (and this roughly includes children below the age of 4 and of Brown’s stages 1 to 4) clearly produce the highest rate of zero subjects (26.4% in the Singapore group, 14.3% in the ancestral English group, and 12.5% in the migrant/mixed group from England). Percentages decrease in all three groups but remain strongest in Singapore (7.7% in Singapore, 4.2% in the ancestral English group, and 1.9% in the migrant/mixed group from England by the time they reach MLU group 3). It is interesting here that the rate of zero subjects is lower in all three MLU/age groups in the migrant/mixed group than in the ancestral group. This might be due to positive cross-linguistic influence – more precisely, an adjuvant effect for children acquiring another non-null-subject language as their L1 (here: German). This is a particularly likely explanation for group 3, where the data come from one girl who has German as her first and actually dominant language. In group 2, however, there are also children who have null- or partial null-subject languages as their L1, which might have a negative or delaying influence on the realization of subject pronouns. What is more, these differences might once more be motivated by the exact age distributions in the individual groups, viz. lower age means/medians in age groups 2 and 3 of the migrant/mixed group than in the ancestral groups.

All in all, the outliers in the Singapore group produce a much higher rate of zero subjects than their age-matched peers. Figure 6.12 illustrates the distribution of zero subjects among these individual children. Jenny is the exception here. She does not produce a single zero subject despite her low age-matched MLU values. Cass produces zero subjects at a rate of 14.3% and thus clearly ranges above the average of zero subjects for the Singapore group, despite over-average age-matched MLU values. This suggests that even though the use of zero subjects is influenced by age in the Singapore group, at least to some extent, it (more importantly) varies among individual children of different ages and MLUs (for a detailed account, see Figure 6.15). Subject realization is therefore not necessarily contingent on age or MLU. It is a general feature of L1 child SingE that involves strong inter-speaker variation guided by age but also, more importantly, by individual language use. Stylistic variation might be an explanation for children’s language choices in general, but this should not have too strong of an influence here because the data for all children were collected under similar conditions and by means of the same data collection procedures.

The results for zero vs. realized *it*, presented in Figure 6.13, confirm the previous observations, although the percentage of zero pronouns is much higher.

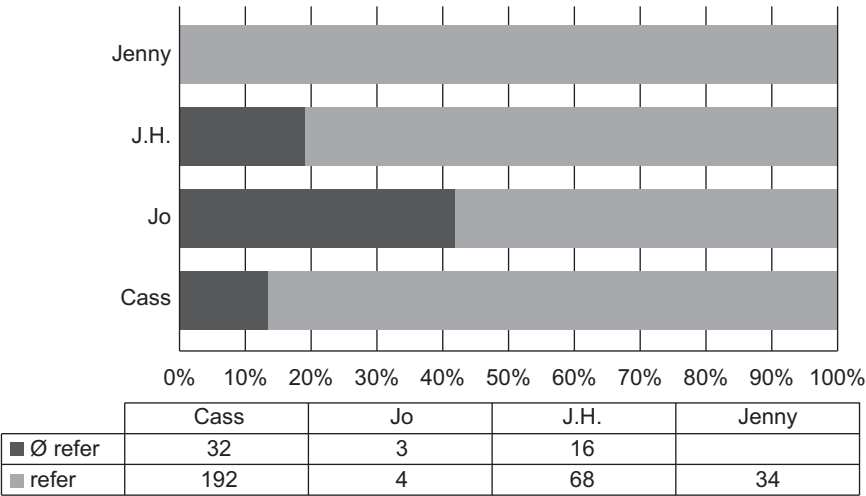


Figure 6.12 Subject realization with referential subjects by MLU outliers

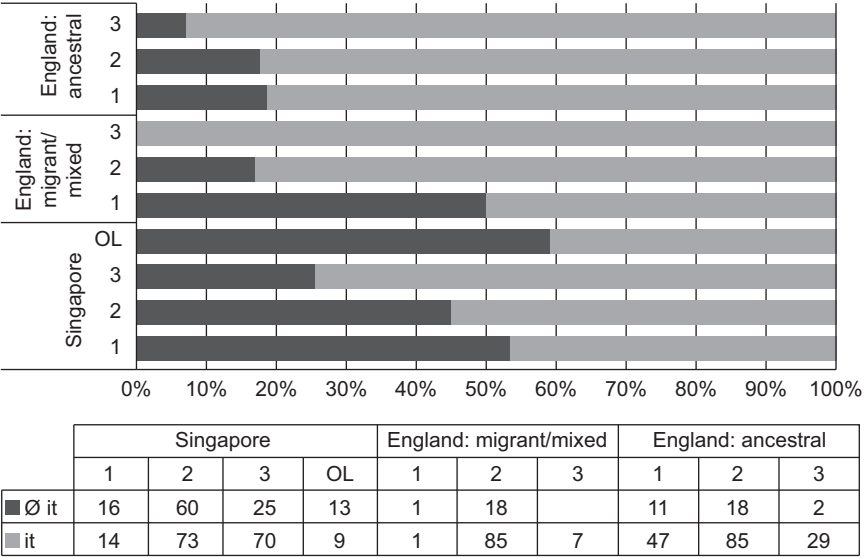


Figure 6.13 Zero vs. realized *it* (all types) according to MLU group and country/speaker group

Again, an age effect can be observed in all three groups. In the groups from England, zero pronouns decline drastically with age, disappearing after the age of seven. The few zero pronouns left can safely be classified as age-related acquisition remnants. In Singapore, however, 26.3% of all *its* still occur as

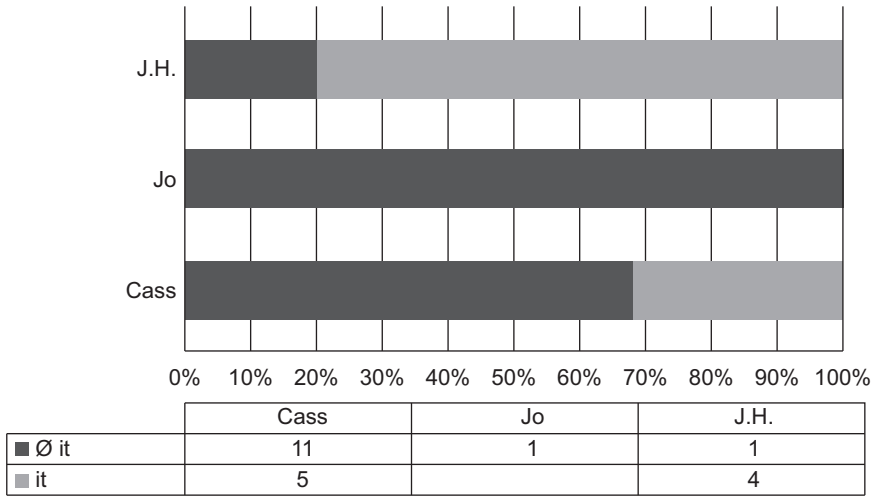


Figure 6.14 Subject realization with *it* (all types) by MLU outliers

zero pronouns in group 3. This definitely cannot be classified as an acquisitional remnant; rather, it must be interpreted as evidence of a stable presence of zero pronouns in the repertoire of L1 child SingE. The outliers again show especially high numbers of zero pronouns (see Figure 6.14). Jenny did not produce a single *it* token, whether realized or zero. The other children produced zero *its*, though their token numbers are very low. Still, the results confirm the trend observed previously, viz. that the licensing of zero pronouns is not necessarily bound to age or MLU effects and that subject realization is heterogeneous in itself and much depends on individual language use.

Figure 6.15 illustrates the individual realization of zero subjects (all types) according to age in months. The observations made earlier are all confirmed here: a general decline in the use of zero forms can be observed for all three groups (in the linear trendlines). However, as the earlier results have revealed, there are important differences in the acquisitional “outcomes,” viz. in the realization of subject pronouns in the older children. What is more, the results clearly show that individual variation in Singapore is remarkable, with the use of zero subjects ranging from 0% to 50%.

Last but not least, I take a closer look at the ethnic differences among the Singaporean participants of my study, with a focus on comparing the Chinese and Indian groups. The data for the Singaporean mixed group come from one child only and therefore should not be overinterpreted in relation to the group results. Still, I report and discuss her results here because the results from individual children are just as valuable as group data for our understanding of language acquisition processes and patterns (cf. Section 3.1.3).

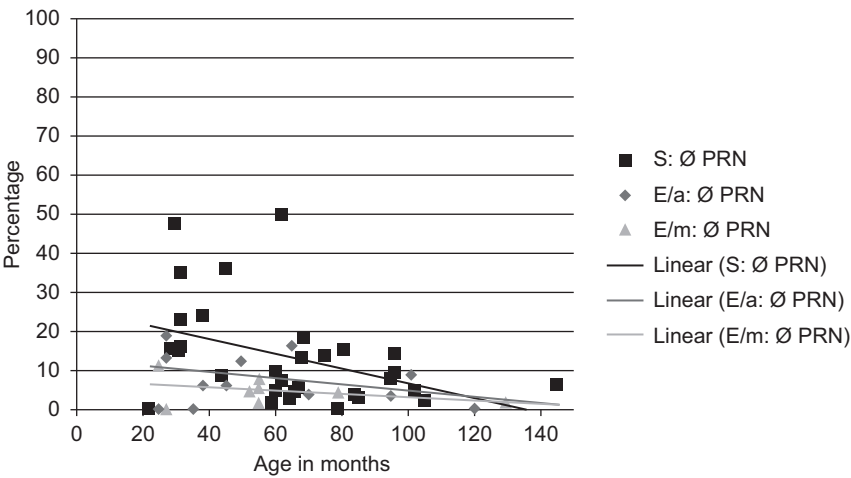


Figure 6.15 Zero subjects (all types) by individual participant/age

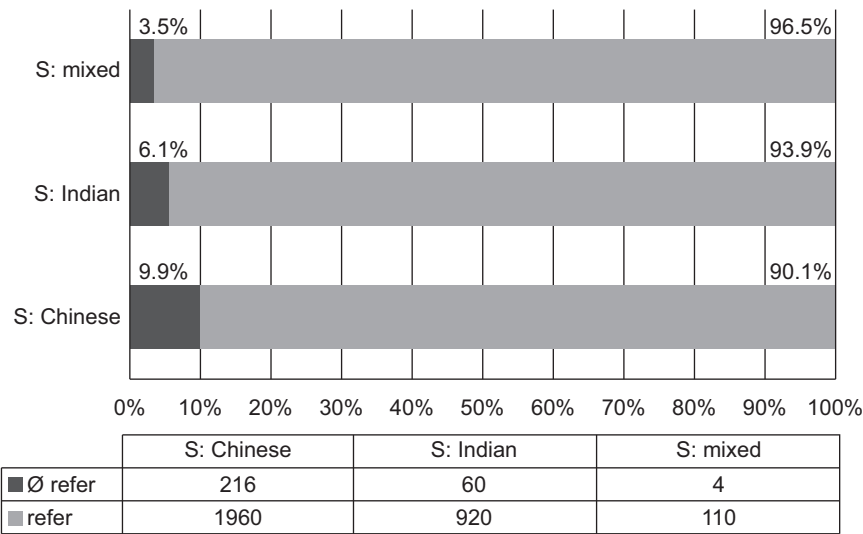


Figure 6.16 Subject realization with referential subjects according to Singapore ethnicity/speaker group

As Figure 6.16 illustrates, the Chinese group has the largest share of zero referential subjects, which comes close to 10% of all subjects of this type. The amount of zero referential subjects for this group is therefore slightly higher than the overall average for the Singapore cohort (cf. Figure 6.2). For the

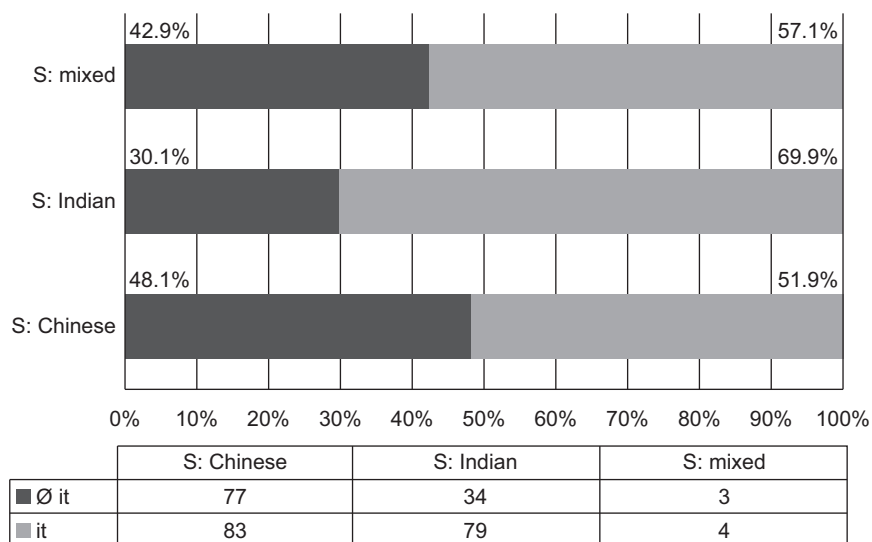


Figure 6.17 Realization of subject *it* (all types) according to Singapore ethnicity/speaker group

Indian group, it is slightly below average. The child of mixed ethnic origin (Enen, female, 5;7) employs the lowest amount of zero subjects (3.5%) and thus clearly falls below the overall Singapore average. This might be due to the individual variability that has been observed as one of the strongest characteristics of L1 child SingE. An alternative interpretation lies in the age of onset of her other first language, Mandarin Chinese. In contrast to most other children, she started to acquire the language at only 1;6. Therefore, any potential cross-linguistic influence from Mandarin (a null-subject language) that could have reinforced the zero subject option on the basis of structural overlap and ambiguous input (cf. Hulk & Müller's [2000] structural overlap/ambiguity hypothesis) set in later in this particular child and might therefore have had a weaker effect.

The ethnically stratified results for the realization of *it* (all types) shown in Figure 6.17 confirm the earlier observation that the Chinese group shows the highest amount of zero subjects. For *it*, the percentage of zero subjects comes close to 50%. The Chinese group is therefore clearly above the overall Singapore average (cf. Figure 6.4, Figure 6.5, and Figure 6.6). The Indian group is, again, clearly below the Singapore average, but this time, the child of mixed ethnicity shows values of zero pronoun realization similar to the Chinese group. This makes sense in principle, as the girl is acquiring Mandarin as her other language; however, this finding runs counter to the results for the referential subject pronouns. An alternative interpretation is that this points toward child-internal variability and away from the age-of-onset related cross-linguistic interpretation brought forward earlier.

6.3 Reporting the statistical results

Turning to the results of the mixed-effects model, I first look into the standard deviation of the random factor CHILD. Recall that the standard deviation indicates the degree to which individuals within the sample differ from the sample mean and that the smaller the standard deviation, the less heterogeneous the population and the better the fixed factors explain the model. As Table 6.2 illustrates, the standard deviation of the random effect CHILD is distinct but not extremely high.

In terms of the fixed effects, Table 6.2 shows that ETHNICITY, PRONOUN TYPE, and MLU GROUP have a significant influence on the realization of subject pronouns. Unfortunately, I cannot report all the results in detail (here and in Sections 7.4 and 8.5; but see Buschfeld & Schneider, in prep.), but I present the most important findings for the interpretation and discussion of my data in a nutshell: for children from Singapore, the likelihood of dropping the subject pronoun is clearly stronger than for the children growing up in England; it is indeed strongest for the Chinese Singaporeans. What is more, pronoun type plays a significant role as well, with the likelihood of zero realization clearly increased in the case of *it*. An increase in age/MLU group, on the other hand, has a decreasing effect on the likelihood of the occurrence of zero pronouns.

In that respect, post-hoc testing revealed a significant contrast between MLU groups 1 and 2 as well as 1 and 3, the latter being especially strong (see Table 6.3).

Similarly, the more detailed post-hoc results for pronoun type confirm the previous observation that *it* is particularly prone to zero realization (see Table 6.4).

Table 6.2 R output of the generalized linear mixed-effects model (subject realization according to ethnicity/group)

<i>Random effects:</i>				
<i>Groups</i>	<i>Name</i>	<i>Std.Dev.</i>		
<i>CHILD</i>	<i>(Intercept)</i>	<i>0.583</i>		
Number of obs: 5,675; Groups: CHILD, 46				
<i>Fixed effects:</i>				
	<i>Estimate</i>	<i>Std. Error</i>	<i>p-value</i>	<i>Dec</i>
(Intercept)	-2.14474	0.29167	1.93E-13	***
Ethnicity/group: England-migrant	-0.33816	0.40648	0.40545	ns
Ethnicity/group: England-mixed	-0.08781	0.53719	0.87015	ns
Ethnicity/group: Singapore-Chinese	0.66548	0.26387	0.01167	*
Ethnicity/group: Singapore-Indian	0.12499	0.32782	0.70301	ns
Ethnicity/group: Singapore-mixed	-0.2924	0.78321	0.7089	ns
PRN: I	0.05865	0.16949	0.72929	ns
PRN: it	1.88255	0.17626	< 2e-16	***
PRN: she	0.41812	0.20873	0.04516	*
PRN: they	0.07686	0.27888	0.78285	ns
PRN: we	-1.09369	0.39438	0.00555	**
PRN: you (sing.)	-0.78085	0.31865	0.01426	*
MLU group 2	-1.08403	0.26831	5.34E-05	***
MLU group 3	-1.45788	0.31158	2.88E-06	***

Table 6.3 Post-hoc results (significant contrasts, MLU group)

<i>Contrast</i>	<i>Estimate</i>	<i>Std. Error</i>	<i>p-value</i>	<i>Dec</i>
group 1 – group 2	0.868745	0.314605	0.0159	*
group 1 – group 3	1.30723	0.327214	0.0002	***

Table 6.4 Post-hoc results (significant contrasts, PRN)

<i>Contrast</i>	<i>Estimate</i>	<i>Std. Error</i>	<i>p-value</i>	<i>Dec</i>
he – it	–1.89887	0.177103	<.0001	***
I – it	–1.83548	0.139351	<.0001	***
I – we	1.144223	0.37569	0.0376	*
it – she	1.48866	0.194136	<.0001	***
it – they	1.812083	0.263102	<.0001	***
it – we	2.979702	0.382867	<.0001	***
it – you [(sing)]	2.66248	0.303821	<.0001	***
she – we	1.491041	0.402432	0.004	**
she – you (sing.)	1.17382	0.328269	0.0064	**

Most of the contrasts returned as significant involve PRN *it* again. This once more confirms the outstanding behavior of *it* when it comes to its potential for zero realization in comparison to the other pronouns, as already reported in the descriptive statistics earlier. These findings are fully corroborated by the tree analysis.

As Figure 6.18 illustrates, pronoun type is actually the strongest predictor for the realization of subject pronouns, with all three types of *it* investigated behaving significantly differently from the referential and demonstrative pronouns, viz. they have much higher zero rates than the other two types. Still, ETHNICITY/GROUP and MLU GROUP play significant roles as well, and several splits can be observed along these lines. In terms of differences according to ethnic group, we see that the Chinese Singaporeans (and the mixed group) behave in significantly different ways than the rest of the children. Interestingly – but not surprisingly, as this is what I had already inferred on the basis of the descriptive results – the Indian Singaporeans cluster with the groups from England. All in all, zero subjects occur most frequently with the Chinese (and mixed) Singaporeans in MLU groups 1 and 2 and with the outliers. Group 3 (i.e., school-aged children) behaves in significantly different ways from the other two groups. Formal schooling thus seems to have an influence on the realization of subject pronouns; in other words, the children seem to become more formal in their linguistic productions after they have started school.

The accuracy measure indicates a very good fit of the model with the data (0.91149). However, further computation considering the distribution of the data has revealed that, even though the predictive accuracy of the model is higher than chance prediction, its explanatory power is rather low, i.e., fluctuations due to additional factors that our model does not respect are high.

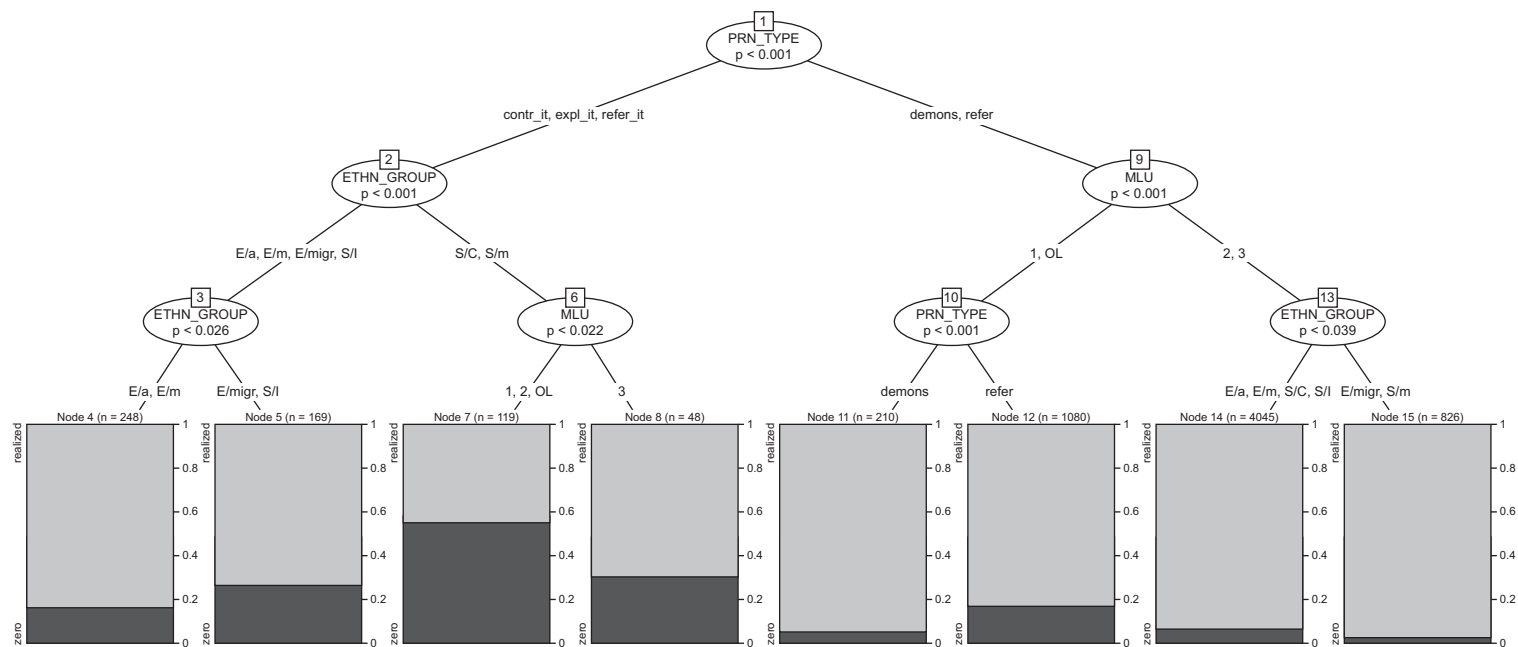


Figure 6.18 Ctree analysis (subject realization)

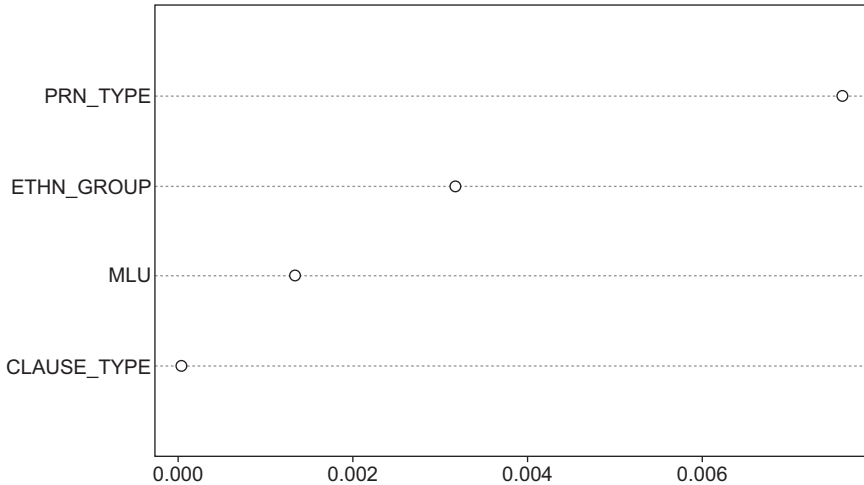


Figure 6.19 Random forest (subject realization)

The Kappa value, which expresses the relative improvement over chance prediction, is 0.0995014752 (9.95%).

This is, of course, also true for the random forests I grew (accuracy = 0.9116382506; Kappa = 0.0418006432 [4.18%]). Still, it nicely summarizes – and thus reinforces – the earlier observations. Once more, clear trends show: pronoun type is by far the strongest predictor, followed by ethnicity/group and MLU group (see Figure 6.19).

6.4 Discussion and summary

As the analysis has revealed, L1 child SingE is characterized by the variable use of zero subjects of all personal pronoun types. The demonstratives *this* and *that* also occur in their zero forms. The pronouns, especially their zero realizations, are all used to very different extents and with much variation among and within individual children. Still, the realization of zero vs. realized pronouns does not occur totally at random. Several intra- as well as extra-linguistic criteria play a role for the licensing of zero subjects in Singapore.

The grammatical criteria (intra-linguistic criteria) that have been identified as playing a role are “type of subject pronoun” and “clause type.” However, the latter was not returned as significant for the realization of subject pronouns in the statistical analyses. In terms of the former, the rate of zero subjects is exceptionally high for *it* of all three types (referential, contextual referential, and expletive). It hovers around 40% for the overall group of Singaporeans. Bringing in extra-linguistic criteria, viz. stratifying the results according to Singaporean ethnicity, has shown that percentages of zero *it* for the Chinese group are much higher (48.1%) than for the Indian group (30.1%). Statistical testing has

revealed that Singaporean ethnicity is indeed a strong predictor. The Chinese group in particular shows a strong likelihood for the use of zero subjects.

The rate of zero referential subjects and of zero demonstrative pronouns is much lower. This can be interpreted in terms of semantic and grammatical meaning and complexity. All pronouns with clear semantic and grammatical reference have lower zero subject rates. Among the referential pronouns, *I* has the highest rate of zero subjects; this is to be expected, because *I* is almost always easily retraceable from the context (one of the main criteria for zero subject licensing in any kind of null-subject language). The mixed-effects models somewhat confirm this observation. Even though PRN *I* was never returned as significant, the estimate in Table 6.2 is positive and implies a generally higher inclination of *I* toward zero realization than for many of the other pronouns.³ The ctree and random forest (see Figure 6.18 and Figure 6.19) confirm the statistical impact of pronoun type in that they both identify it as the most important predictor for subject realization.

The rate of zero subject pronoun realization is highest for the semantically empty “dummy *it*” (expletive *it*). This comes as no surprise considering that these forms have no reference. Their only function is to occupy the subject position in a language that traditionally requires a subject pronoun for full grammaticality (cf. Valian, 2016, p. 387). Similar findings have been reported for children acquiring one of the traditional varieties of English as an L1 (e.g., Valian, 2016, p. 400). This observation also accounts for the slightly higher rate of zero *it* in my data from England (when compared to the realizations of the other pronoun types). What is conspicuous, though, is that the differences between expletive *it* and the other two types of *it* are marginal and that referential *it* behaves so differently from the other referential pronouns. This observation is interesting because the three types of *it* are so different in terms of their degree of anaphoric reference and semantic meaning. The similarities in behavior must therefore be due to the phonological similarities between the three types.

Another grammatical criterion that plays a role in the acquisition and realization of subject pronouns and that constitutes a difference between children growing up in England and the Singapore group is clause type (though this factor has not been returned as significant by any of the analyses). The results have revealed that, whereas both the ancestral English as well as the migrant/mixed group from England do not produce zero subjects in embedded clauses (apart from the very few exceptions discussed earlier), Singaporean children make use of zero subjects in both main and embedded clauses. Valian (2016) argues that the fact that BrE/AmE tensed embedded clauses do not allow zero subjects suggests that children (acquiring BrE/AmE) “know the requirements for subjects” (p. 399). When we turn the argument around, this does, however, not suggest that Singaporean children do not know the requirements for subjects. This way of argumentation would be too deficit-oriented. Together with the general finding that Singaporean children make use of zero subjects even at later stages of language acquisition, I interpret this finding as evidence for the fact that the Singaporean children might acquire a typologically different system that allows zero subjects in embedded clauses. Is SingE

developing into a (partial) null-subject language, then? This has indeed been suggested for L2 CSE (e.g., Alsagoff & Ho, 1998; Gupta, 1994; Platt & Weber, 1980), but the question is multi-layered and speculative. Our answer depends not only on our general theoretical conceptions of languages (e.g., on whether we assume that the pro-drop parameter is strictly binary or whether we accept the existence of partial null-subject languages) but also on the mechanisms of language change and future developments in Singapore (cf. Buschfeld, in prep.).

For the current status of L1 child SingE, the findings leave two possible interpretations: (1) L1 child SingE is still an unstable system where both options, viz. zero vs. realized subjects, are used interchangeably due to the heterogeneous input. Their realization depends on the intra- as well as extra-linguistic factors discussed earlier but is still rather unsystematic. (2) L1 child SingE is still under development but is not as unsystematic as the results might suggest at first glance. The systematic differences between the pronoun types and the significant effect of ETHNICITY/GROUP can be interpreted as indicative of such an interpretation. This in turn can be interpreted as indicative of the fact that L1 child SingE has the status of a partial null-subject language, as has been suggested for other languages such as Russian (cf. Bizzarri, 2015), Brazilian Portuguese, Finnish, and Marathi (Holmberg et al., 2009; cf. Section 4.1.2). Indeed, some of the earlier observations further reinforce such an interpretation. The licensing of zero subjects in embedded clauses, for example, satisfies the following condition formulated for Marathi by Holmberg et al. (2009), according to which null subjects occur “when the subject is controlled by an argument in a higher clause” (p. 60). Whether the subject is spelled out in such languages depends on whether the pronoun in question is controlled by an adjacent referent in the main clause or whether it refers to a person outside the immediate grammatical construction. However, such so-called principles of locality and c-command have been challenged for languages such as Russian (e.g., Bizzarri, 2015, p. 358), for which the use of subjects is apparently less restricted than for other partial null-subject languages but more restricted than for the prototypical ones. From a theoretical perspective, these findings challenge the often assumed binarity between null- and non-null-subject languages (see also Valian, 2016, p. 388) and suggest that the categorization is less straightforward and clear-cut has long been assumed in generative theorizing (cf. Bizzarri, 2015, pp. 358–359). This is an important caveat for the present study because it allows a categorization of L1 child SingE without employing a deficit-oriented perspective or approaching it as a necessarily immature system. But although this approach as such is compelling, I cannot conclusively determine the status of L1 child SingE. On the one hand, a certain degree of systematicity can be observed in the data presented earlier. On the other hand, the inter- and intra-speaker variability observed in the data point toward unsystematicity, which lends itself to the interpretation that L1 child SingE is a system still “in the making,” for which no ultimate rules for the realization of subjects can be formulated. The present study did not focus on the detailed investigation of such intra-linguistic rules. Future research might shed light on the issue.

Bao (2015, pp. 58–65) offers another potential explanation for the apparently unsystematic manifestations of zero subjects found in the data, this time from the World Englishes perspective. His account is reminiscent of what has been suggested with respect to cross-linguistic influence/transfer by Language Acquisition research (cf. Section 3.1.1). He argues that SingE has inherited entire grammatical subsystems from Chinese via filtered but systemic transfer. Even though his explorations are geared toward the aspectual system of CSE, his account of an interaction of *SysTRANS* (*SYSTEM TRANSFER*) and *LexFilter* (*LEXIFIER FILTER*) in the emergence of high-contact varieties like SingE is easily transferable to the domain of zero subject licensing. I briefly provide Bao's (2015) definitions of the two domains before applying his approach to the subject domain:

SYSTEM TRANSFER (SysTRANS)

Substratum transfer involves an entire grammatical subsystem.

LEXIFIER FILTER (LexFilter)

Morphosyntactic exponence of the transferred system conforms to the (surface) structural requirements of the lexical-source language.

(Bao, 2015, p. 59)

According to such an account, the null subject property from Chinese has been transferred to SingE (*SysTRANS*) but not completely, as the transferred grammatical property does not conform to the morphosyntax of Standard English. This indeed constitutes a possible explanation for why SingE appears to be a hybrid case when it comes to the null subject parameter, viz. why it licenses overt as well as zero subjects without any of the two options being the clear exception. Because *LexFilter* ranks higher than *SysTRANS*, it is not surprising that SingE has not turned into a consistent null-subject language. It licenses null subjects due to *SysTRANS*, from Chinese (and probably also from the other null-subject input languages Singaporeans have at their disposal) but must meet the requirements of the lexical source language, English, which requires the use of overt subjects. In theoretical terms, his account comes very close to the lexical overlap/ambiguity hypothesis suggested by Hulk and Müller (2000), particularly because Bao (2015, pp. 61–62), too, builds much of his argument on structural overlap/ambiguity.

The stratification of the results according to MLU group/age has revealed that Hypotheses 1a and 1b are completely validated. MLU group has been returned as a strong predictor for the realization of subject pronouns by all statistical analyses. The use of zero subject pronouns by the very young participants in my study (group 1) across the three major groups investigated is in line with research on the acquisition of BrE/AmE (e.g., Roeper & Rohrbacher, 2000; Scott, 2005; Valian, 1991; Wang et al., 1992). As Figure 6.11 and Figure 6.13 illustrate, the rate of zero subjects in MLU group 1 is higher in the Singapore cohort than in the children from England. This is not surprising when considering the differences in the input the children receive. In terms of the results for MLU groups 2 and 3, Figure 6.11 and Figure 6.13 reveal yet another difference: in

the children from England, the use of zero subjects is transitional; the children ultimately realize subject pronouns consistently. My data have also revealed a decrease in zero subject pronouns as age increases in the Singapore group. However, the Singaporean children generally retain these forms to a certain extent, be it because of Bao's SYSTRANS and LEXFILTER explanation, structural overlap/ambiguity between the languages the children acquire in the multilingual context (cf. Hulk & Müller, 2000), or simply because of the variable input they receive. These potential explanations are, at any rate, not that dissimilar. They differ only in how much underlying systematicity they ascribe to both the mechanisms and the outcomes of the acquisition process. In turn, this relates to what has been briefly discussed earlier, viz. whether L1 child SingE can be interpreted as a rather unsystematic system still in the making, though clearly developing toward null-subject language status; as a partial null-subject language; or simply as completely unsystematic.⁴ Whatever interpretation one follows and how much systematicity one accredits to the system, the status of zero subjects as a stable characteristic of L1 child SingE is uncontroversial.

Hypothesis 1c, however, is not validated because the results clearly attest inter-ethnic differences between the Indian and Chinese children from Singapore. Even though cross-linguistic effects cannot be ruled out completely, as the languages in the Chinese and Indian children's linguistic repertoires are different types of null-subject languages, the structural overlap/ambiguity at the surface level as envisaged by Hulk and Müller (2000) must be very similar for the different language pairings. If not motivated by structural overlap/ambiguity, what else do the inter-ethnic differences result from? Does the Indian group simply show a stronger orientation toward more formal, standard language use, and do the children simply follow suit in terms of what the parents do? This is not unlikely if we accept that input plays an important role in language acquisition and that language attitudes on the side of both parents and children are of much more relevance in first language acquisition than has long been assumed.

As shown in Chapter 2, the Singaporean government plays an important role when it comes to language attitudes and norm orientation in Singapore. It still actively propagates the use of Standard English. Educational status, in particular, is often associated with standard language use, and Singaporeans from the educated social strata are equipped with the ability to use the more standard forms of SingE (e.g., Alsagoff, 2007, p. 39). Because Indians have a long tradition of occupying academic professions in Singapore and elsewhere (e.g., Schneider, 2007, p. 147), it may well be that they indeed show a stronger orientation toward the standard variety in general and use it among themselves. This, however, does not suffice as the sole interpretation, as the children of Chinese ethnicity in my study also come from families with an academic background. I suppose the answer lies in the historical roots of L1 SingE. As the census data indicate (cf. Section 2.3.3), Indian Singaporeans – and more precisely, the educated elite of Indian Singaporeans – were at the forefront of using SingE as a home language, and it is safe to assume that they have always used the more standard realizations of SingE and passed them on to their children.

Chinese Singaporeans have been catching up with this trend (i.e., using English as a home language) only in more recent times, after the phenomenon had lost much of its elitist and therefore standard-oriented character. Therefore, the inter-ethnic differences in subject pronoun realization detected in the study at hand might indeed relate to differences in group-internal language attitudes and norm orientation. However, this cannot only be attributed to the educational status of individual speakers; rather, it appears to be a group phenomenon rooted in the historical origins of L1 SingE. The diachronic dimension sketched out here is also in line with recent findings of First Language Acquisition research. It has been shown that, even for young children, language use might depend on their attitudes toward the users of a particular language and “the values that we associate with the labels we name it [the language] with” (Carroll, 2017, p. 12). The more pronounced use of standard realizations might therefore indeed be explicable as the result of continuing old linguistic habits rooted in the parents’ and grandparents’ generations.

Last but not least, the results of the subject pronoun study have rendered Hypothesis 1d valid. Individual variation is particularly strong in the case of Singapore, even stronger than in the traditional L1 English-speaking context. Despite the huge inter-speaker variability, the generalizations on the influence of MLU group/age and ethnicity described earlier are mostly valid. This has been clearly confirmed by the statistical analyses.

Notes

- 1 This depends on the type of pronoun; not all children always produced all pronouns.
- 2 Note, however, that the categorization of these zero forms (and this also applies to some extent for the categorization of zero *it*) was not always straightforward. Unclear cases were marked as such and excluded from the analysis.
- 3 Note, however, that this is not necessarily only a feature of L1 SingE. *I* is also frequently omitted in colloquial speech by native speakers of the traditional L1 varieties of English.
- 4 However, note again that sociolinguistic research has convincingly shown that variation and variability are never random or unsystematic (and see my comments in Section 4.3).

7 The acquisition of past tense marking

The data for the past tense acquisition study come from forty-seven children all in all. Table 7.1 provides details on the distribution of participants and token types and numbers in the format introduced in Chapter 6. Perhaps one of the most striking initial observations is the clearly higher number of irregular verbs. This is, however, in line with what has previously been investigated in L1 research: irregular verbs are of higher token frequency in child-directed speech than are regular verbs, which is why they are acquired early in the language acquisition process and normally have comparatively high accuracy rates (cf. Section 4.2.2). The following results will shed light on the latter observation.

The investigation of past tense marking strategies provides a clear picture, similar to the results of the subject realization analysis. As Figure 7.1 illustrates, conspicuous differences show between the Singapore group and the two groups from England. Whereas the Singaporean children omit past tense marking in close to 40% of all cases, the migrant/mixed groups have an omission rate of 21.9%, and the ancestral English group has a rate of only 9.2%. What is also interesting – if not surprising – to note in terms of the general results presented in Figure 7.1 is that the structure *LEXV+finish* occurs only in the Singapore group (even if at a rate of only 1.6%). This clearly attests the local character of this grammatical construction.

What is also striking are the clear differences between the three groups when it comes to overregularization structures, viz. the use of the regular past tense marker *-ed* on irregular verbs. The Singapore group makes use of this strategy at a rate of less than 2% of all cases; the migrant/mixed group from England, 5.6%; the ancestral English group, 7.2%. The finding that the ancestral monolingual children show a comparatively high degree of overgeneralization errors is in line with traditional L1 research. It has been identified as “one of the most frequent error types observed with monolingual children” (cf. Nicoladis et al., 2012, p. 461). For the present study, this lends itself to an important interpretation when it comes to the underlying processes in the acquisition of L1 SingE. The differences between the groups suggest a crucial difference in the acquisition – and probably in the processing – of past tense structures, which is again explainable on typological and especially acquisitional grounds.

Table 7.1 Summary tokens and participants, past tense study

<i>Regular verbs</i>				
	<i>Number of participants (total = 42)</i>	<i>Token number (total = 802)</i>	<i>Age (months)</i>	
			<i>Mean + standard deviation (SD)</i>	<i>Median</i>
Singapore: Chinese	16	336	67 (5;7) SD: 19 (1;7)	70 (5;10)
Singapore: Indian	8	133	80 (6;8) SD: 36 (3;0)	80 (6;8)
Singapore: mixed	1	17	67 (5;7)	67 (5;7)
England: ancestral	11	216	61 (5;1) SD: 32	50 (4;2)
England: migrant/ mixed	6	100	71 (5;11) SD: 30	55 (4;7)
Singapore: Chinese	19	678	64 (5;4) SD = 22 (1;10)	62 (5;2)
Singapore: Indian	9	353	75 (6;3) SD: 38 (3;2)	75 (6;3)
Singapore: mixed	1	27	67 (5;7)	67 (5;7)
England: ancestral	12	427	58 (4;10) SD = 33	48 (4;0)
England: migrant/ mixed	6	219	71 (5;11) SD = 30	55 (4;7)
<i>Irregular verbs</i>				
	<i>Number of participants (total = 47)</i>	<i>Token number (total = 1,704)</i>	<i>Age (months)</i>	
			<i>Mean + standard deviation (SD)</i>	<i>Median</i>
Singapore: Chinese	19	678	64 (5;4) SD = 22 (1;10)	62 (5;2)
Singapore: Indian	9	353	75 (6;3) SD: 38 (3;2)	75 (6;3)
Singapore: mixed	1	27	67 (5;7)	67 (5;7)
England: ancestral	12	427	58 (4;10) SD = 33	48 (4;0)
England: migrant/ mixed	6	219	71 (5;11) SD = 30	55 (4;7)

Due to the variable input Singaporean children receive and the fact that many of them acquire English in combination with Chinese, they seem to analyze and acquire the English tense system in a different way than the children from England, especially the ancestral children. The much lower frequencies of regularization, which itself is nothing more than an age- and acquisition-related overgeneralization of the productive regular past tense marking rule “put an *-ed* on a verb to make it refer to completed past tense actions,” can be interpreted as evidence that the Singaporean children do not approach the language in terms of its leftover synthetic structures but rather handle it analytically. They are therefore not tempted to overgeneralize synthetic rules (for potential inter-ethnic differences, see Section 7.1).

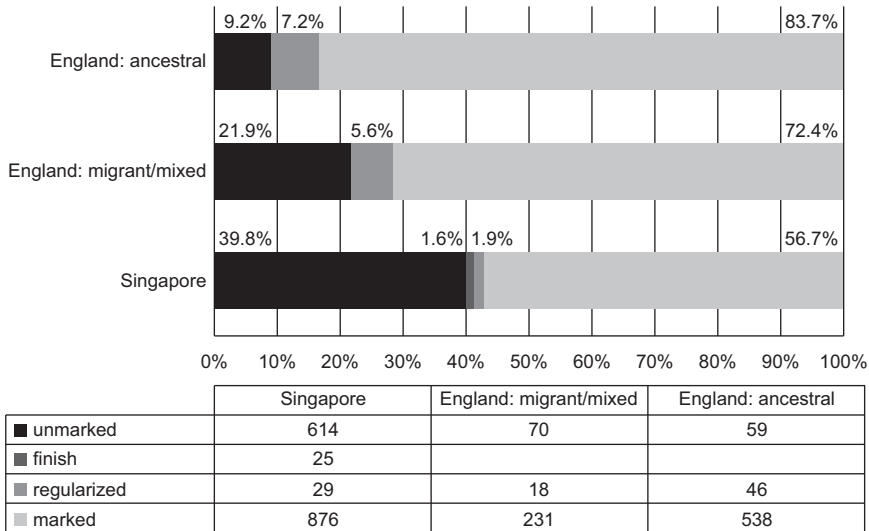


Figure 7.1 Unmarked vs. marked verbs (regular and irregular) according to country/speaker group

7.1 Regular and irregular verbs: the influence of intra- as well as extra-linguistic variables

Turning to the particulars of past tense marking strategies, the results show clear differences, both between regular and irregular verbs and also in terms of MLU group/age and the different ethnicities/groups investigated. When comparing Figure 7.2 and Figure 7.3, we see that the rate of unmarked verbs is nearly ten percentage points higher for regular verbs (46.3%) when compared to unmarked irregular verbs (36.8%). The two groups from England show clearly different results from the Singaporean group and are, at the same time, also clearly different from each other (i.e., 21% and 22.4% for regular and irregular bare verbs in the migrant/mixed group and 7.4% and 10.1% for the ancestral English children).¹

However, what is more interesting in the context of the present study is the comparatively strong difference between unmarked forms of irregular and regular verbs in the Singapore group, for which 36.8% of the irregular and 46.3% of the regular verbs are unmarked. The finding that Singaporean children perform more “accurately” with irregular verbs than with regular ones is perfectly in line with earlier findings from the acquisition literature (e.g., Nicoladis et al.’s [2012] results for Chinese-English bilinguals). That irregular verbs are favored for tense marking over regular verbs has also been reported in second language acquisition in general (Wolfram, 1985; Wolfram, 2013, p. 125) and for adult Chinese learners of English in particular (Goad et al., 2003; Hawkins & Liszka, 2003).

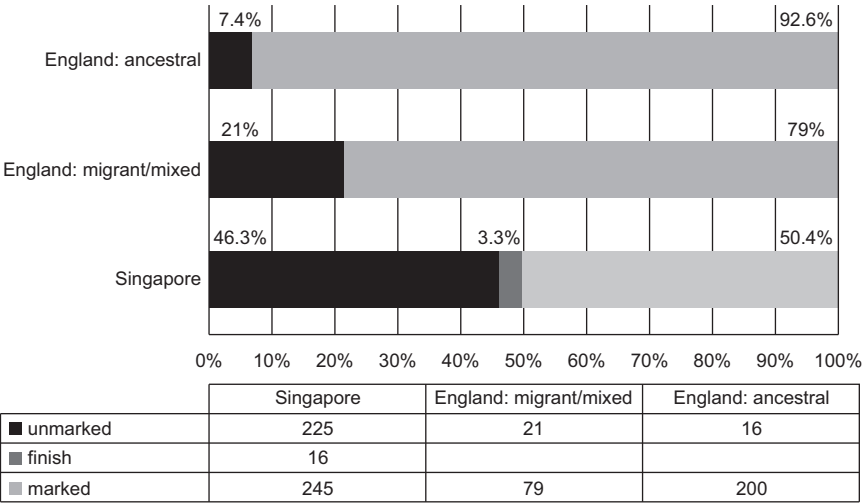


Figure 7.2 Past tense marking on regular verbs according to country/speaker group

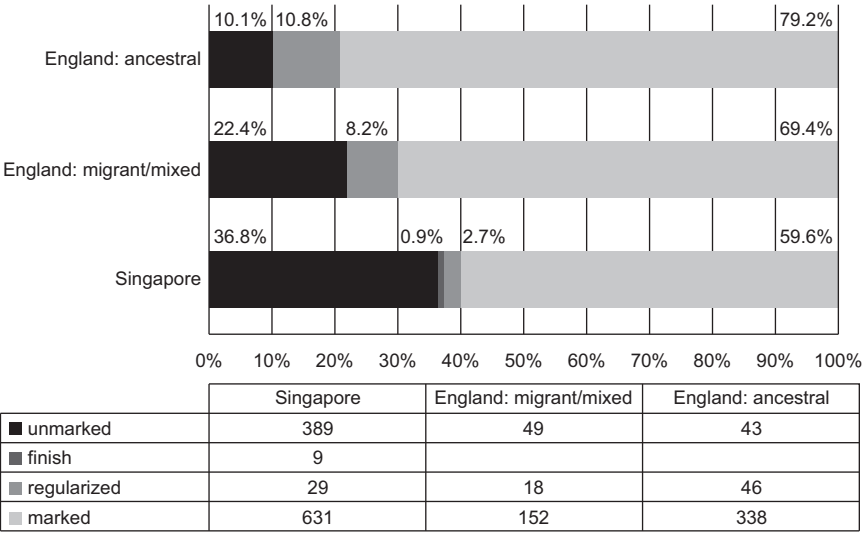


Figure 7.3 Past tense marking on irregular verbs according to country/speaker group

Figure 7.3 once more shows a clear difference between the Singapore group and the two groups from England (in particular, the ancestral group) in terms of the frequency of regularization structures with irregular verbs (2.7% for the Singapore group, in contrast to 8.2% for the migrant/mixed group from

England and 10.8% for the ancestral English group). Together with the results for the structures involving the verb *finish* discussed in Section 7.3, these results once more lend themselves to the conclusion that Singaporean children acquire the English language in different ways than children acquiring it in a traditional native-English-speaking context. The high frequency of unmarked regular verbs, together with the low percentage of regularizations (and the high frequency of *finish* structures; see Figure 7.4), suggest that Singaporean children do not acquire the English language synthetically, but rather project and acquire the language analytically.

When looking into the differences between the MLU groups within the three cohorts, the following (and, again, very interesting) picture emerges. In both groups from England, the data reveal a clear decline in the use of bare regular verbs with an increase in age (from 25.3% to 0.0% across group 2 and group 3 of the migrant/mixed group; from 45.5% to 7.3% to 3.1% across the three groups in the ancestral English group), as has previously been reported in the literature.²

However, a closer look at the Singapore group yields somewhat unexpected results. Group 1 produces unmarked regular verbs at a rate of 28.6%; group 2, 45%; and group 3, 42.8% (see Figure 7.4). Why the number of bare verbs in the Singapore group is lower in the young group than in the two older groups is unclear and does not fit the general picture, as acquisition effects are also to be expected for the Singapore group, were clearly seen in the study on subject pronouns and can also be seen in the results for irregular verbs shown later. The only reason that comes to mind is token numbers, as, similar to the England group, the token numbers for group 1 are extremely low, which can of course have a strong influence on the representativeness of the results. Past tense marking via *finish* is, once more and not surprisingly, only found in the Singapore group.

The MLU outliers excluded from the age group categorization produce unmarked regular verbs at a rate of 65.5% and LEXV+*finish* structures at a rate of 16.4% and thus clearly have the highest percentages for the two non-standard structures. Figure 7.5 briefly shows how these rates are distributed among the four children. These more detailed results once more offer interesting insights into the distribution and use of past tense marking strategies in Singapore as the children are of very different age and MLU ranges.

However, Figure 7.5 confirms once more that age/MLU group does not necessarily correlate with the children's use of unmarked or non-standard verb forms. All four children, no matter what their MLU, produce non-standard forms at a rate of between 70% and 90%. Cass, the youngest child with the highest MLU, is not the most accurate one in terms of standard verb marking. Jo, however, who has the lowest MLU values of the four children, is the most accurate in terms of past tense marking. The other two children make comparatively frequent use of the LEXV+*finish* strategy, while their overall rate of non-standard past tense marking clearly reaches above 80%. Of course, these results have to be

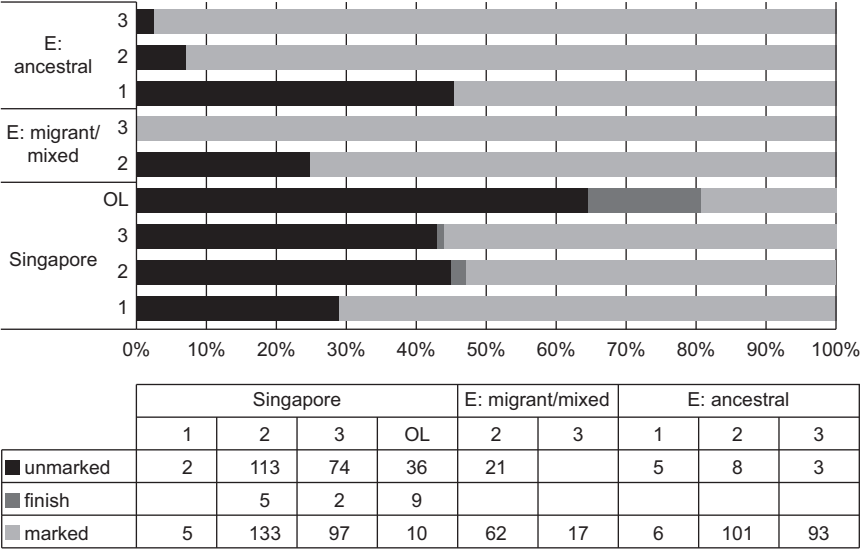


Figure 7.4 Past tense marking with regular verbs according to MLU group and country/speaker group

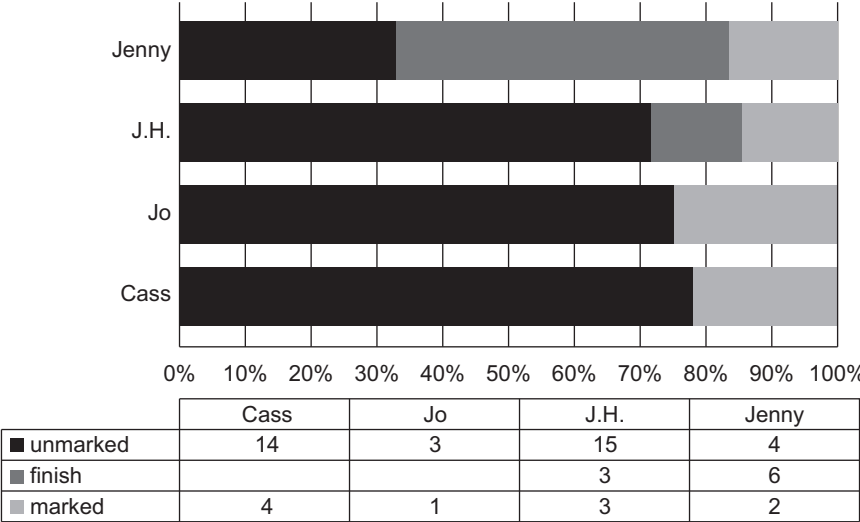


Figure 7.5 Past tense marking with regular verbs by MLU outliers

interpreted with some caution due to the low token frequencies. Cass was very young at the time of recording and thus did not produce many verb forms relating to past events, a methodological pitfall repeatedly reported in the literature for very young children (cf. Section 4.2.2). The other three children were extremely

shy and not very talkative and thus did not produce a very large amount of data anyway. Still, the results corroborate the earlier conclusion that the use of standard or non-standard features is not necessarily bound to MLU values, the children's age, or general language proficiency. This, in turn, appears to reinforce the general conclusion that the use of CSE features should not be considered a sign of linguistic deficiency.

A similar (and in some respects even clearer) picture emerges for the use of past tense marking with irregular verbs (see Figure 7.6). Again, the data show a general decline in bare verb forms from group 1 to group 2 and group 3 for all three groups. The migrant/mixed group 2 again displays a far higher use of unmarked verbs than the ancestral English group (25.7% vs. 12.4%). However, in group 3 the differences between the migrant/mixed and ancestral groups are almost non-existent (3.1% in the migrant/mixed group and 2.4% in the ancestral English group, similar to what can be observed with the regular verbs; see Figure 7.4). For the irregular verbs, the Singapore group also shows a clear decrease in bare verbs with increasing age, which makes perfect sense from the acquisitional perspective. However, even in group 3, 25.8% of all verbs are still unmarked. This once more shows that the Singaporean children retain the use of unmarked verb forms even though they are clearly beyond the stage for which this has been reported as a typical acquisition effect. With 58.3% unmarked verb forms, the outliers in the Singapore group again clearly range above the average for groups 2 and 3, though not for group 1, for which the percentage of unmarked verbs is as high as 77.4%. Again, the percentage of the *LEXV+finish* structure is much higher in the outlier group than in Singaporean groups 2 and 3 (in group 1 it is, again, non-existent), though the frequency of *LEXV+finish* is generally lower than for the regular verbs (4.2%).

Earlier, I reported the relationship of marked and unmarked verb forms and marking strategies such as the *LEXV+finish* structure and regularization; therefore, I will not repeat those details here. Interestingly, looking into the differences between the MLU groups (cf. Figure 7.6) reveals that regularization is clearly strongest in both group 2s from England, which suggests an age effect. This interpretation makes sense, as regular past tense marking is acquired in Stage IV. Overgeneralization of the regular past tense marking rule is thus most likely and therefore strongest in group 2. What is also interesting (and probably age-related) in the Singapore group is that for both regular and irregular verbs (cf. Figure 7.2 and Figure 7.3) the *LEXV+finish* structure does not manifest itself in group 1. This might again be due to very low token numbers for the regular verbs, although this does not necessarily hold for the irregular verbs, for which token numbers are generally much higher. What is more likely is that this is due either to a speaker effect, viz. that the *LEXV+finish* structure is preferably used by only some of the participants, or to the fact that the *LEXV+finish* structure is grammatically too complex for the very small children. As we have seen earlier – and as has been reported in the acquisition literature on BrE/AmE – very young children have a strong tendency toward bare verb forms.

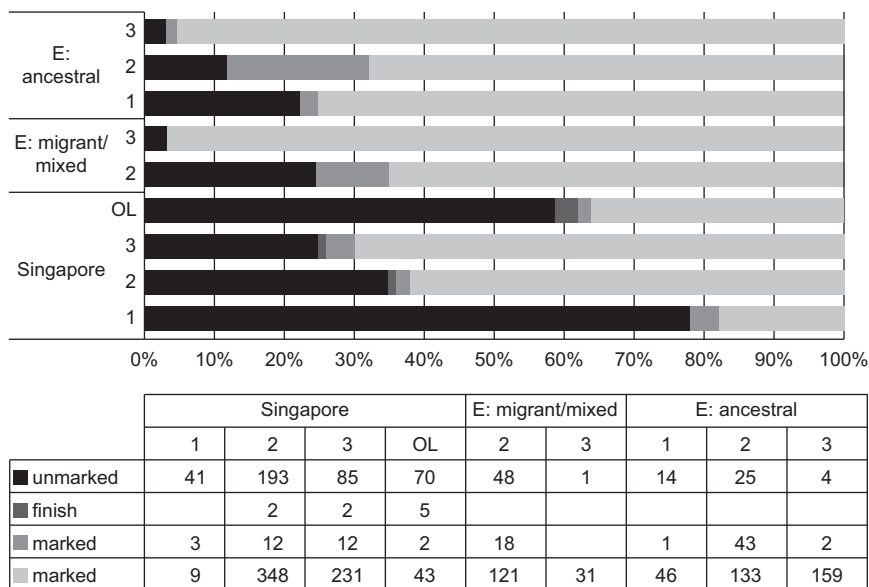


Figure 7.6 Past tense marking with irregular verbs according to MLU group and country/speaker group

The outlier analysis clearly strengthens the former interpretation, as both Figure 7.5 and Figure 7.7 suggest that some individual children make frequent use of the structure while others do not use it at all (fourteen out of the twenty-five occurrences of the structure are produced by three of the outliers).

Figure 7.7 reports the MLU outlier results and confirms much of what has been observed and discussed in relation to the MLU outlier results for the regular verbs. The four outliers all use the non-standard verb forms (unmarked or marked by non-standard strategies) to a great extent, though not as frequently as with the regular verbs. The latter corresponds to what was observed earlier for the relationship of verb marking between regular and irregular verbs, viz. that the Singaporean children perform in a more standard manner with the irregular than with the regular verbs. This time, Cass is most standard-like in terms of past tense marking, though she is clearly the youngest of the four outliers; still, her rate of unmarked verbs is at about 50%.

Figure 7.8 illustrates the individual differences between the children according to their use of standard vs. non-standard past tense marking structures. The latter includes all three non-standard usages identified in the study, viz. absence of marking, regularization of irregular verbs, and the use of the LEXV+*finish* structure for the Singapore group. What again deserves special attention is the great heterogeneity in past tense marking strategies and behavior in the Singapore group (from 0% non-standard usage to 100%), which is even higher than for the realization of subject pronouns.

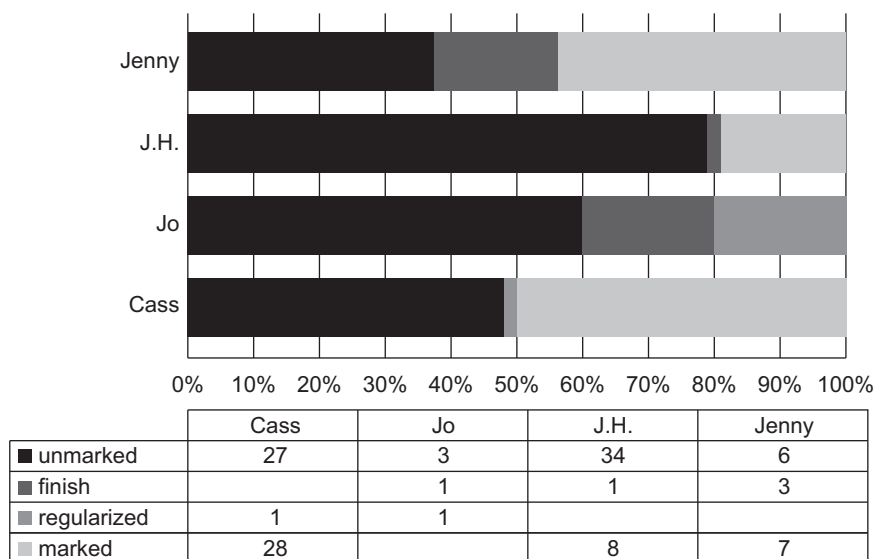


Figure 7.7 Past tense marking with irregular verbs by MLU outliers

It is also much higher than in the two England groups, with the ancestral group being least heterogeneous. In general, Figure 7.8 nicely summarizes the fact that the use of non-standard features is highest in Singapore, declining with age but never receding completely. It is much lower in the two groups from England, clearly lowest for the ancestral group, with the migrant/mixed group ranging somewhere in between the ancestral group from England and the Singapore group. This might, again, be an effect of bilingual language acquisition and cross-linguistic influence, the exact manifestations of which will not be discussed here. However, despite the clear initial differences between the two England groups, both groups experience a decline in the use of non-standard features with an increase in age and ultimately merge.

After having looked into age effects on the acquisition of past tense marking, an analytical step mainly motivated by a psycholinguistic line of thinking and thus often taken in acquisition studies, I again further stratify the Singapore results according to the children's ethnicity, viz. Chinese, Indian, or mixed.

Figure 7.9 and Figure 7.10 both reveal a very similar picture. The Chinese group always shows a very high percentage of unmarked verbs (52.7% of the regular verbs and 45% of the irregular verbs). With regular verbs, the child of mixed ethnicity (the other two children in the mixed group did not produce any useful verb forms) produced an even higher amount of bare verbs (52.9%) and thus again behaves very similarly to the Chinese group. The Indian group shows a much lower percentage of unmarked verb forms (29.3%), though the structure is clearly still present. This difference between the two groups can be easily explained on the basis of the cross-linguistic comparison

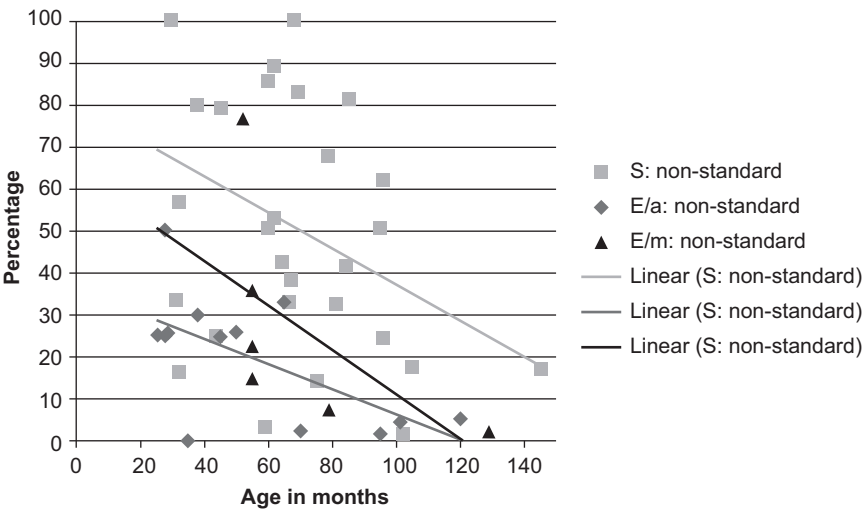


Figure 7.8 Non-standard realizations (all) by individual participant/age

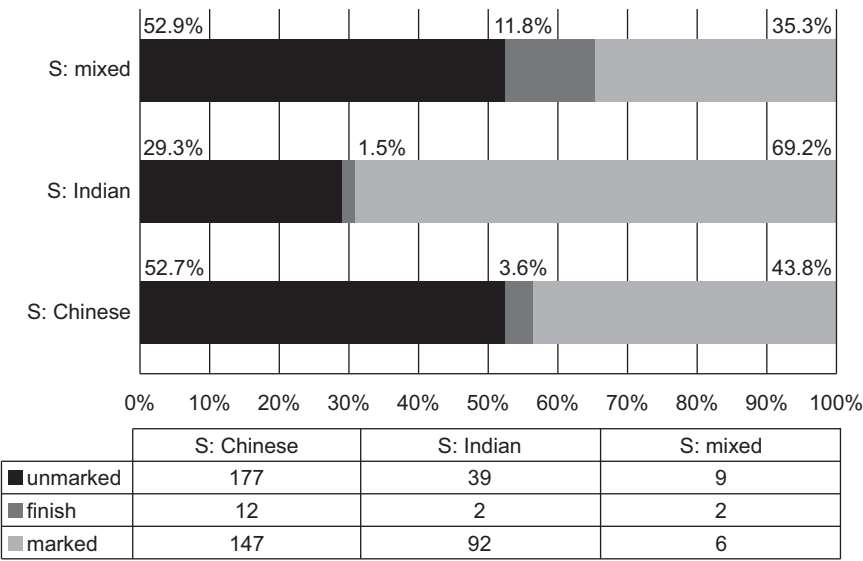


Figure 7.9 Past tense marking with regular verbs according to Singapore ethnicity/speaker group

in Section 4.1.2. In contrast to the Chinese languages, the three languages spoken by the Indian children all inflect verbs for past tense. The synthetic strategy of past tense marking is therefore known to the Indian children, which could even have a supportive effect as the result of positive transfer.

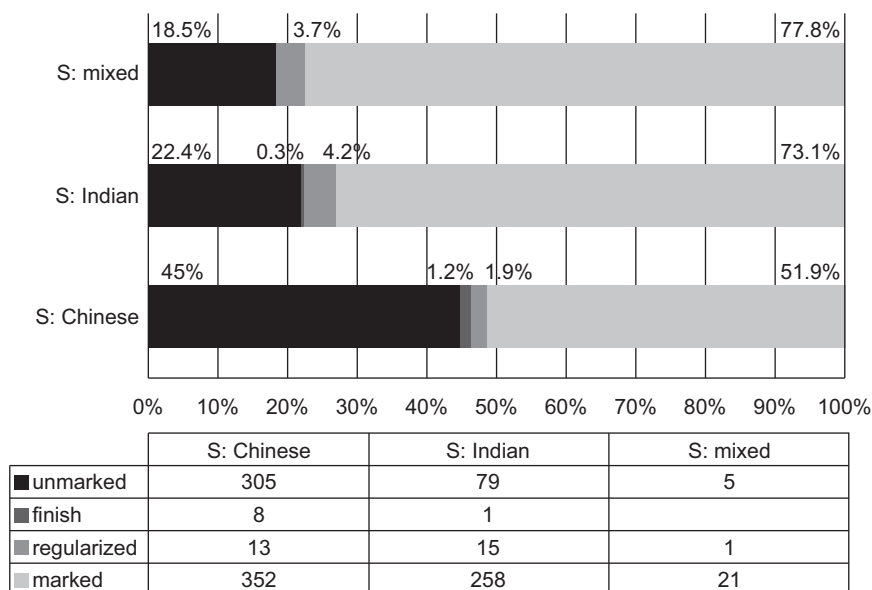


Figure 7.10 Past tense marking with irregular verbs according to Singapore ethnicity/speaker group

However, this raises the question of why these children still produce such a high number of unmarked verb forms at all. I suppose the answer lies in the historical, demographic, and sociolinguistic development and current background of Singapore, in which the Chinese languages have always had a very prominent influence on the development of SingE (cf. Chapter 2). The results therefore suggest that linguistic strategies employed by the Chinese group on the basis of cross-linguistic influence (here: missing past tense marking) have started to spread into the Indian group as well. The same is true for the use of the *LEXV+finish* structure, for which the Indian children do not have any evidence in their other languages. These findings can clearly be interpreted as homogenization tendencies in SingE (to be discussed in more detail in Chapter 9).

Similar tendencies and differences between the two groups can also be identified for the irregular verbs: the Chinese group has an overall percentage of unmarked verbs of 45%, the Indian group of 22.4%. Both values are lower for the irregular than for the regular verbs, as already discussed previously. What is slightly surprising is the clearly lower percentage of unmarked irregular verbs in the girl of mixed ethnic origin (18.5%), which is below even the rate of unmarked verbs in the Indian group. Again, low token frequencies might be an explanation and the result should thus not be overinterpreted in that respect. What is more, high intra-speaker variation is reported throughout the present study and has already been noted for this specific child.

7.2 Negation

The data for the negated structures come from mostly the same children whose data were used for the analysis of past tense marking on regular and irregular verbs; I do not report exact distributions here. In the following, I briefly point to some major patterns in the realization of past tense marking on negated structures for reasons of completeness.

Figure 7.11 illustrates that negated structures follow a very similar pattern as the positive regular and irregular lexical verbs when it comes to the distribution of unmarked vs. marked forms (here on the auxiliary verbs) for the three groups. The highest percentage of unmarked forms can be found for the Singapore group, which leaves nearly half (48%) of the verb forms bare. In fact, this is the highest percentage of unmarked forms so far. It is even slightly higher than for the regular verbs, for which the morphophonological effect of consonant cluster reduction enhances the number of unmarked verbs. But why then is the percentage of unmarked negation even higher? What is the reinforcing effect here?

An answer to that question might lie in the way verbs and verb phrases are negated in Chinese. In Mandarin, 不 (*bù*) and 没 (*méi*) are used for negation. They are placed immediately before the verb or in front of anything that precedes the verb (cf. Ross & Sheng Ma, 2014, p. 170) and thus take a very similar position as the auxiliaries used for negation in standard varieties of English. It can be assumed that this creates an ambiguity for speakers who have Mandarin Chinese as their other language because, on the surface, negated structures appear to work similarly in both languages. In Mandarin, however, the negation marker is never inflected for tense; the completive aspect is marked separately via the completive markers *wán* (“finish”) and *le* (“already”). The (grammatical)

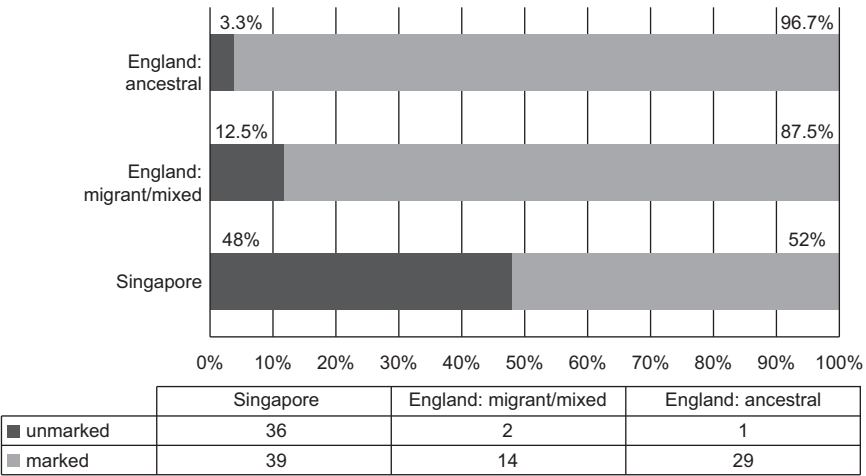


Figure 7.11 Negated past tense structures according to country/speaker group

complexity that can be carried by one element in English, as, for example, by the negator *didn't* (combining the information “do,” “not,” and “past tense”), cannot be found in Mandarin Chinese. This is apparently what the children (and, of course, initially the adults speaking SingE as their L2 or already as their L1) transfer to their variety of English; they do not mark their grammatical particles in complex terms and thus less readily assign past tense marking to something already carrying lexical meaning. This might be a reasonable explanation for why the percentage of unmarked auxiliaries in negated structures is so high. Indeed, looking into the differences between the Indian and Chinese groups reinforces this interpretation. Whereas 58.7% of the Chinese children employ the unmarked variant of the negator, only 34.6% of the Indian children do so, though this is also quite a high number. This once again raises the question of why the Indian children make such frequent use of unmarked structures at all. And once again, I suppose the answer lies in the historical, sociolinguistic, and demographic development and background of SingE.

Turning briefly to the data from England for reasons of comparison, the ancestral English group again shows the lowest percentage of unmarked forms (only 3.3%) and the migrant/mixed English group again falls between the other two groups. However, with 12.5% of unmarked verb forms, it is clearly closer to the ancestral English group than to the Singapore group. Comparing these results to the results of past tense marking on regular and irregular verbs in the two groups from England, we see that the relation is diametrical to what I have reported for the Singaporean children. For the two groups from England, missing past tense marking is least prominent for the negated structure. They seem to have acquired the general rule that past tense marking in negated structures is, in addition to the negation itself, marked on the auxiliary and thus have mastered the knowledge that one element can carry more than just one piece of semantic and/or grammatical information. This provides yet another interesting and important finding when it comes to the acquisition of past tense marking in L1 SingE. It also provides further support for the claim that Singaporean children acquire the English language in different ways than their monolingual as well as bi-/multilingual peers from England. It seems that what they do is much more analytic, if not isolating: they are less ready to stack information at the end of verbs; they are less ready to convey multiple, complex pieces of information in one morpheme; and they appear to stick to the “one element, one meaning” principle they know from Chinese.

The three predominant auxiliary verbs used for negation by all three groups are, not surprisingly, *do*, *can*, and *be*. They distribute as follows in their marked and unmarked forms: *Be* is most strongly unmarked for past tense in the Singapore group, followed closely by *can* and then, at some distance but still with a high rate of unmarked forms, by *do*. In the two groups from England, only *can* occurs in its unmarked form.

There were four negated structures in the data set that did not make use of *do*, *be*, or *can*, which are thus not included in Figure 7.12. I briefly comment on them in the following.

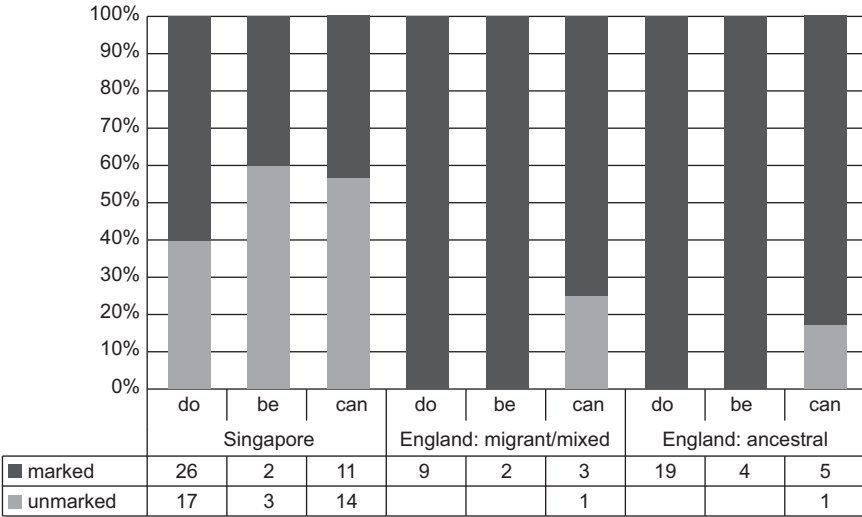


Figure 7.12 Marked vs. unmarked main auxiliaries used for past tense negation

In two instances, children produced a negated form lacking the auxiliary:

- (227) Cass (2;8, female, Chinese): Er. Not want to give her a present.
 (228) Musya (4;4, female, England/migrant): Er, # he [/] he, er not eat the pigs.

In both cases, the missing auxiliary might be an acquisition effect, as both children are comparatively young and structures as these are prototypical structures reported for British/American children in early acquisitional stages. In the Singapore example (Cass), this effect might be further strengthened by the option to leave out auxiliaries in L2 SingE, which the children receive as input. For Musya, who was born in England but is being raised bilingually by Russian-speaking parents, cross-linguistic influence might be at work and may explain why she still drops auxiliaries even though she is clearly beyond Brown's (1973) Stage V, in which both uncontractible and contractible auxiliaries are acquired by monolingual English-speaking children.

In addition, I found two instances of *will*, one marked for past tense as in Example (229), one unmarked as in (230). Not surprisingly, the unmarked example comes from the Singapore data and the marked example was produced by one of the ancestral English children:

- (229) Ben (8;0, male, Chinese): But [/] but the wolf won't give up easily. Until he get to eat the pigs.
 (230) Es (8;5, female, England/ancestral): And the pig wouldn't let him in so he blew the house down.

7.3 *Finish* as completeness/past tense marker

As reported in the qualitative feature account and quantified as part of Section 7.1, the construction *LEXV+finish* is part of the completeness/past tense marking repertoire of L1 child SingE. Because it is such an interesting form and one that has not often been accounted for in the SingE literature, I will go into some more detail with respect to its exact manifestations and its qualitative as well as quantitative distributions in my data set.

It is directly derived from the Chinese structure *V+wán-(le)*, with *wán* translating to *finish* and *le* being the prototypical Chinese particle indicating completeness of an action. Consider the following example and its gloss:

- (231) *wǒ xǐ-wán-(le)* *shǒu cái chī dōngxi.*
 I wash-*finish*-(ASP) hand only eat things
 “I only eat after I have washed my hands.”
 (example from Bao, 2005, p. 248; slightly modified)

However, its occurrence in SingE is not very frequent, in part because it is, like in Chinese, restricted to non-stative verbs only (Bao, 2005, p. 249) and is thus per se used with only a particular sub-group of verbs (e.g., *pick, plant, blow, write*). What is more, in my data, it is restricted to individual children – only ten from the overall set of participants make use of it at all. Together, these restrictions explain the comparatively low frequencies of the structure in the data set.

However, the use of *finish* as a completeness/past tense marker has turned up as a general strategy in Singapore, of which the *LEXV+finish* structures is just a subtype. It seems that the English full verb *finish* has acquired the aspectual property of the Chinese completeness marker *wán*, but has experienced an expansion in construction contexts in L1 SingE. I begin with a brief overview of the uses of *finish* identified in the corpus, providing a marked and unmarked example for each type. Table 7.2 subsequently gives an overview of all occurrences of *finish* in the data at hand, reporting the number of children using the *finish* structures, the raw frequencies of each *finish* structure, and their frequencies per 10,000 words.

As Table 7.3 illustrates, all six groups make use of the *finish* past tense marking strategy. The Singapore groups show a clearly higher frequency of *finish* than the ancestral group from England; the mixed/migrant group from England lies somewhere in between the England ancestral values and the frequencies in the Singapore group and ranges only slightly below the rate of *finish* per 10,000 words for the Chinese Singaporeans. This suggests three things:

- (1) The *finish* past tense marking strategy appears to be a general strategy used in language acquisition, even by monolingual, ancestral English children; it is at least an option for simplifying tasks such as the one in the Rice/Wexler test, viz. a strategy for avoiding difficult/unknown verb forms. This option is also accounted for in the Rice/Wexler manual, which also offers instructions

to circumvent such strategies in the children's productions (2001, p. 17). These instructions initially made me try to "correct" the children's use of *finish*, which has probably reduced the *finish* ratio reported earlier. Consider the following structure of a self-correction a child produced following my earlier instructions not to use *finish*, but rather the same verb I used:

- (232) Stella: The girl **finish** [/] ah, ne, the girl blow all the way out the fire on the candle.

However, the use of *finish* structures appears to be so deeply entrenched that the Singaporean children clearly overused it despite my initial instructions to not use it. The use of *finish* in any of its guises illustrated earlier can therefore clearly be seen as a past tense/completeness marking strategy in L1 SingE.

Table 7.2 Construction contexts involving *finish*

Construction context	Explanation	Examples
LEXV+ <i>finish</i>	A lexical verb is used, followed by marked or unmarked <i>finish</i> , the latter apparently derived from the Chinese particle 完 <i>wán</i>	Mechelle: He comb his hair finished. (marked) Jenny: She tie finish her shoe laces. (unmarked)
<i>finish</i> +Ø	<i>Finish</i> is used in its regular lexical verb form and function to denote completeness of an action, followed by a zero constituent.	Sarah: Yes, very good. # Here the girl is ice-skating, right? [...] Gor Gor: Then she finished. (marked) Qi: He paint, then [/] then finish. (unmarked)
<i>finish</i> +NP	<i>Finish</i> is used in its regular lexical verb form and function to denote completeness of an action, followed by a noun phrase.	Cass: We finished the # [/] the cards already. (marked) Maggie: He finish his cookies. (unmarked)
<i>finish</i> +V-ing	<i>Finish</i> is used in its regular lexical verb form and function to denote completeness of an action, followed by a verb in its continuous -ing form.	Rosie: She finished cleaning the room. (marked) Stella: He finish raking the leaves. (unmarked)
AUXV+ <i>finish</i> +Ø	<i>Finish</i> is preceded by an auxiliary verb to denote completeness of an action, followed by a zero constituent.	Lea: He's finished. ³ (marked) Enen: She writes [the?] ball. Then she's finish. (unmarked)
AUXV+ <i>finish</i> +NP ⁴	<i>Finish</i> is preceded by an auxiliary verb to denote completeness of an action, followed by a noun phrase.	Masha: First he was eating a biscuit, and then he was finished # biscuits. (marked) Nithin: She finish &er [/] she's # just finish her planting her flowers. (unmarked)
AUXV+ <i>finish</i> +V-ing	<i>Finish</i> is preceded by an auxiliary verb to denote completeness of an action, followed by a verb in its continuous -ing form.	Gor Gor: He's finished raking. (marked) Mechelle: She [/] She have finish writing. (unmarked)

Table 7.3 Occurrences of *finish* per 10,000 words according to country/ethnicity/speaker group

	No. of children using <i>finish</i>	Frequency	Text no. words (whole corpus)	Per 10,000 words
Singapore: all	22/35	105	48,360	21.7
Singapore: Chinese	14/23	51	33,331	15.3
Singapore: Indian	7/9	37	13,782	26.8
Singapore: mixed	1/3	17	1,247	136.3
England: migrant/mixed	4/8	20	13,703	14.6
England: ancestral	5/13	9	19,574	4.6

- (2) Coming back to the results for the migrant/mixed groups, the comparatively high frequency of *finish* and the clear difference from the ancestral group give rise to the assumption that the use of *finish* might be more than just a strategy used by the children to ease in the difficulty of the TEGI. It is clearly the bi-/multilingual children making stronger use of this strategy, so it may well be an effect of bi-/multilingual language acquisition. It might be used as a compensatory strategy for a lack of vocabulary knowledge or grammatical development or as a strategy for alleviating the more complex processing load.
- (3) In Singapore, this effect is likely strengthened by the cross-linguistic influence and dominant, influential position of Chinese in the Singaporean society.

However, what is surprising when looking into the Singapore results is that it is not the Chinese group that has the highest frequency per 10,000 words of *finish*. In fact, the rate in the Indian group is considerably higher than in the Chinese group (26.8 in comparison to 15.3). This may be attributable to the distribution of data collection types and their relationship to the overall number of participants. What I mean here is that the Chinese group contains slightly more children, from whom I collected great amounts of spontaneous language output data. The usage of *finish* is highest in the setting of the Rice/Wexler test because this test is designed to trigger past tense structures. The ratio of the amount of data attributable to the Rice/Wexler test is slightly higher in the Indian data (due to a lower amount of spontaneous language output data) than in the Chinese data, which, of course, might have an influence on the results. However, this still shows – and this is important for the present study – that the *finish* strategy is by no means predominantly used by the Chinese group, even though they have the cross-linguistic basis for the increased usage. Even if the strategy is influenced and reinforced by the Chinese particle *wán* as described earlier, it has been adopted as one of a number of past tense/completeness marking strategies by the Singaporean child population in general.

Turning toward the general relationship between the particle structure (LEXV+*finish*) and the lexical uses in the Singapore group, they distribute as follows: the

LEXV+*finish* structure has a frequency of 5.2 per 10,000; the lexical uses appear at a frequency of 16.5 per 10,000.

As illustrated in Table 7.2, *finish* may occur in either its marked or unmarked form (i.e., with or without an *-ed*), no matter what the construction context. Figure 7.13 illustrates the relationship between marked and unmarked forms, again comparing the three main groups. The distribution and relation of unmarked and marked forms is again very similar to the earlier analyses across the three groups. The Singapore group clearly shows the highest percentage of unmarked forms (77.1%), the ancestral group from England the lowest percentage (though still 22.2%), and the migrant/mixed group from England again ranges in the middle (40%).

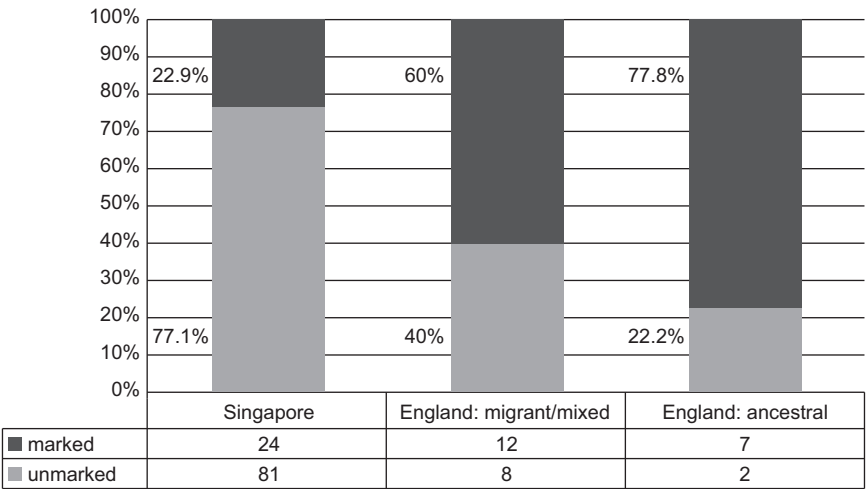


Figure 7.13 Unmarked vs. marked “*finish* structures” according to country/speaker group

What is interesting to note is the proportionally higher percentage of unmarked forms of *finish* in all three groups when compared to the realization of past tense marking on regular and irregular verbs. This may be due to the fact that *finish* itself signals completion of an action via its meaning, and that this is a lot more concrete and cognitively real for the children than an abstract grammatical morpheme or the even more abstract vowel alternation rules. This reinforces the earlier observation that past tense marking via *finish* might be a general tendency found in child language, and indeed, Language Acquisition research has repeatedly shown that young children often make use of more concrete, cognitively real marking of inflectional and morphological information rather than making use of the adult target. Berko (1958), for example, shows how children (aged four to seven) employ such strategies and avoid suffixes,

preferring compounds or syntactic constructions. She compares child and adult strategies in the creation of new word forms on the basis of nonce words, and shows that whereas a “very tiny wug” would be a “wuglet,” “wuggie,” “wugette,” or “wugling” in adult speech, the majority of children prefer “baby wug,” “teeny wug,” or “little wug;” similarly, a man whose job is to “zib” would be a “zibber” in adult speech, but a “zib man” in child speech (see also, for example, Aitchison, 2012, p. 206; Mattiello, 2017, pp. 101–102). The underlying cognitive principle appears to be the same in the overuse of the *finish* structure in the data at hand. Because completeness marking is already applied, marking of the verb would be redundant and would, similarly to what I discussed with respect to the negated structures, go against the “one form, one meaning” principle apparently applied by the Singaporean children in particular. It would be interesting to see whether Singaporean adults, providing the input for the children, make use of this completeness/past tense marking strategy as well, to potentially tease out how much of what has been described here is to be attributed to acquisition processes in bi-/multilingual language acquisition and how much of it is genuinely a SingE strategy.

The more detailed results on construction contexts (cf. Figure 7.14) strengthen the hypothesis for the Singapore group established earlier. The results from the Singapore group suggest that the more obviously *finish* fulfills the function of a completeness marker itself or is embedded in surrounding grammatical material,

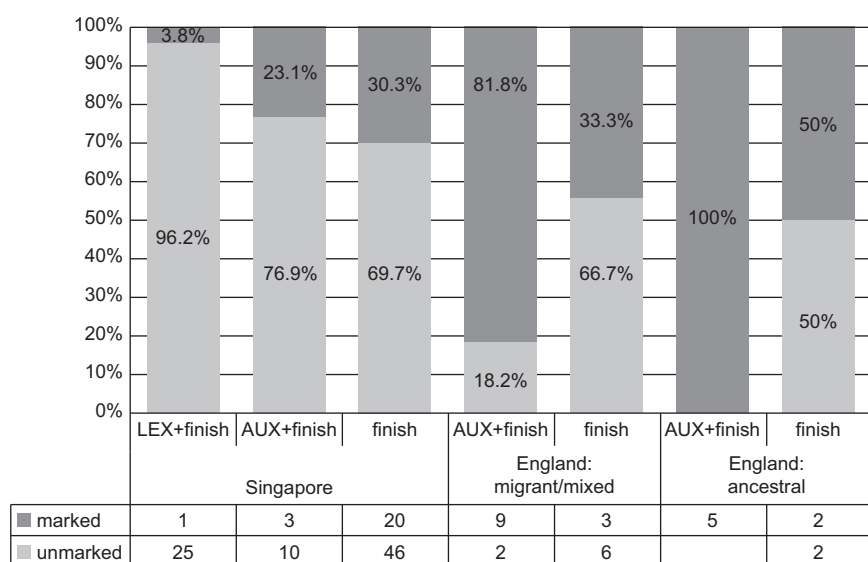


Figure 7.14 Unmarked vs. marked “*finish* structures” according to construction context and country/speaker group

the higher the percentage of unmarked *finish* in such constructions (96.2% and 76.9%, respectively). In the *LEXV+finish* structure, for example, *finish* obviously functions as the relevant completeness-marking particle, similar to the *wán* structure in Chinese. The *AUX+finish* structure is structurally similar to the Chinese structure *yáu-V* (“have”/“got”), similar to *wán* but preceding the verb, which emphasizes completion of an event. Consider the following (slightly modified) example from Bao (2005, p. 248):

- (233) wǒ yǒu xǐ-(guò) shǒu.
 I have wash-(ASP) hand.
 “I did wash my hand.”

The L1 child SingE structure most often involves a contracted form of the auxiliary in 3rd person singular (*he’s/she’s*; see the examples in Table 7.2), so that it is often not clear whether we are confronted with auxiliary *have* or *be*. It is accompanied by either $\emptyset$, an NP, or a *V-ing* complement. Beyond the structural similarities to Chinese, another ambiguity apparently exists for the Singaporean children. The function of Chinese completive *le* has been taken over by *already* in adult CSE (e.g., Leimgruber, 2013, p. 80). Thus, when the children are confronted with standard structures such as “I have already tried this,” they likely take both the *have* and the *already* as evidence for a completive interpretation of such structures. This can easily be transferred to the *AUXV+finish* structures identified in the corpus. The structure therefore constitutes another instance of transfer resulting from structural overlap/ambiguity (cf. Hulk & Müller, 2000; cf. Bao’s [2015] system transfer and lexical filter interpretation, discussed earlier).

However, it is interesting that *already* does not occur as frequently as might be expected on the basis of what the L2 SingE literature reports. It occurs in the child data in the function described earlier, i.e., indicating completeness, though not really frequently. Note that the main verb again occurs variably in its marked or unmarked form.

- (234) Jie Jie (5;0, female, Chinese): She win **already**.
 (235) Stella (6;9, female, Chinese): Mommy, teacher **already** had one. [a glass of juice]
 (236) Gor Gor: **Already** saw a pair. [playing memory]

All in all, *already* occurs only 117 times in the CHES corpus (including some double counts and unclear material). Of these, thirty-four instances were uttered by the researcher, nine by the parents involved in the data collection process, and fifty-three by the children. Not surprisingly, the majority of these latter were produced by children of Chinese origin (forty-three), but some (eight) were also produced by the Indian children and two by the girl of mixed ethnic origin. On a

per 10,000 words ratio, this amounts to 11.0 for the overall Singapore group, 12.9 for the Chinese, 5.8 for the Indian, and 16.0 for the girl of mixed ethnic origin. The mixed-ethnicity girl thus again behaves more similarly to the Chinese children in that respect. Moreover, the data have revealed that *already* is only rarely combined with the *finish* marking strategy. This once more reinforces my interpretation that double marking of completeness/past tense is not a common strategy in L1 child SingE. If it really is a common strategy in adult L2 SingE, this may constitute an important difference and thus a potential instance of language change. Again, *already* is also used by only a limited number of children, but among those who do use it, it is employed fairly frequently. The number of occurrences is distributed among twelve of the Chinese children, four of the Indian children, and the girl of mixed ethnic origin.

Turning toward the more detailed construction contexts, the data have revealed that the relative proportion of unmarked forms is highest in the *finish*+NP structure (one marked vs. seven unmarked forms) and second highest in the *finish*+V-ing structure (twelve marked vs. twenty-six unmarked forms). *Finish*+Ø has the lowest percentage of unmarked forms, though still a rate of 65%. Again, this would reinforce my earlier interpretation that the less grammatically complex the form, the higher the percentage of past tense marking. When looking into the AUXV+*finish* constructions in more detail, the data has revealed that only the AUXV+*finish*+V-ing structure occurs with any marking at all (three marked vs. three unmarked forms); in the other two construction contexts, *finish* always appears in its unmarked form.

Interestingly, the England data show the opposite pattern, viz. the *finish*+complement structures occur in their unmarked forms to much greater extents than the AUXV+*finish* structures. This reinforces my earlier interpretation that the Singaporean children acquire the English language in different ways than the children from England and that this difference most likely revolves around the syntheticity vs. analyticity issue. More precisely, children growing up in England (and thus mainly confronted with British English) acquire an early understanding of complex verb forms, along with the knowledge that different types of markers carry not only tense but also aspectual information. They are able to analyze these forms into their component parts and meanings from an early age.

In addition to these varying though still somewhat systematic uses of *finish*, the data have revealed some examples of idiosyncratic uses, which have not been included in the quantitative analysis:

(237) Jenny (6;7, female, Chinese): She reach **finish** writing.

(238) Nithin (8;9, male, Indian): She's done **finishing** the room.

They confirm the general interpretation that *finish* appears to mark completeness in L1 SingE and once more show how creatively and diversely *finish* is applied in this function.

7.4 Reporting the statistical results

The results from the mixed-effects model on past tense realization (see Table 7.4) confirm the general findings from the subject pronoun study. As the positive estimate suggests, the likelihood of the occurrence of unmarked verbs for group 1 Chinese Singaporeans is extremely high. It is even greater than for the use of zero subject pronouns (cf. Table 6.2). The results (estimates) once more strengthen the earlier observation that the likelihood of using non-standard past tense marking strategies decreases with an increase in age (cf. the estimates for MLU group) and that verb type plays an important role. Moreover, the model reveals a significant interaction between Chinese ethnicity and regular verb type when it comes to the likelihood of zero past tense marking. This confirms the earlier observation that the omission of past tense marking is even more likely for regular verbs.

Table 7.4 R output of the generalized linear mixed-effects model (past tense marking according to ethnicity/group)

Random effects				
<i>Groups</i>	<i>Name</i>	<i>Std.Dev.</i>		
VERB	(Intercept)	0.9643		
CHILD	(Intercept)	1.5069		
Number of obs: 2,229; Groups: VERB, 180; CHILD, 44				
Fixed effects				
	<i>Estimate</i>	<i>Std. Error</i>	<i>p-value</i>	<i>Dec</i>
(Intercept)	−0.5949	0.6767	0.379345	ns
Ethnicity/group: Singapore-Chinese	2.3773	0.6436	0.000221	***
Ethnicity/group: England-mixed	0.6229	1.2837	0.627482	ns
Ethnicity/group: Singapore-Indian	2.0121	0.7558	0.007762	**
Ethnicity/group: England-migrant	0.9256	0.9748	0.342352	ns
Ethnicity/group: Singapore-mixed	0.9572	1.6978	0.572897	ns
Verb type: regular	−0.6505	0.4102	0.112803	ns
MLU group 2	−1.5757	0.6937	0.023109	*
MLU group 3	−2.6771	0.7492	0.000353	***
Ethnicity/group: Singapore-Chinese* verb type: regular	0.8488	0.403	0.035192	*
Ethnicity/group: England-mixed* verb type: regular	−0.9509	0.9074	0.294701	ns
Ethnicity/group: Singapore-Indian* verb type: regular	0.5863	0.4395	0.182199	ns
Ethnicity/group: England-migrant* verb type: regular	0.8861	0.5951	0.136478	ns
Ethnicity/group: Singapore-mixed* verb type: regular	1.7011	0.8791	0.05298	ns

Table 7.5 Post-hoc results (significant contrasts, ethnicity/group * verb type)

<i>Contrast</i>	<i>Estimate</i>	<i>Std. Error</i>	<i>p-value</i>	<i>Dec</i>
ancestral, irregular – Chinese, irregular	–2.2866	0.639481	0.0181	*
ancestral, irregular – Chinese, regular	–2.48758	0.687773	0.0157	*
Chinese, irregular – ancestral, regular	2.947133	0.714521	0.0022	**
ancestral, regular – Chinese, regular	–3.14812	0.691006	0.0003	***

Table 7.6 Post-hoc results (significant contrasts, MLU group)

<i>Contrast</i>	<i>Estimate</i>	<i>Std. Error</i>	<i>p-value</i>	<i>Dec</i>
group 1 – group 3	2.333784	0.783654	0.0082	**

What Table 7.4 also illustrates is that this time, the effect of individual children on the data is comparatively high (std. dev. = 1.51); VERB also has an important influence on the realization of past tense marking. The more detailed post-hoc results (which reveal the exact manifestations of the significances detected by the model) confirm the earlier observation that the inter-ethnic difference in linguistic behavior is most prominent between the English ancestral and Chinese Singaporean children; the differences are significant for both the regular and the irregular verbs (see Table 7.5). Table 7.6 once more confirms the statistically significant difference between MLU groups 1 and 3.

The ctree results presented in Figure 7.15 once again confirm these findings and flesh them out in more detail. For the past tense marking data, ethnicity has turned out to be the strongest predictor. The manifestations, however, are the same as in the subject realization study: the Indian Singaporeans cluster with the groups from England; the Chinese (and mixed) Singaporeans are significantly different in that they more frequently revert to the non-standard past tense marking strategies. MLU group is, once again, a strong predictor for past tense marking (again showing a decrease in non-standard marking with increasing age), as is verb type. The latter is particularly prominent for the Chinese (and mixed) Singaporeans, who produce significantly more unmarked verb forms with regular than with irregular verbs. This clearly substantiates my earlier speculations on the more analytically aligned acquisition strategies of the (Chinese) Singaporean children.

Once again, accuracy measures for the model seem quite promising (0.7186075). The Kappa value (0.3014402779 [30.14%]) indicates that chance fluctuations are still comparatively high, but the model represents the data far better than the ctree in the subject realization study. The same is once again true for the random forest (accuracy = 0.7223373394; Kappa = 0.2701525054 [27.02%]; see Figure 7.16); however, it still confirms the relatively strong impact of ethnicity on past tense marking strategies, followed by MLU group. Verb type comes in last, indicating little to no impact in this regard.

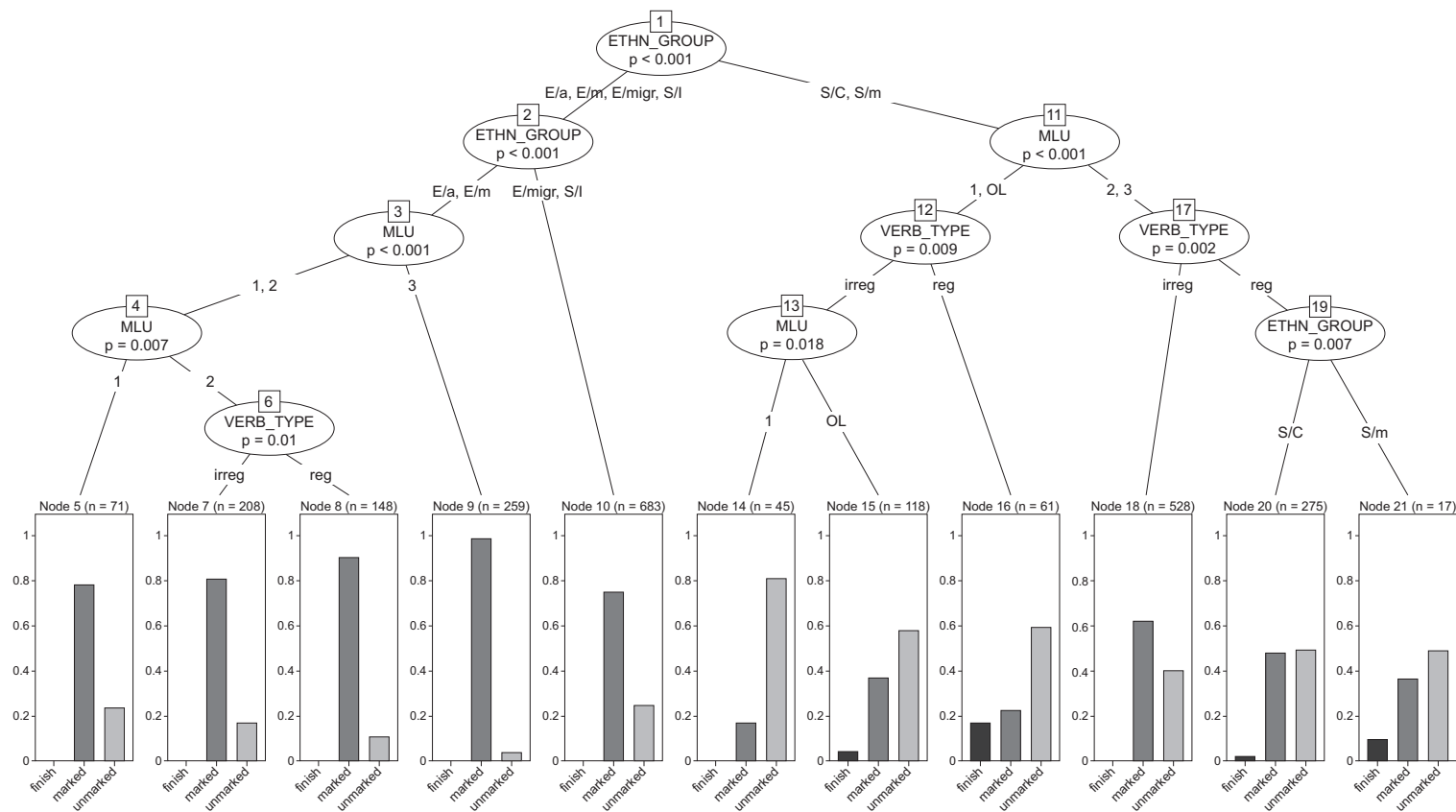


Figure 7.15 Ctree analysis (past tense marking)

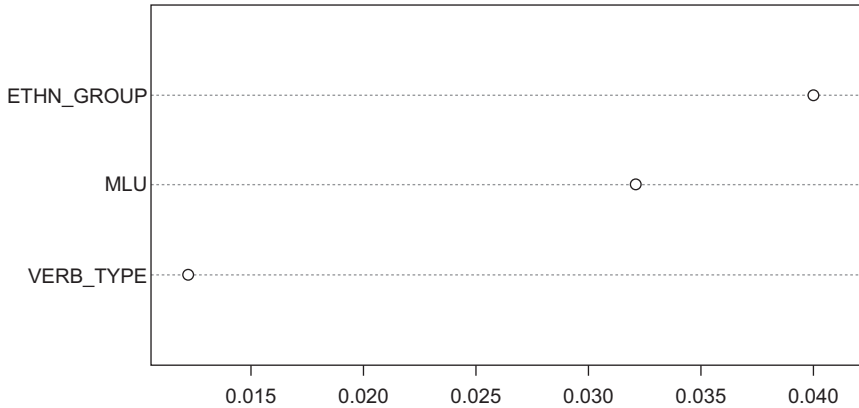


Figure 7.16 Random forest (past tense marking)

7.5 Discussion and summary

The analysis of past tense marking has revealed that L1 SingE is characterized by variable marking, displaying a comparatively high rate of unmarked forms and employing the verb *finish* in different construction contexts as an alternative past tense marking strategy. Again, the results are characterized by high variability among and within the individual children, but the distribution of marked and unmarked verbs is not completely random. Intra- as well as extra-linguistic criteria play a role for the realization of past tense marking. From the intra-linguistic perspective, realization depends on grammatical criteria and morpho-phonological constraints. Regular verbs are more frequently unmarked for past tense by the Singaporean children than are irregular verbs. There are two possible sources of origin for this: First, it may be the result of consonant cluster reduction. This is a commonly reported characteristic of adult SingE (cf. Section 2.4.1) and has also been observed for the child data at hand. Second, it might occur as the result of major differences in the acquisitional strategies employed by Singaporean children. The results repeatedly suggest that Singaporean children might acquire English past tense marking much more analytically than children growing up in England. This interpretation is clearly reinforced by the detailed results of the analysis of the *finish*-marking strategies. All of the previous discussion has also been confirmed by the statistical analyses.

In general, the study has revealed that several past tense marking options exist for Singaporean children, viz. marking or simple unmarking of the main verb, as well as marking strategies via specific Chinese-derived lexemes/particles and according to specific patterns and principles found in Chinese (most prominently, principles of analyticity). Viewing the main results of this chapter as a whole, we see that the *finish* structures are most commonly unmarked (77.1%), followed by

the negated structures (48%), the regular verbs (46.3%), and then the irregular verbs (36.8%). The reasons for that have been discussed in some detail earlier. For the groups from England (and especially the ancestral English group), missing past tense inflections (if present at all) distribute in completely different ways. In a nutshell, these distributions and the differences in the results strongly support the idea that Singaporean children acquire the English language in distinctly different ways from children growing up in England, especially monolingual ancestral children. The data seem to suggest that, whereas children growing up in England generally follow the synthetic strategies underlying past tense marking in standard BrE/AmE, Singaporean children analyze and acquire the language in much more analytic ways. As the ctree shows (cf. Figure 7.15), this seems to be particularly true for the Chinese and mixed-ethnicity Singaporean children. These children appear to behave in significantly different ways from the children acquiring English in England, with the Indian Singaporeans clustering with the latter. Of course, whether that is true for the acquisition of SingE in general needs to be validated by investigations of additional traditionally synthetically constructed characteristics of English.

Such an interpretation would find support in Bao's (2015) *SYSTRANS-LEXFILTER* account, which helps explain the variability in past tense marking observed earlier and the fact that, even though we find many of the properties of Chinese in the past tense marking system of L1 child SingE, it is not "point-by-point identical with the Chinese system" (Bao, 2015, p. 60, on the SingE aspectual system in general). For the case of past tense marking, it can be argued that, whereas the underlying principle of analyticity and the use of English equivalents of the Chinese particles identified earlier (viz. the entire grammatical subsystem as suggested by Bao, 2015, p. 59) have been transferred to SingE (most likely already to adult SingE), the "[m]orphosyntactic exponence of the transferred system conforms to the (surface) structural requirements of the lexical-source language" (Bao, 2015, p. 59), viz. the requirements of overt past tense marking on the verb. As already observed for the case of subject realization, this often comes at the expense of *SYSTRANS*, i.e., the system is not transferred completely, because "*LEXFILTER* ranks above *SYSTRANS*" (Bao, 2015, p. 59). Again, such an interpretation counteracts the tendency to interpret L1 SingE only as an unsystematic, inherently unstable system. Still, my interpretation of the data does not rule out the possibility that L1 child SingE is a system "still in the making" and that we are experiencing – and have the chance to investigate – language change in progress, as intra- and inter-speaker variability are so strong that they cannot be fully accounted for by Bao's principles.

In addition to these intra-linguistic criteria identified as having an important impact on past tense realization in L1 child SingE, the extra-linguistic factors "MLU group/age" and "ethnicity/speaker group" have been discussed in some detail. Again, these criteria constitute the basis for Hypotheses 2a–d and will therefore be further discussed in more detail in relation to them. The findings are similar to the tendencies observed for the hypotheses relating to the realization of subject pronouns as discussed in Section 6.4.

Hypotheses 2a and 2b are completely validated, as MLU group/age has once more turned out to be a consistent predictor of past tense realization. The results have shown that group 1 participants in all groups investigated use bare verb forms quite commonly. This is once more in line with research on the acquisition of BrE/AmE (e.g., Marchman & Bates, 1994; Paradis & Crago, 2001; Wexler, 1998). Still, the number of bare verbs is higher for the Singaporean children, as the acquisitional effect is reinforced by the input the children receive. For the children growing up in England, bare verb productions are transitional, and these children ultimately realize past tense marking consistently. The data have also revealed a decrease in bare verb forms with increasing age in the Singapore group. However, the Singaporean children generally retain these forms – and other, local strategies of past tense marking.

This time, Hypothesis 2c can also be confirmed. Clear differences have been observed between the Chinese and the Indian groups from Singapore, and these differences are indeed explainable on the basis of cross-linguistic influence. Whereas Marathi, Tamil, and Hindi (the languages spoken by the Indian children) are all synthetic languages, the Sinitic languages spoken by the Chinese children are of the analytic language type. The results may thus be a further indicator that Hulk and Müller's (2000) structural overlap/ambiguity hypothesis is accurate and has much explanatory power. Still, against the background of the findings from the subject realization analysis, an interpretation of the results in terms of language attitudes and norm orientation has to be taken into consideration as well, viz. that the Indian group shows a generally more frequent use of standard structures due to a stronger orientation toward standard language use. The finding that some of the Indian children make use of the Chinese-derived structures and past tense marking strategies (e.g., the use of *finish* as a past tense marking particle with lexical verbs and the general absence of past tense markers) clearly weakens the interpretation of the inter-ethnic differences as a sole consequence of cross-linguistic influence and structural overlap/ambiguity. I suggest that, as is quite often the case, the explanation is complex and different factors play into the realization of past tense marking; in this context, apparently, issues of identity construction and homogenization tendencies. This interpretation is further reinforced by the huge inter-individual variability in the realization of past tense marking observed in Section 7.1 and confirmed by the huge standard deviation in the random factor CHILD in the generalized linear mixed-effects models. This clearly confirms Hypothesis 2d.

Notes

- 1 It has to be noted here that the finding for the two groups from England, viz. the slightly higher percentage of unmarked verb forms with irregular verbs, is somewhat surprising; normally, irregular verbs are acquired earlier than regular verbs and at high accuracy rates and are usually not susceptible to phonological effects like consonant cluster reduction, as has frequently been reported in the literature on regular past tense marking in different varieties of English, including standard Englishes (e.g.,

Schreier, 2005). The reasons for this unexpected finding are not discussed in detail here, as this has no bearing on the Singapore results.

- 2 For reasons of clarity, I do not include the individual percentages in the figure here, as in some of the following illustrations, because these are rather complex in themselves. The same applies for figures in which token frequencies are very low and for which calculating and indicating percentages would not appear very meaningful. The relevant and informative percentages are reported in the explanatory text.
- 3 This example comes from the England ancestral subcomponent of the corpus, as there was no marked example of this construction available in the Singapore component.
- 4 The first example here comes from the England component of the corpus because there was no example for this category to be found in the Singapore component. Note also that the syntactic interpretation of the second example is ambiguous, as “her planting her flowers” can be parsed either as a noun phrase or as a non-finite clause.

8 The acquisition of vowel sounds

The elicitation of vowels (and this is also true for other phonetic material) that are suited for an acoustic analysis and at the same time depict authentic, natural language use is a challenge; normally, one aspect is afflicted by the other. Field data of high authenticity collected in very natural settings normally come at the cost of high-quality speech data as can be obtained under laboratory conditions and vice versa (e.g., Ladefoged, 2003, pp. 21–23; Margetts & Margetts, 2012). The data at hand were collected under very naturalistic recording conditions and thus at times involve background noise that Praat could not cope with. Such data were excluded from analysis. What is more, vowel production in very young children often seems erratic or at least unstable (cf. Section 4.2.3). In the following two analyses, viz. the analysis of vowel quality (Section 8.1) and of vowel length (Section 8.3) in L1 SingE, I take these challenges into consideration by partly modifying the original data set or the procedure of data presentation, as outlined in Section 4.5.5.

8.1 Vowel quality: the influence of country and speaker group/ethnicity

The exemplary results for vowel quality come from six Chinese Singaporean children, four Indian Singaporean children, and five children from each of the three groups from England. None of the children was younger than three years at the point of data collection (cf. Section 4.5.5 for the rationale behind this decision). I have plotted the KIT-FLEECE and FOOT-GOOSE vowels for the following children: Isla (5;2), Jie Jie (5;0), Maggie (4;11), Pinky Pie (5;6), Qi (5;8), and Xu (7;1) from the Chinese group; Kabs (5;4), Manikandan (7;11), Mechelle (7;0), and Rosie (6;3) from the Indian group; Eve (3;9), Kat (3;2), Lea (4;2), Es (8;5), and Lala (10;0) from the ancestral English group; and Masha and Sveta (both 4;7 and of Russian/Italian background), Musya (4;4, with both parents of Russian ancestry), Tom (4;7, of mixed English/German ancestry), and Mia (10;9, of German-Italian ancestry) from the migrant/mixed group.

Figure 8.1, Figure 8.2, Figure 8.3, and Figure 8.4 illustrate the individual vowel plots for the children of the four groups:

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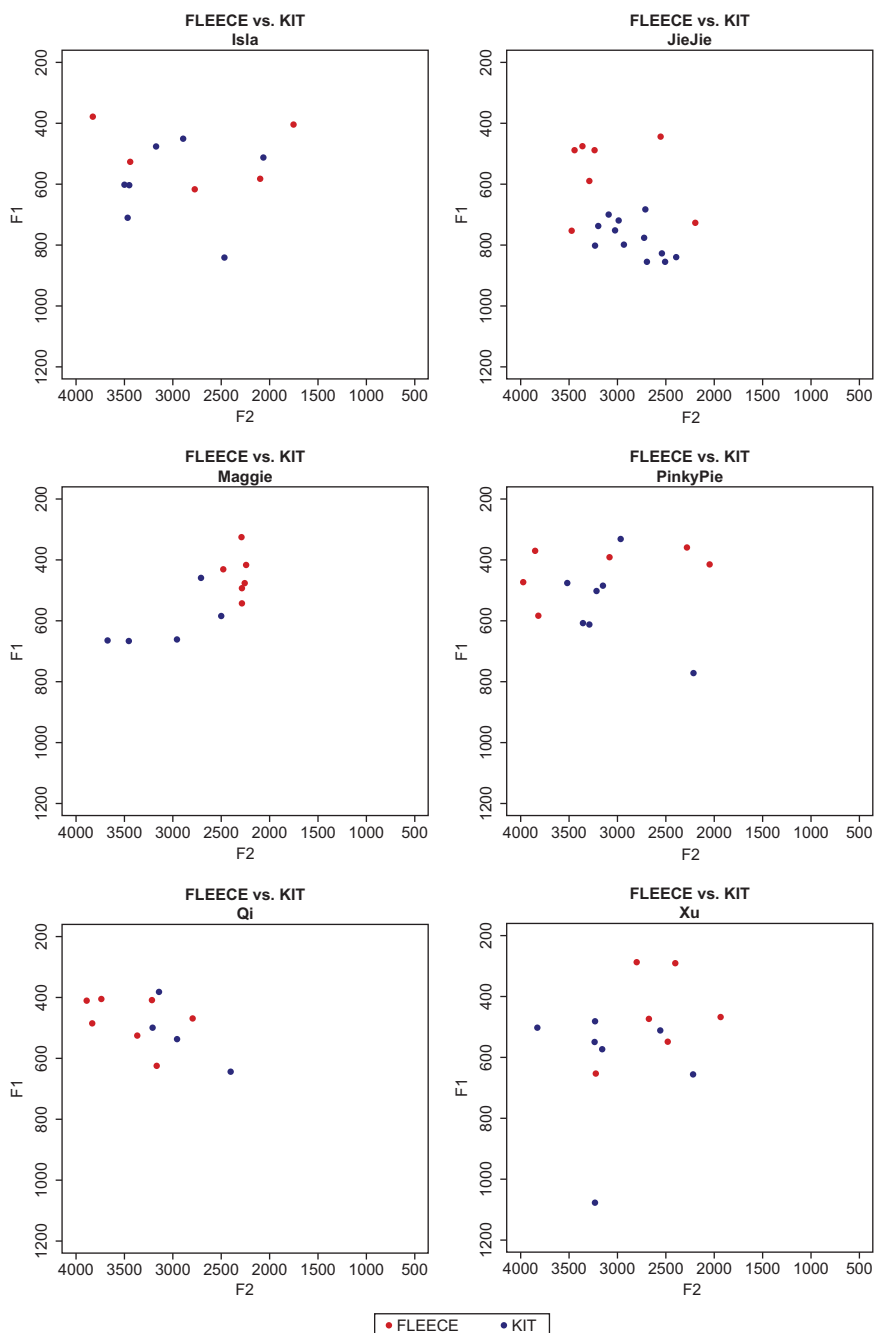


Figure 8.1 Individual vowel plots, FLEECE–KIT, Singapore (Chinese)

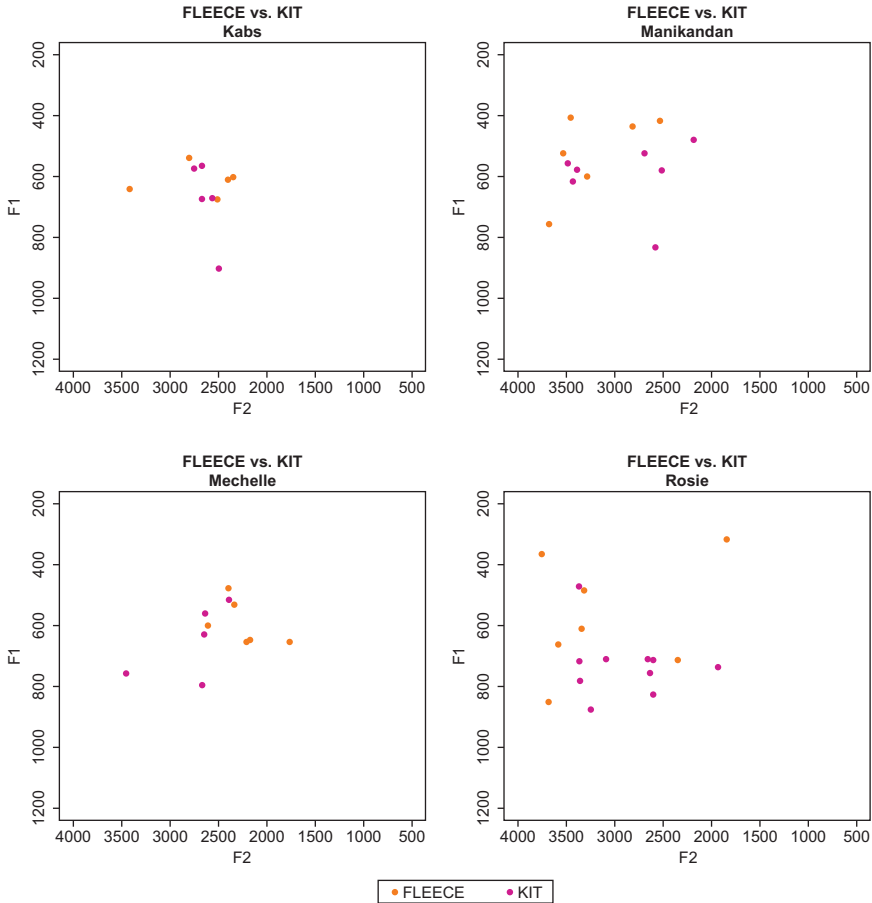


Figure 8.2 Individual vowel plots, FLEECE–KIT, Singapore (Indian)

When comparing the Singapore data with the KIT and FLEECE vowels produced by the ancestral and migrant/mixed children from England, one once more immediately notices the greater heterogeneity in both Singapore groups. The distribution of vowels is very heterogeneous among and across the two lexical sets, and none of the children (with perhaps the exception of Jie Jie) maintains a clear spectral differentiation between FLEECE and KIT, as would be expected in an adult native speaker of BrE or AmE. (For exemplary BrE formant data, see Deterding, 1997;¹ for AmE vowel plots illustrating similar tendencies, see, for example, Labov et al., 2006, pp. 208–214). What is particularly interesting here is that two of the Chinese children (Maggie and Xu) – and, to a lesser but still visible extent, one of the Indian children (Mechelle) – exhibit a reverse pattern of vowel realization, i.e., they quite systematically realize the KIT vowels fronter than the FLEECE vowels.

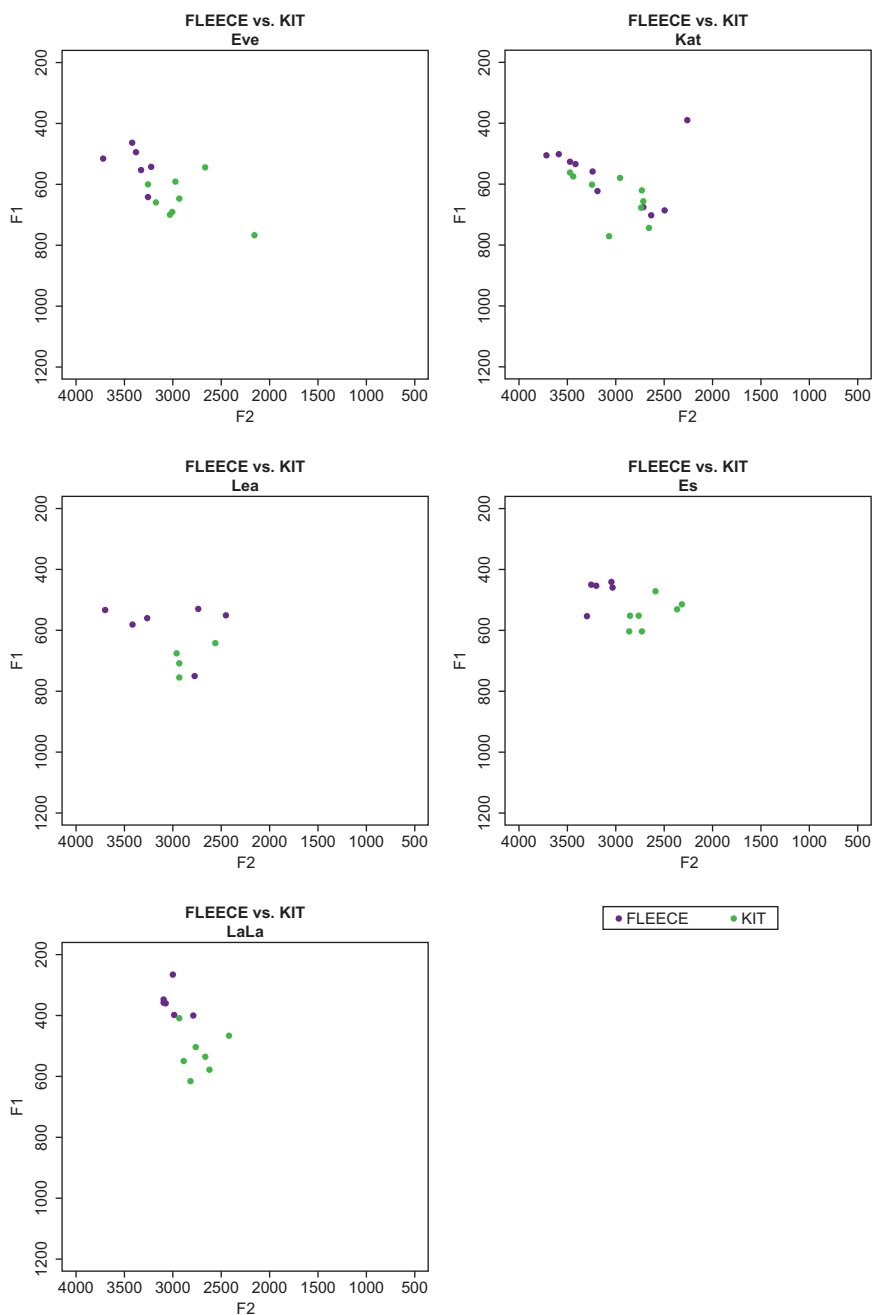


Figure 8.3 Individual vowel plots, FLEECE–KIT, England (ancestral)

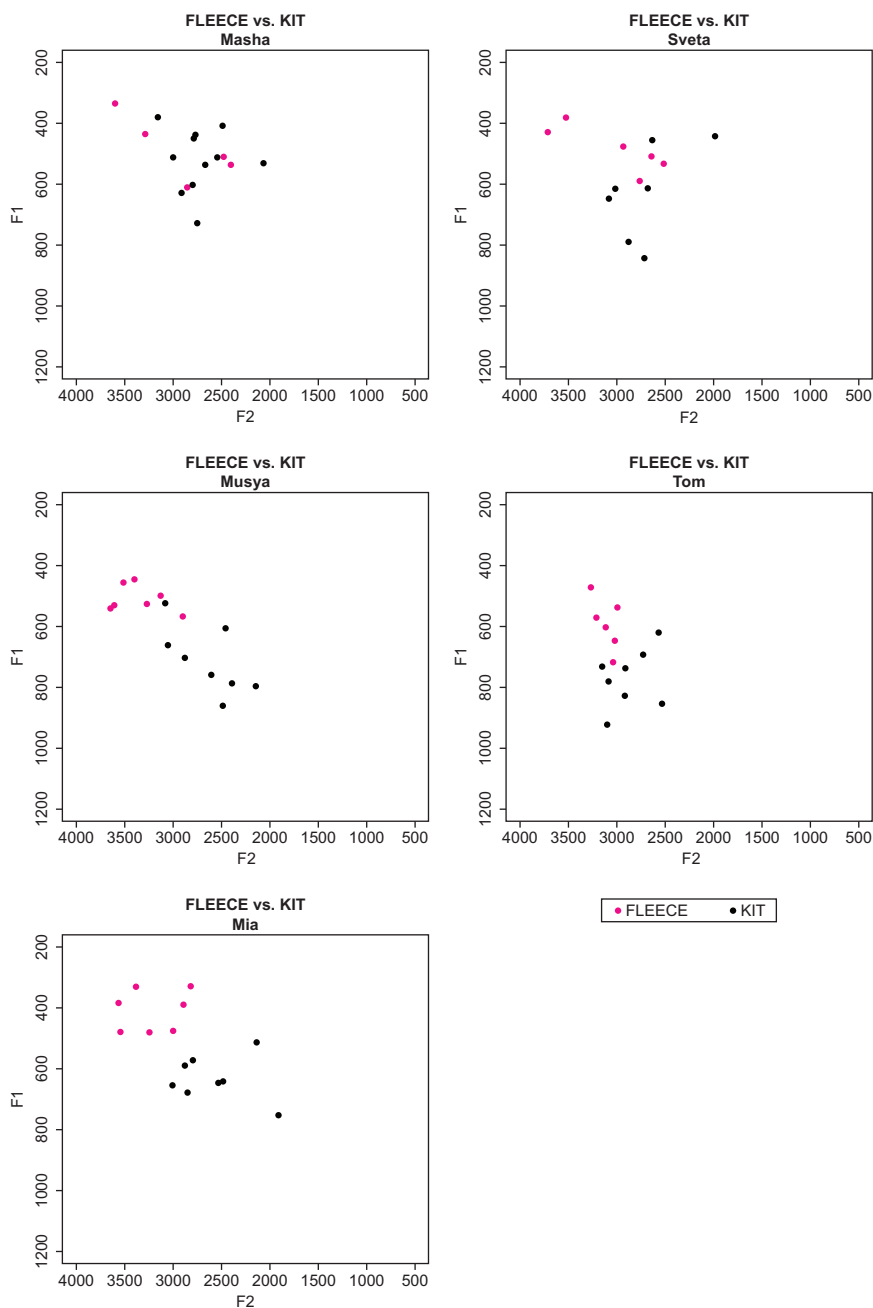


Figure 8.4 Individual vowel plots, FLEECE–KIT, England (migrant/mixed)

In the ancestral English data, the two sets are certainly more intermingled and heterogeneous than would be expected for adult data (cf. Deterding, 1997; Labov et al., 2006, pp. 208–214), but the picture is clearly more homogenous and systematic and closer to what the traditional adult native speaker is expected to do than to the realizations of the Singaporean children. The two older children, Es (8;5) and Lala (10;0), show an especially clear separation of the KIT and FLEECE sets. These findings are in line with what the literature reports, as it is well attested that child data is “messier” – viz. more variable and idiosyncratic – than adult data, though even adult data has been said to be more variable and irregular than is often thought (Donegan, 2013, pp. 37, 50).

KIT and FLEECE are again slightly more heterogeneously distributed across the spectral range in the migrant/mixed group than in the ancestral group, though they are less heterogeneous in the migrant/mixed group than in the Singapore groups. Even though the realization is somewhat more heterogeneous than in the ancestral English group, the migrant/mixed group clearly shows similar patterns when it comes to the realization of vowel quality in the FLEECE and KIT sets. Neither group from England shows the inverse KIT–FLEECE pattern reported for the Singapore groups, so this seems to be a feature typical of the emerging L1 variety.

The individual results for the spectral realizations of the GOOSE and FOOT vowels reveal a similar picture (see Figure 8.5, Figure 8.6, Figure 8.7, and Figure 8.8). The spectral realizations of the GOOSE and FOOT vowels and the general patterns to be detected are very similar to those observed for FLEECE and KIT. The Singaporean children are more heterogeneous in their realizations, and their differentiation between the two sets is again less distinct. The FOOT–GOOSE results seem even less systematic than the observed KIT–FLEECE realizations. The only child who shows a pattern of differentiation at all is the Indian boy Kabs (5;4). He interestingly employs a characteristic that is pervasive in modern BrE, viz. GOOSE-fronting (e.g., Docherty, 2010, p. 67). I can only speculate on why this is the case: it might be an individual manifestation of the stronger orientation of Indian Singaporeans toward the BrE standard variety. This would partly support the interpretation of the inter-ethnic differences as discussed in the two analyses of the acquisition of subject pronouns and past tense marking.

The ancestral English children show a clearly stronger separation of the GOOSE and FOOT sets from early on than for FLEECE and KIT and a far stronger differentiation than seen in the Singaporeans. All five ancestral English children show clear GOOSE-fronting. The same is true for Musya (to some extent), Mia, and especially Tom in the migrant/mixed group. Again, vowel realizations in this group are more variable than in the ancestral group but less variable than in the Singaporean children. Their differentiation of FOOT and GOOSE vowels is also more distinct than in the Singaporean children.

Summaries of the KIT–FLEECE and FOOT–GOOSE realizations according to group confirm the observations made earlier (see Figures 8.9 through 8.16).

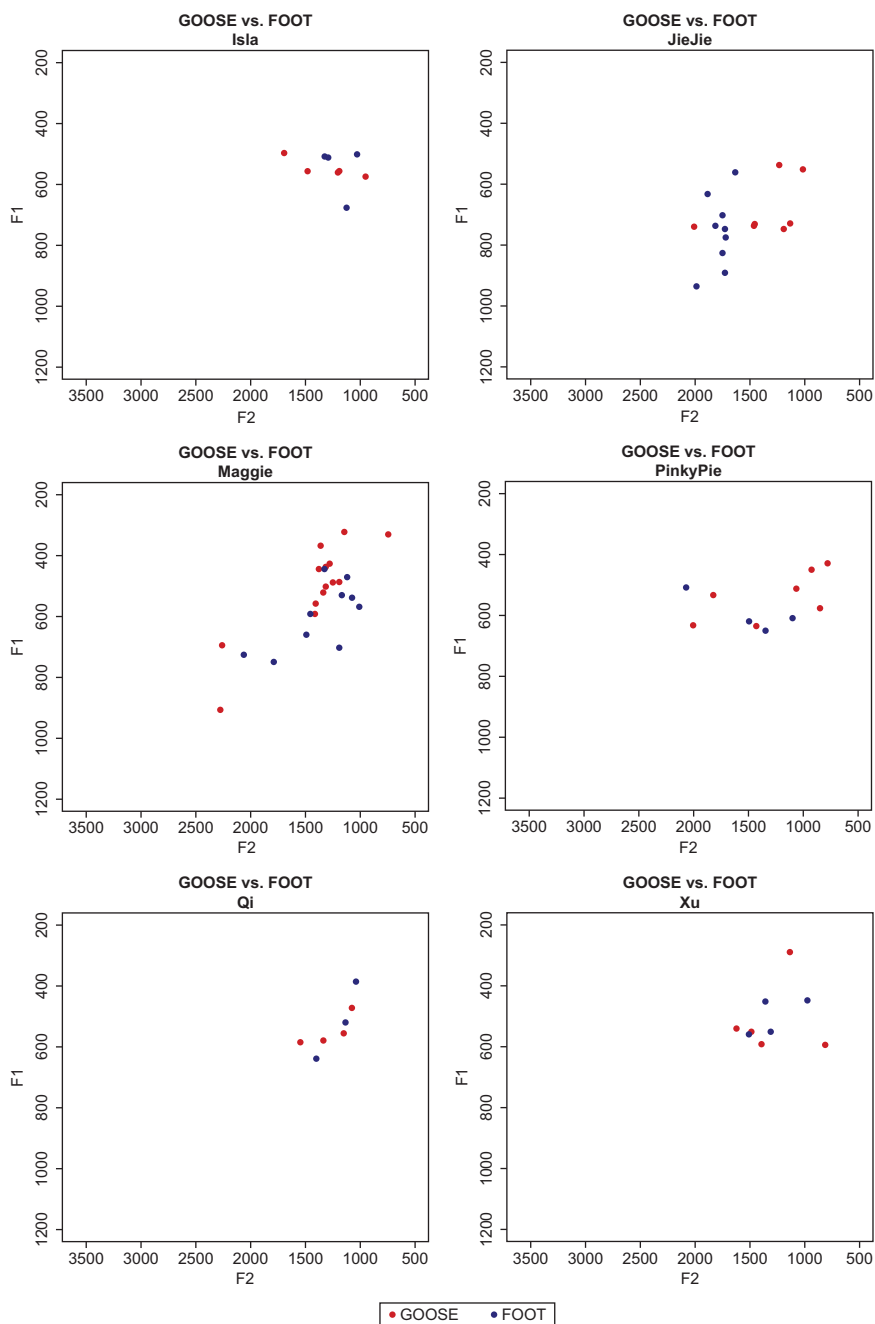


Figure 8.5 Individual vowel plots, GOOSE–FOOT, Singapore (Chinese)

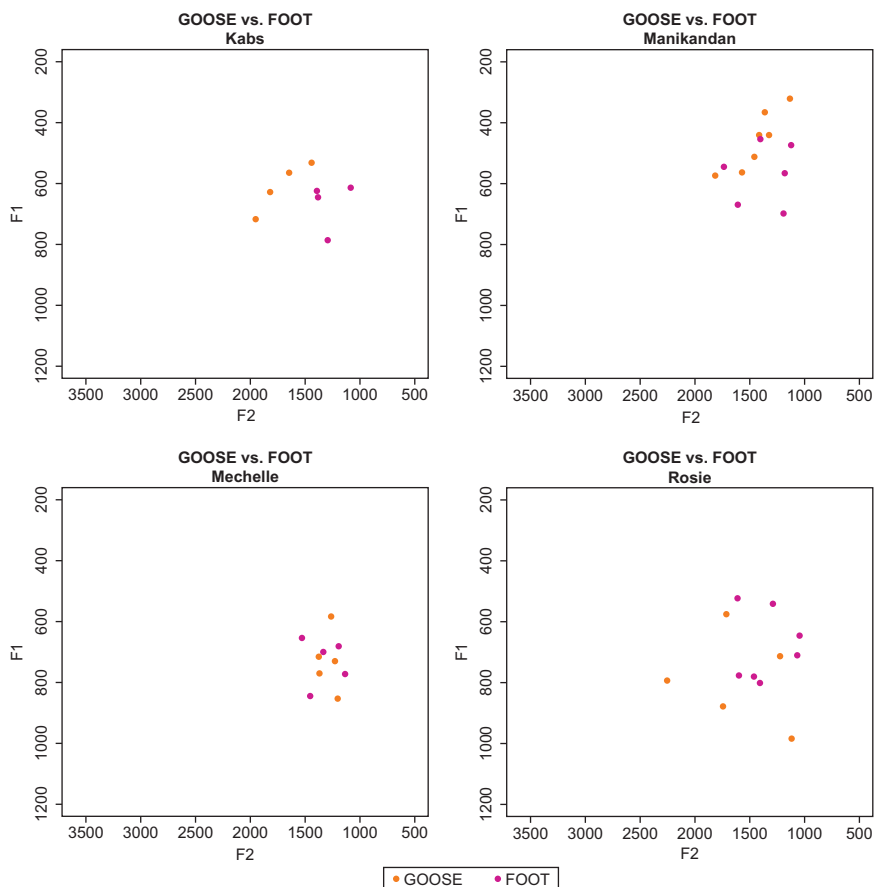


Figure 8.6 Individual vowel plots, GOOSE–FOOT, Singapore (Indian)

As both the summaries of individual realizations for each token and the means with their standard deviations (indicated by the ellipses) in Figure 8.9, Figure 8.10, Figure 8.11, Figure 8.12, Figure 8.13, Figure 8.14, Figure 8.15, and Figure 8.16 show, the overlap between the sets as well as the heterogeneity in their distribution (indicated by the size of the ellipses) is higher in the Singapore groups than in the groups from England. Within the Singapore groups, the KIT–FLEECE and FOOT–GOOSE quality mergers appear to be slightly stronger in the Indian group, according to the mean values and overlap in the ellipses. The KIT–FLEECE reversal also clearly shows in the mean values, even though not all children exhibit it. In general, the merger is stronger for FOOT–GOOSE than for KIT–FLEECE.

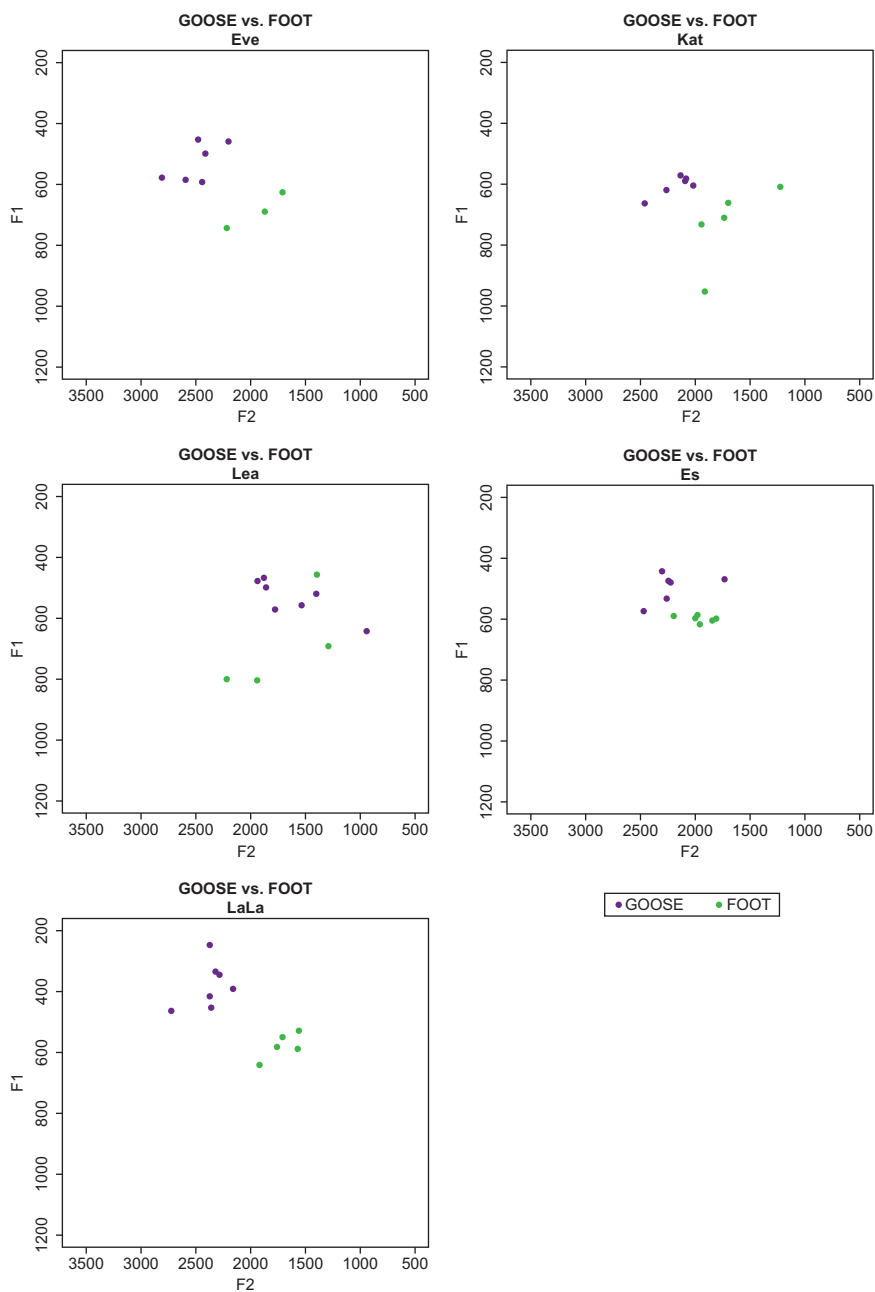


Figure 8.7 Individual vowel plots, GOOSE–FOOT, England (ancestral)

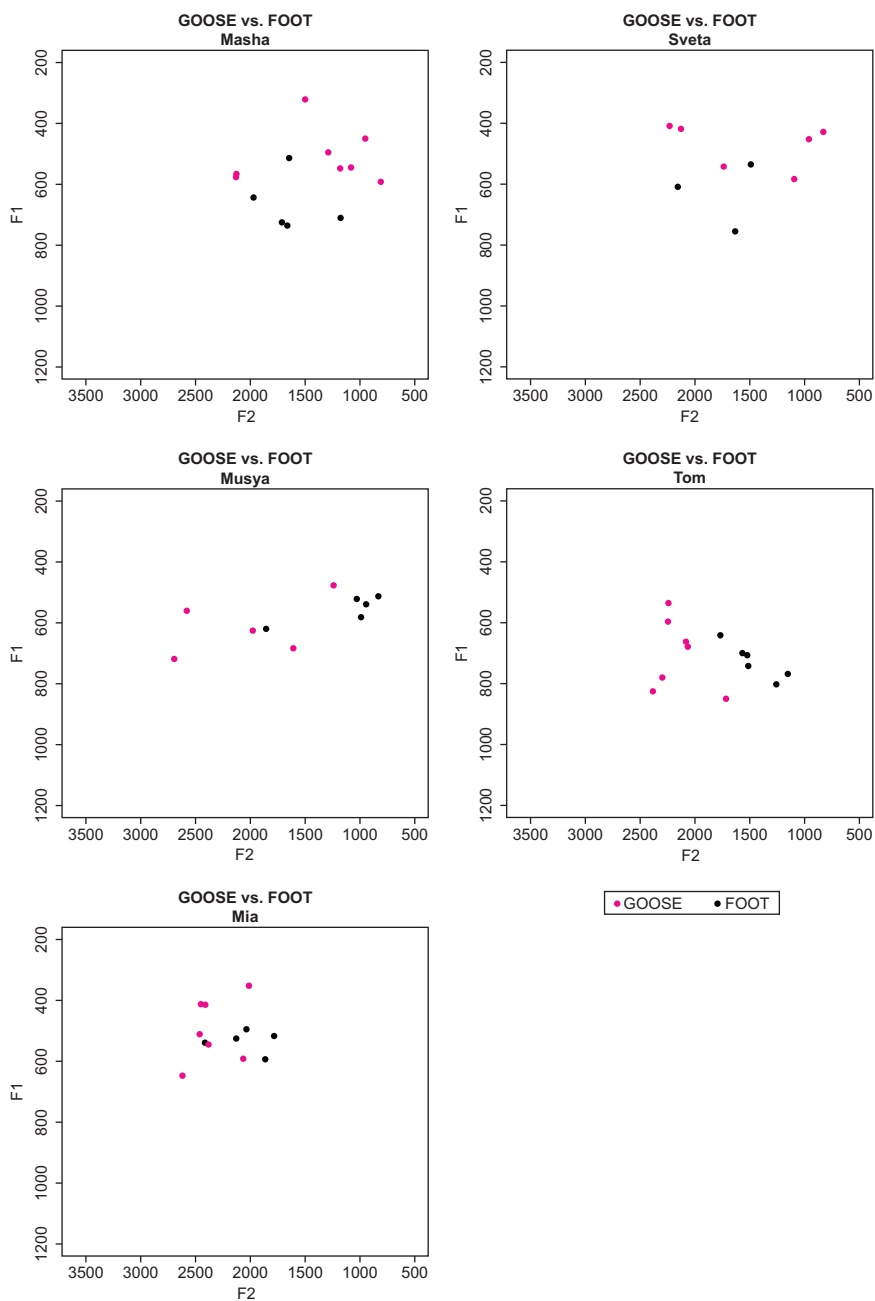


Figure 8.8 Individual vowel plots, GOOSE–FOOT, England (migrant/mixed)

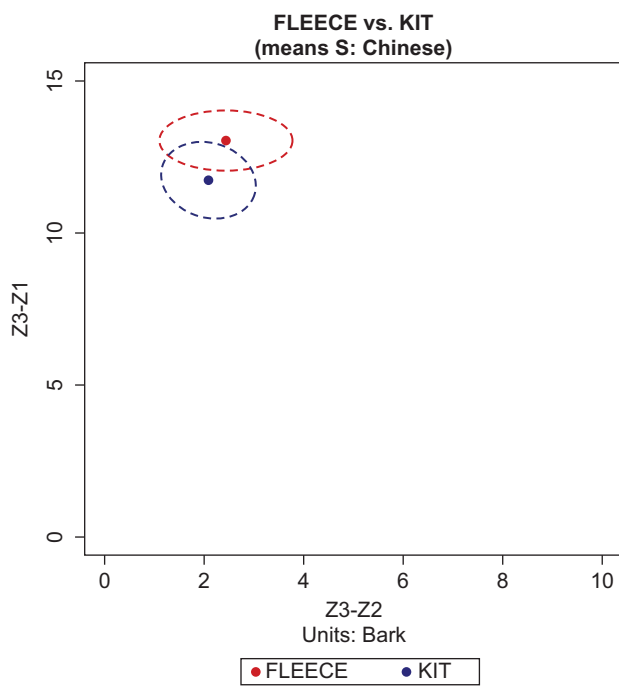
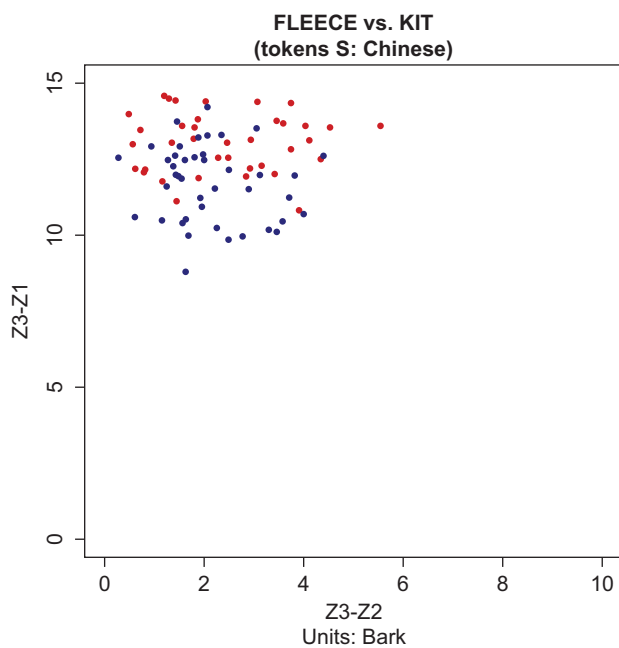


Figure 8.9 FLEECE–KIT, all Singapore (Chinese)

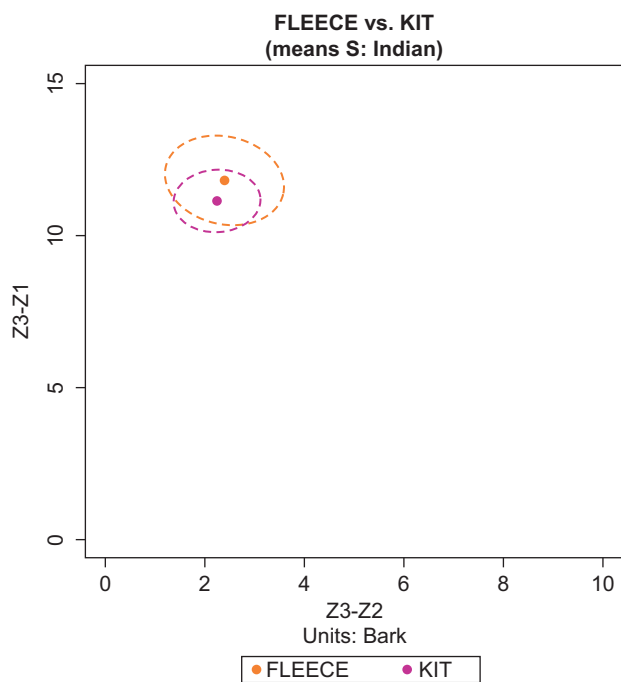
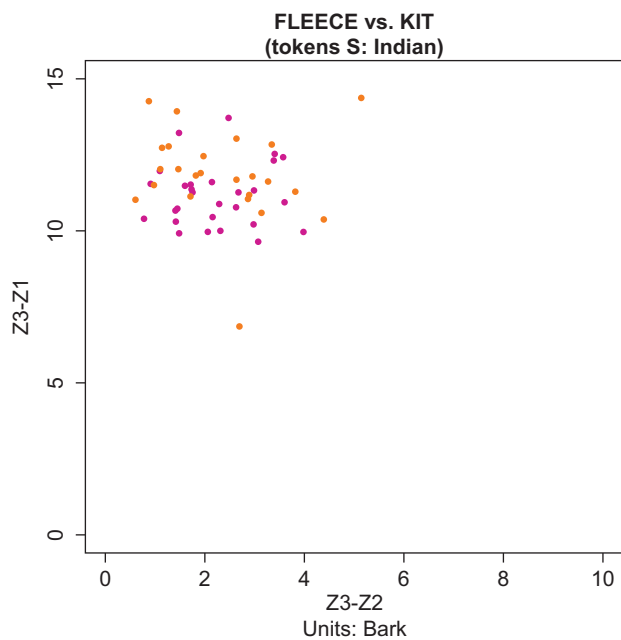


Figure 8.10 FLEECE–KIT, all Singapore (Indian)

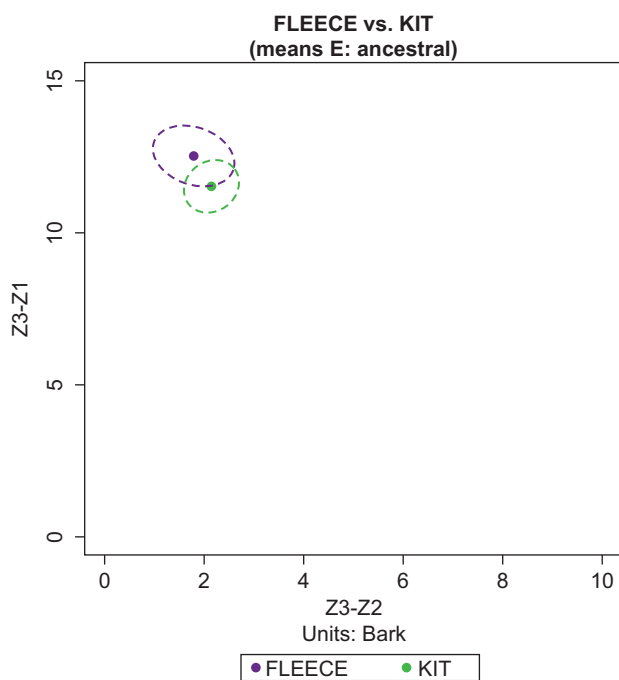
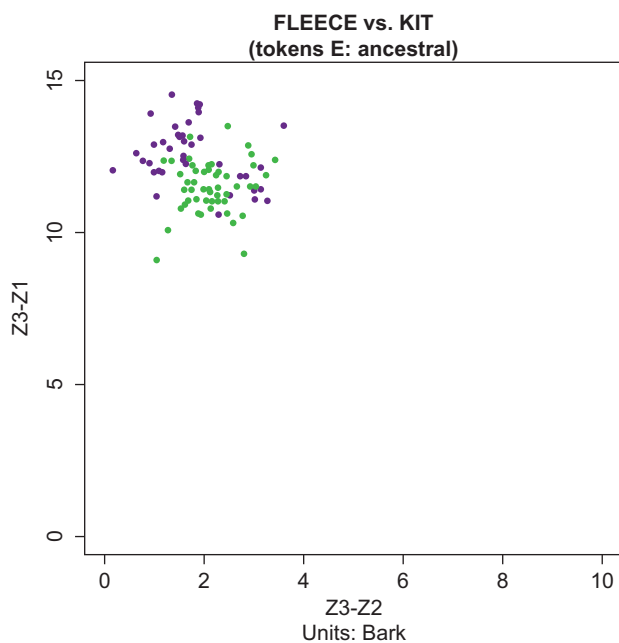


Figure 8.11 FLEECE–KIT, all England (ancestral)

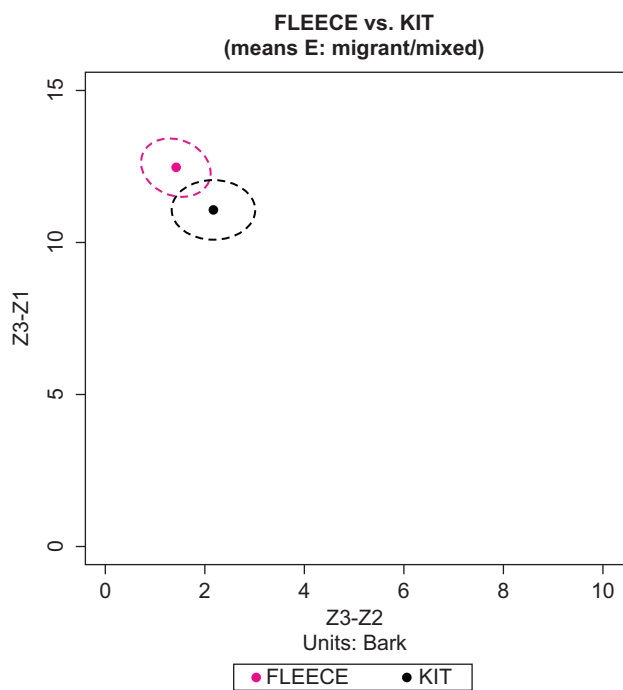
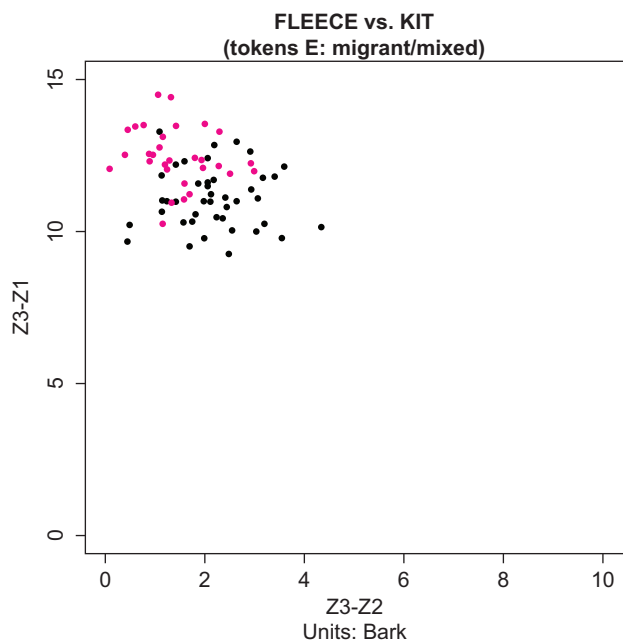


Figure 8.12 FLEECE–KIT, all England (migrant/mixed)

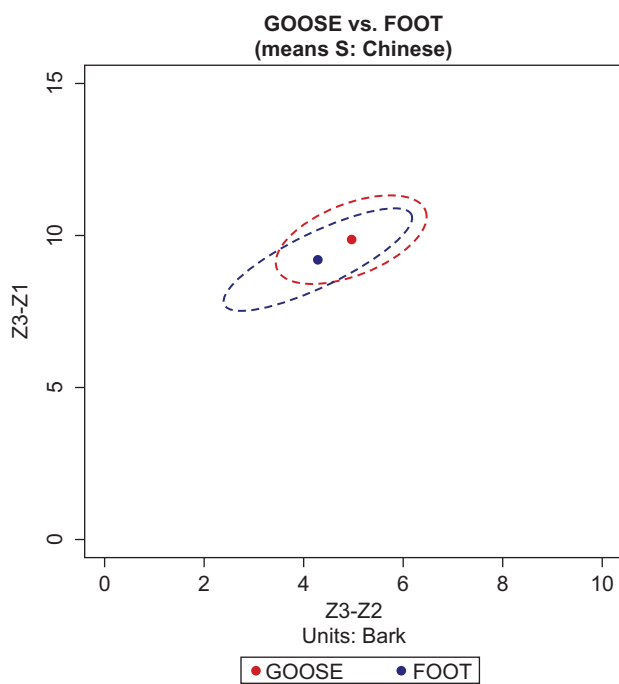
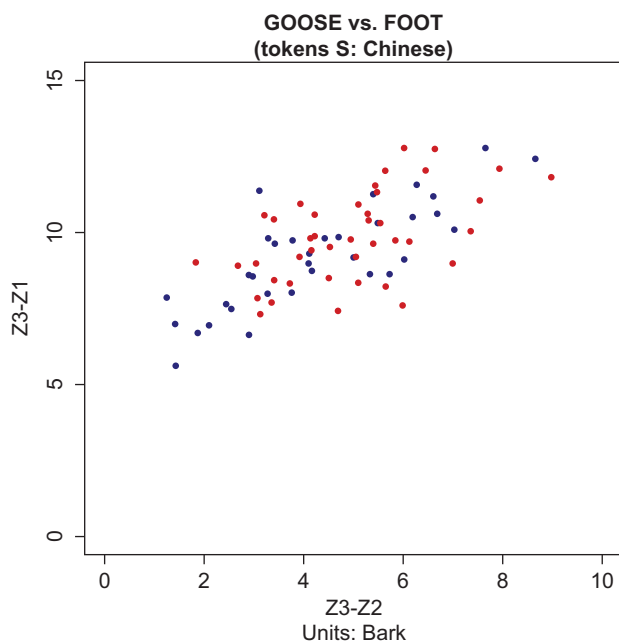


Figure 8.13 GOOSE–FOOT, all Singapore (Chinese)

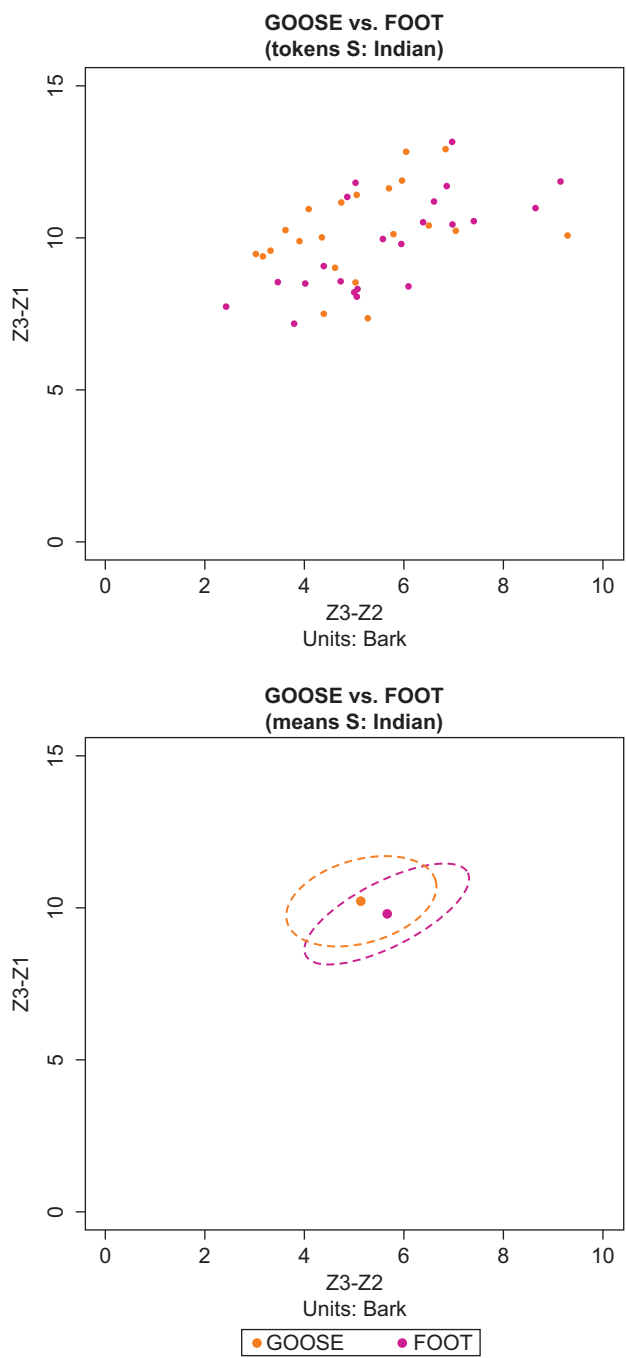


Figure 8.14 GOOSE–FOOT, all Singapore (Indian)

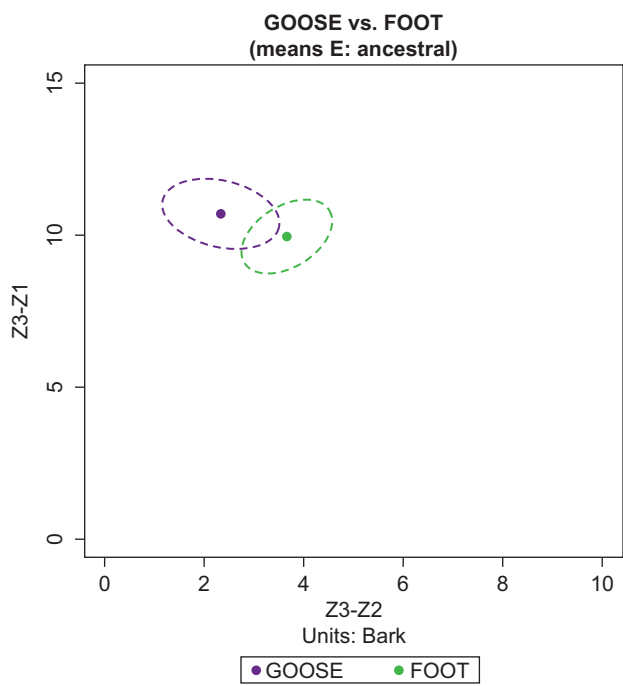
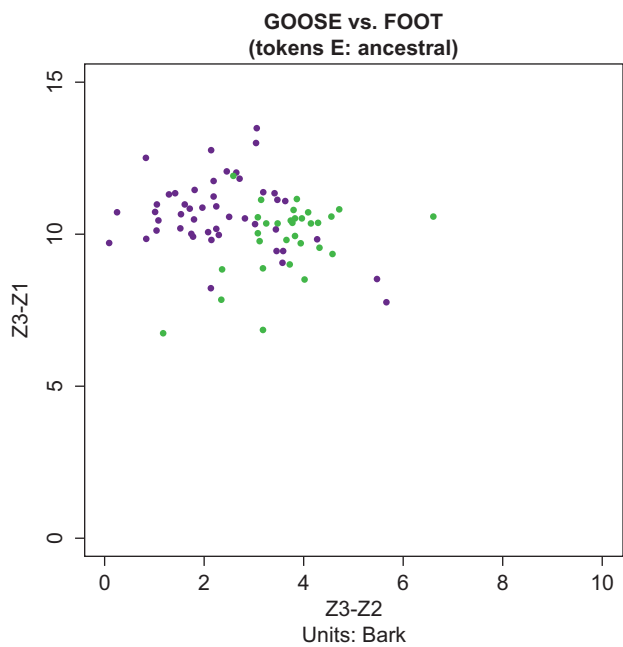


Figure 8.15 GOOSE–FOOT, all England (ancestral)

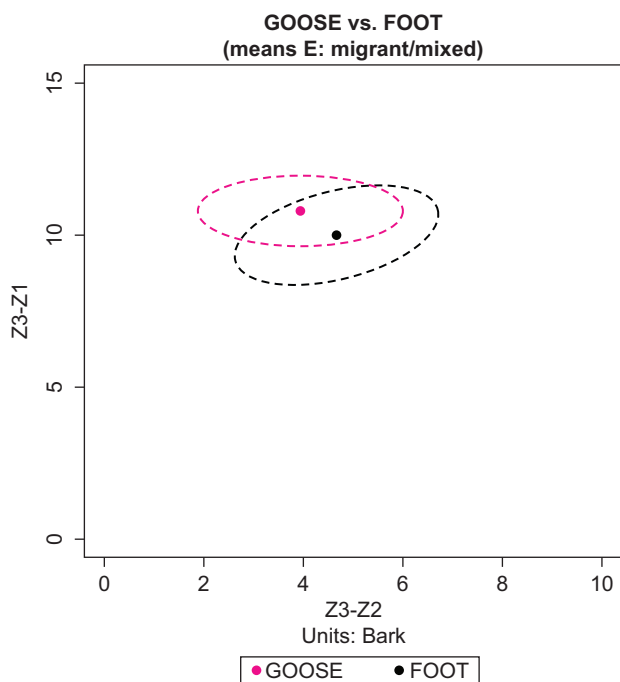
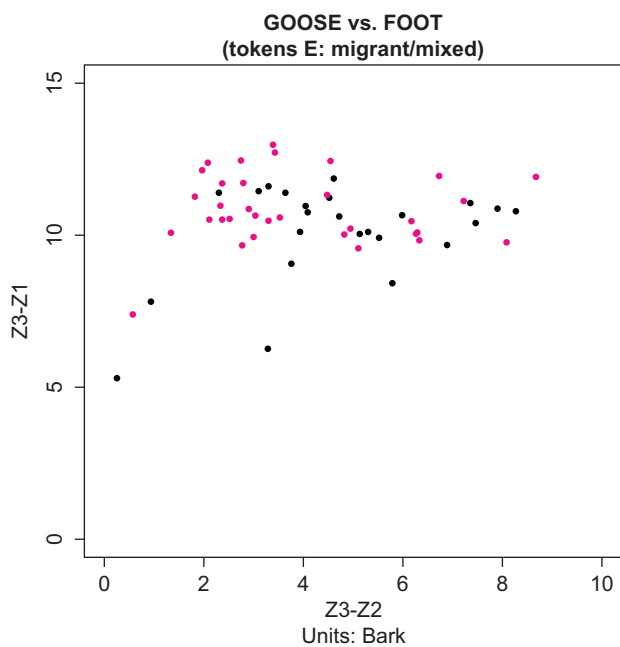


Figure 8.16 GOOSE–FOOT, all England (migrant/mixed)

Overlaps between the sets and heterogeneity in vowel realizations are lower in the groups from England, especially in the ancestral group, though heterogeneity is proportionally stronger for vowel realizations in the GOOSE and FOOT sets. GOOSE-fronting occurs in both groups from England but is clearly stronger in the ancestral group. In general, the two Singapore groups cluster together, as do the two groups from England. This is also clearly visible in how strongly the ellipses overlap in Figure 8.17, Figure 8.18, Figure 8.19, and Figure 8.20. They compare the means for FLEECE, KIT, GOOSE, and FOOT for all four groups. The colors distribute as follows:

The former color always represents the long vowel; the latter, the short vowel.

- Chinese Singaporean = red (FLEECE/GOOSE) and blue (KIT/FOOT) dots and ellipses
- Indian Singaporean = orange (FLEECE/GOOSE) and pink (KIT/FOOT)
- England ancestral = dark purple (FLEECE/GOOSE) and green (KIT/FOOT)
- England migrant/mixed = purple (FLEECE/GOOSE) and black (KIT/FOOT)

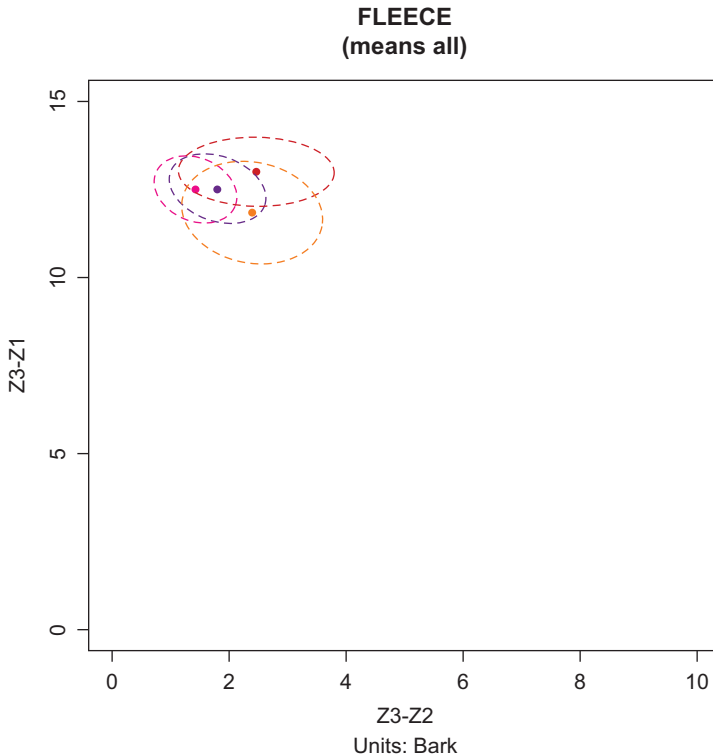


Figure 8.17 Group means with standard deviations, FLEECE

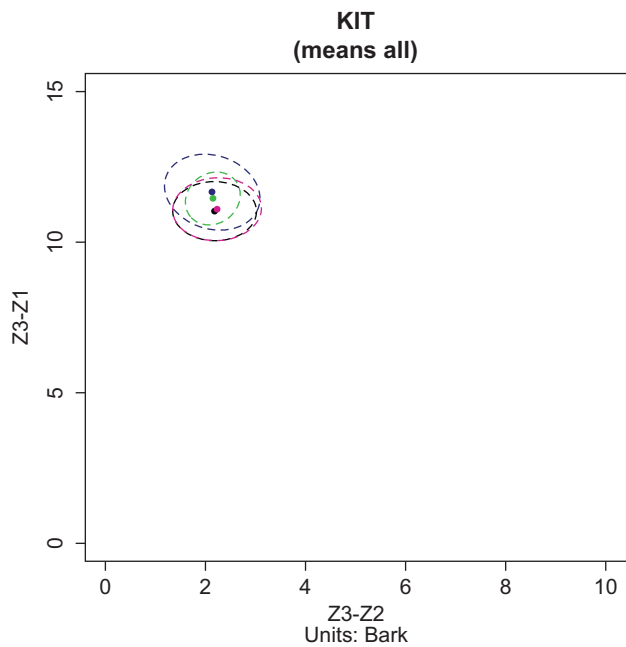


Figure 8.18 Group means with standard deviations, KIT

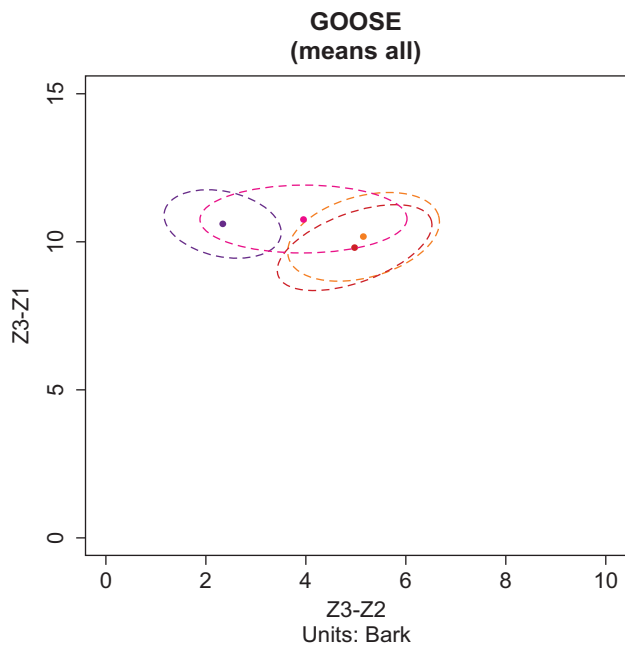


Figure 8.19 Group means with standard deviations, GOOSE

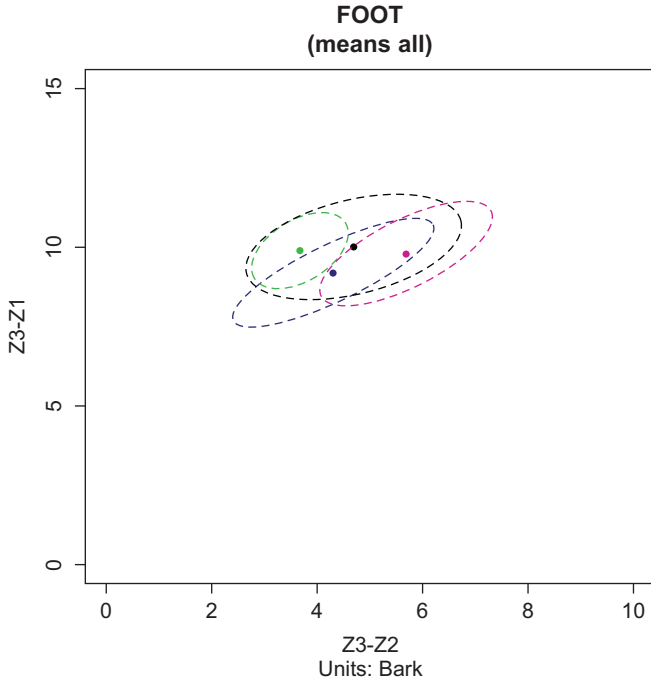


Figure 8.20 Group means with standard deviations, FOOT

8.2 Discussion: the loss of spectral differentiation in L1 child SingE

As revealed by the results, the Singaporean children behave in similar ways across ethnic groups. Thus, in contrast to the morphosyntactic findings reported in Chapters 6 and 7, no conspicuous, systematic difference in the realization of vowel quality shows between the Chinese and Indian children. What is most important for the present study is that the results have revealed a merger in vowel quality for the two sets observed, similar to what has already been reported in the earlier literature on adult SingE (e.g., Lim, 2004, pp. 20–23; Low & Brown, 2005, pp. 115–128; see Section 2.4.1).

The loss of spectral differentiation has also been observed in Mandarin speakers of L2 English in the Language Acquisition literature. As Wang and Munro (1999) report, Mandarin learners of English do not make use of spectral cues. However, this is not exclusively restricted to Mandarin learners of English; it is also reported in the acquisition literature on a much broader scale. As Bohn states: “[W]henver spectral differences are insufficient to differentiate vowel contrasts because previous linguistic experience did not sensitize listeners to

these spectral differences, duration differences will be used to differentiate the non-native vowel contrast" (Bohn, 1995, pp. 294–295). This, however, is not necessarily – and certainly not exclusively – a feature of L1 transfer, as this strategy has been reported both for learners speaking languages that employ phonemic length distinctions and those speaking languages that do not. Bohn (1995), for example, shows that Spanish and Mandarin speakers rely heavily on durational cues for the differentiation between /i/ and /ɪ/, even though neither of the two languages employs vowel duration contrastively (see also Wang & Munro, 1999, p. 125). I will look into how these observations lend themselves to the interpretation of my data in the following sections.

What has also been reported in the Language Acquisition literature on Mandarin learners of English is the reversed spectral distribution of the KIT and FLEECE vowels (Wang & Munro, 1999, p. 126). Wang and Munro (1999) explain this finding as a result of orthographic confusion. However, I think that this explanation might be a bit short-sighted, especially against the backdrop of the findings here. Orthographic criteria do not play a role in my study. Together with the finding that the spectral differentiation between FLEECE and KIT is not maintained in the Singapore data, I interpret the finding as the result of a transfer effect from Mandarin Chinese. Because Mandarin Chinese does not employ the difference between KIT-FLEECE and FOOT-GOOSE (cf. Section 4.1.2), L1 speakers learning English as an L2 might have difficulties perceiving and thus producing this qualitative difference. In Wang and Munro's (1999) case, this finding might therefore be the result of an immediate transfer in second language acquisition. For my children, however, this is, of course, not a plausible account, as most of them have been acquiring English from birth. According to the acquisition literature, bilingual children acquire two separate phonological systems – if not right from the beginning, at least at some point in the acquisition process, with transfer between the systems playing a marginal role (cf. Section 4.2.3). As reported earlier, in the analysis of spectral differences, the youngest child in the Singapore group is aged 4;11. At this age (and older) transfer of such a strong nature as reported here (i.e., merging two qualitatively distinct vowel sets) should definitely not occur. I therefore assume that this spectral merger has its origin in the early days of the emergence of SingE and is therefore an indirect effect of L2 adult acquisition, which has found its way into L1 child SingE via the input the children receive.

What is also interesting in the results reported earlier is that the Indian children also show evidence of the merger and, to some extent, also the reverse pattern. There is no conspicuous difference between the two groups. This brings with it the following interpretations/conclusions: First of all, these findings again suggest a homogenization trend between the two groups. Taking into consideration the observation that the vowel merger is a feature most likely traceable to adult L2 acquisition, it is possible that this homogenization had already set in before the child generation investigated here and is therefore already present in the input they receive. But why should we be confronted with homogenization here if we find clear and partly statistically significant differences between the

Indian and the Chinese groups elsewhere in the data? The answer is not straightforward and involves a number of general considerations on acquisitional mechanisms and the origin of this feature, viz. whether it is already present in adult language productions or whether the children are the initiators of this characteristic. The former explanation is the more likely one, as the merger has also been reported in the literature on L2 adult SingE, though it is mainly described as a result of a loss of quantitative differences between the vowels.

However, taking into consideration Bohn's observation that "[w]henver spectral differences are insufficient to differentiate vowel contrasts because previous linguistic experience did not sensitize listeners to these spectral differences, duration differences will be used to differentiate the non-native vowel contrast" (Bohn, 1995, pp. 294–295), we have to expect that, contrary to what is often reported in the literature on adult L2 SingE, Singaporeans maintain vowel length as a distinctive feature. In the following section, I investigate whether that is the case for the Singaporean children in my study.

8.3 Vowel length: the influence of MLU group/age, country, and speaker group/ethnicity

The overall data for the vowel length study come from thirty-five of the Singaporean children and twenty-one of the English children. Table 8.1 illustrates how the tokens distribute among the individual subgroups and again presents mean age/age medians for a more precise interpretation of the results:

As the table shows, the Singapore Chinese group is clearly overrepresented in terms of token numbers ($n = 482$), whereas the Singapore mixed group is distinctly underrepresented ($n = 26$). The tokens are also not completely equally distributed among the lexical sets. However, no token is strikingly over- or underrepresented (FOOT = 201, FLEECE = 300, GOOSE = 316, and KIT = 344). To take adequate account of the differences between the groups when it comes to

Table 8.1 Summary tokens and participants, vowel length study

	<i>Number of participants (total = 56)</i>	<i>Token number (total = 1161)</i>	<i>Age (months)</i>	
			<i>Mean + standard deviation (SD)</i>	<i>Median</i>
Singapore: Chinese	23	482	57 (4;9) SD: 25 (2;1)	60 (5;0)
Singapore: Indian	9	196	75 (6;3) SD: 38 (3;2)	75 (6;3)
Singapore: mixed	3	26	35 (2;11) SD: 27 (2;3)	21 (1;9)
England: ancestral	13	276	56 (4;8) SD: 32 (2;8)	45 (3;9)
England: migrant/ mixed	8	181	60 (5;0) SD: 33 (2;9)	55 (4;7)

the token frequencies in the individual lexical sets, I use so-called variable-width box plots, which is a means of displaying differences in the distribution of tokens in the groups under investigation, i.e., the width of each box is proportional to the square root of the number of tokens in each group (cf. McGill et al., 1978, p. 13). Again, these box plots were created in R. Beyond the variable width feature, R also offers the option to create so-called notched box plots, a method that can add further interesting and helpful details and statistical sophistication for the interpretation of the data.

The key difference between these and regular, viz. “unnotched,” box plots is the so-called notch in the box, which represents the confidence interval around the median. As McGill et al. (1978) summarize:

The notches surrounding the medians provide a measure of the rough significance of differences between the values. Specifically, if the notches about two medians do not overlap in this display, the medians are, roughly, significantly different at about a 95% confidence level.

(McGill et al., 1978, p. 14)

Chambers et al. (1983) offer an articulate summary of how to interpret such notched plots: “[I]f the notches for two boxes do not overlap, we can regard it as strong evidence that a similar difference in levels would be seen in other sets of data collected under similar circumstances” (p. 62). In other words, if the notches of two boxes overlap, the results are insignificant; if they do not, they tend to be significant. However, as this is not a formal test in the strict sense (cf. Doyle, 2013), I perform an additional test of statistical significance, viz. a linear mixed-effects model (cf. Section 4.5). Results will be discussed later in this chapter.

Looking into the length differences between KIT and FLEECE in the three groups (Singapore, England migrant/mixed, England ancestral), a clear difference shows between the Singapore group and the two cohorts of children acquiring English in England. Here and in the following, the red line displays the median of FLEECE (and GOOSE in the following figures) in the Singapore group; the purple line shows the median of KIT (and FOOT, respectively), again in the Singapore group. These lines serve as a visual aid for comparing the groups to each other. Here, Singapore is set as the benchmark for comparison for two interrelated reasons. First, it is at the center of the analysis. Second, I want to emphasize again that I by no means see it as inferior to BrE and that it can likewise serve as the center for comparison.

What the comparison in Figure 8.21 shows is that all three groups behave in very similar ways when it comes to the realization of the vowels in the lexical set KIT. The median is very similar in all groups, ranging around 150 msecs. The distribution of the results, i.e., the span of the boxes and whiskers, is also comparable; it is smallest in the migrant/mixed group. The outliers are clearly more numerous in the two bi-/multilingual groups. In fact, no outliers exist in the monolingual ancestral English group at all. What is more, the notches

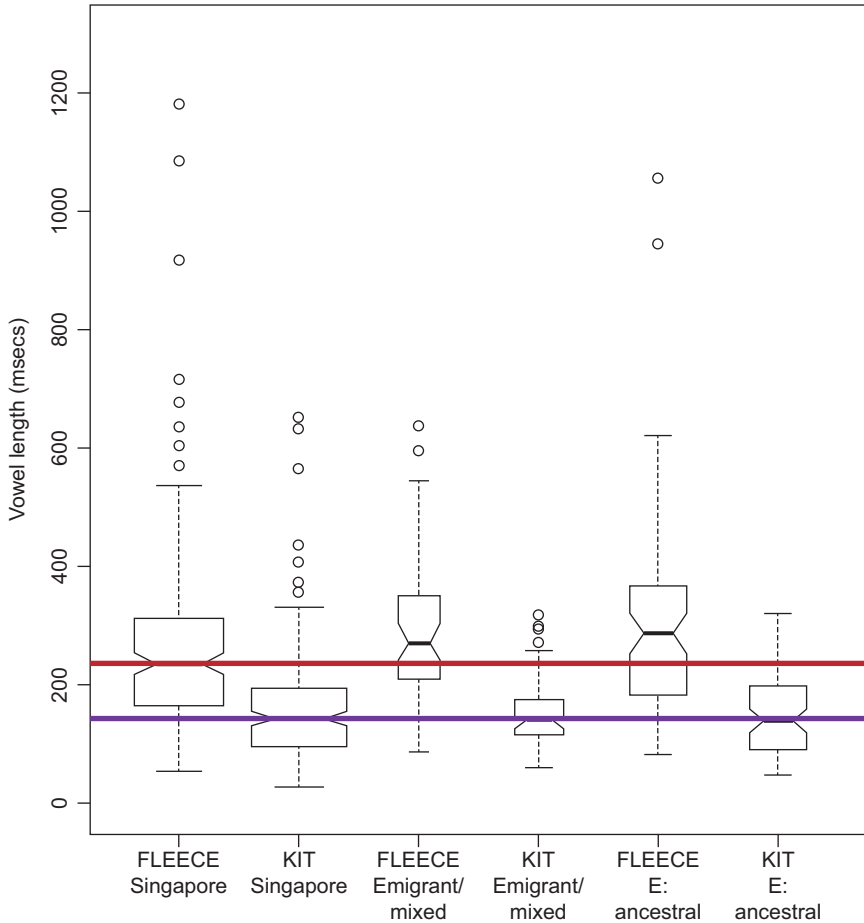


Figure 8.21 FLEECE vs. KIT according to country/speaker group

between the three boxes overlap, which suggests that there is no significant difference between the data sets; i.e., length distributions of KIT are very similar across the three groups.

When looking into the realization of the FLEECE set, a different picture emerges. Even though the data distribution as such is again similar, the medians for FLEECE are clearly higher in the two groups from England: around 290 msecs in the ancestral group, 270 msecs in the migrant/mixed group, and 240 msecs in the Singapore group. The notches, however, still overlap, certainly for the Singapore and the migrant/mixed group, though not that clearly (but still slightly) with the ancestral group. For FLEECE, the Singapore group clearly shows the highest number of outliers. This may even be increased by the children's tendency to playfully lengthen their vowels, especially at the end of words, which had

already caught my attention while conducting the experiments. This is not only a phenomenon of child language; it has also been reported that in CSE/Singlish, the final syllable of a word is often lengthened as a form of emphasis (with a pattern that regularly occurs in Malay as a potential source for this phenomenon; cf. Deterding, 2007, p. 38). Hence, for example, the answer to a question such as “What are you doing?” might be “Reading!”, with a clearly lengthened last syllable for assertive purposes (Wee, 2004a, p. 1032; see also Deterding, 2007, p. 38). This general phenomenon in the children’s input might increase the Singaporean children’s inclination toward lengthening the vowels at the end of words, especially in open syllables such as in *bee* or *key* – and the same would be true for, for example, *shoe* or *blue* in the GOOSE set. The linear mixed-effect models (the results of which are reported in Section 8.5) account for this potential influence on vowel length in specific words by including WORD as a random factor.

When comparing the length difference between FLEECE and KIT within the individual groups, the results show that the difference is clearly present in all three, as none of the notches overlap. It is slightly stronger in the ancestral group from England (for which FLEECE shows the highest duration) than in the migrant/mixed group. It is weakest in the Singapore group, though the vowel merger often described in the literature for adult L2 SingE does not show in my data.

When looking into the results for GOOSE and FOOT according to country/speaker group (see Figure 8.22), a very similar picture emerges. The vowels in the FOOT set behave in a similar way as the KIT vowels; they are slightly shorter in the Singapore and England ancestral groups (≈ 130 msec both) than in the migrant/mixed group, though these differences are far from being significant. The span of the boxes and whiskers is also very similar for the Singapore and ancestral English groups but smaller in the migrant/mixed group. The number of outliers for both FOOT and GOOSE is again highest in the Singapore group. GOOSE is shortest in the Singapore group (≈ 220 msec) and clearly longer in the migrant/mixed and ancestral English groups (≈ 260 and 280 msec respectively). The notches in the boxes presenting the GOOSE results for the Singapore and migrant/mixed groups from England clearly overlap, but this might not hold for the notches of the GOOSE results of the ancestral group from England. However, this is not clearly visible to the unaided eye and will be validated by the linear mixed-effects models. It is obvious, though, that for all three groups, the notches between FOOT and GOOSE again do not overlap. Once more, the difference is most prominent in the England ancestral group, followed by the English migrant/mixed group and is least prominent in the Singapore group. The difference is slightly weaker than for the KIT and FLEECE sets, yet it is clearly visible (cf. the statistical results presented in Section 8.5). Again, we therefore cannot speak of a vowel merger for FOOT and GOOSE in my L1 SingE data.

What is interesting to note as a general observation when comparing the three groups and the four lexical sets is that the groups apparently all follow a very similar pattern. KIT appears tenser than FOOT, with a difference of approximately

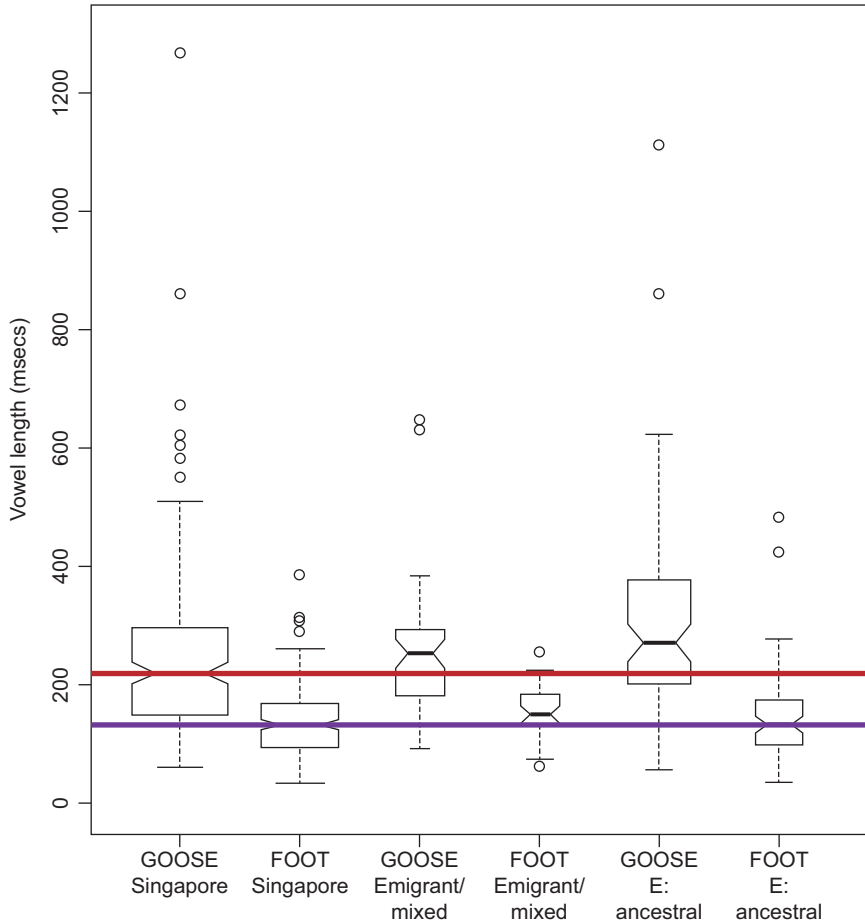


Figure 8.22 GOOSE vs. FOOT according to country/speaker group

twenty msecs in the medians of the Singapore group, very similar lengths in the migrant/mixed group from England, and around fifteen msecs difference in the ancestral English group. The same is true for FLEECE as compared to GOOSE. The median of the latter is about twenty msecs shorter in the Singapore group, and approximately ten msecs shorter in the two groups from England. Even though these are not robust length differences, i.e., neither of statistical significance nor large enough to make a phonemic distinction (cf. the later discussion of what amount of length difference may preserve a phonemic distinction; e.g., Labov & Baranowski, 2006), they indicate that the L1 Singapore vowels follow a similarly systematic pattern to the vowels produced by the two groups from England. First, a phonemic distinction seems to be upheld between the tense and lax vowel pairs in all three groups. Second, the short vowels are

comparatively similar across groups, as are the general distributions of the vowels, i.e., there are no conspicuous differences in the general range and distribution of the parts of the plots (boxes and whiskers). Still, the Singapore group clearly has more outliers than the two groups from England. This reinforces my earlier observations and interpretations, viz. that the Singapore group is more heterogeneous in its linguistic realizations, partly due to the variable, “unstable” input the children receive, partly guided by cross-linguistic influence, and probably also caused by aspects of language attitudes and norm orientations (cf. Sections 6.4 and 7.5). The obvious difference, in particular between the Singapore and ancestral English groups, lies in the length differences of the long vowels, which are considerably shorter in the Singapore group. Third, the medians of KIT and FLEECE are slightly longer than those of FOOT and GOOSE in all groups.

The three parallels pointed out here can be interpreted as indicative of the fact that, despite the alleged heterogeneity in the Singapore group, what the children do is by no means simply unsystematic. It follows particular systematicities, some of which are different from what the English children do (e.g., as repeatedly observed in the discussion of the acquisition of past tense marking in Chapter 7), some of which are similar in their general principles (as seems to be the case here).

As a next step, I once again focus only on the Singapore group, looking into possible ethnic differences, in particular between the Chinese and Indian groups. I also report the results for the mixed group, which consists of three children this time. But as can be seen in Table 8.1 and as visualized by the far narrower box plots and their odd, indrawn shape,² token numbers are still comparatively low. Results should therefore not be over-interpreted for the mixed group. However, I briefly comment on them because they lend themselves to some interesting interpretations in terms of age effects, as the mixed group from Singapore is significantly younger on average than the two other groups (mean 2;11; median: 1;9).

The results for FLEECE vs. KIT (see Figure 8.23) again show a clear difference in the length realization of vowels in the two sets for both the Chinese and Indian groups. For the mixed group, notches overlap, which suggests that there is no significant and thus phonemically distinguishable difference between the vowels. This might be due to an acquisition effect (cf. Section 4.2.3) due to the low mean age of the mixed group. The results for the Chinese and Indian groups, which provide a much more representative sample of the Singaporean child population, once more reinforce the observation that L1 child SingE is not characterized by a vowel merger for KIT and FLEECE. Furthermore, Figure 8.23 illustrates that the difference between KIT and FLEECE seems to be slightly more prominent in the Chinese group than in the Indian group.

These observations are all supported by the analysis of the ethnic differences in the realization of GOOSE vs. FOOT (see Figure 8.24). Here again, the notches overlap for FOOT and GOOSE as realized by the mixed group. The same explanations apply as for the KIT–FLEECE sets. For the two other groups, the difference

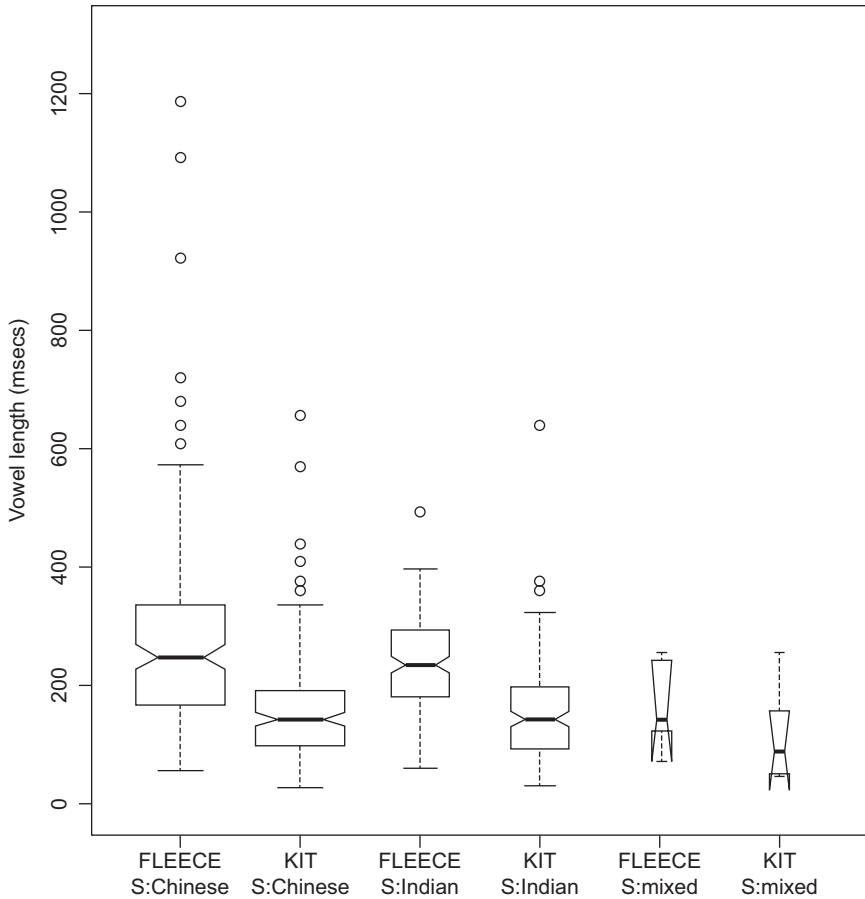


Figure 8.23 FLEECE VS. KIT according to Singaporean ethnicity

between the two vowel sets is robust and is again slightly more pronounced in the Chinese group.

To illustrate the influence of the factor “MLU group/age,” I revert to the unnotched type of box plot because breaking down the data set into “country,” “ethnicity/speaker group,” and “MLU group/age” renders low token frequencies, especially for the migrant/mixed group from England. I report the results according to individual speaker groups, as the illustrations and their interpretation would otherwise become too complex. I exclude the mixed group from Singapore here because its participants do not distribute across all three MLU groups.

For the Singapore Chinese group, I not only report the results for the three MLU groups but also include the outliers as a separate group. As Figure 8.25 illustrates, age/MLU group plays an important role in the realization of vowel length in the KIT and FLEECE sets in all groups. Length differences between KIT and FLEECE are

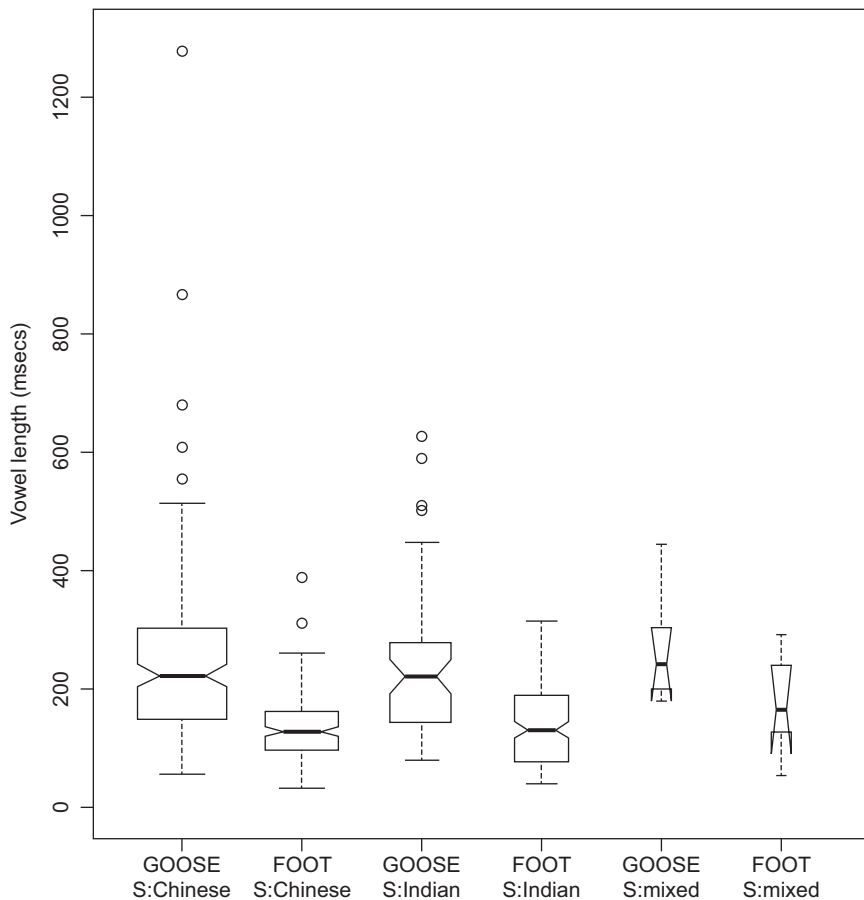


Figure 8.24 GOOSE vs. FOOT according to Singaporean ethnicity

strongest in the youngest group and decrease with an increase in age, though the difference between groups 1 and 2 is far stronger than the difference between groups 2 and 3. This suggests that vowel length does not decline gradually and consistently but that, sometime around the age of three to four, a change in linguistic behavior takes place. This change is stronger in the two Singapore groups than in the two groups from England but is clearly observable in all four (see Figure 8.25). Despite their outlier status, the outliers behave as could be expected according to their mean age ($\approx 5;0$) and thus do not perform unexpectedly when compared to the overall results from their same-age peers. In terms of the decline in vowel length differences, it seems that it is mainly the vowels in the FLEECE set undergoing shortening; the KIT vowels remain very similar in length across groups. The latter observation is in line with research on the acquisition of

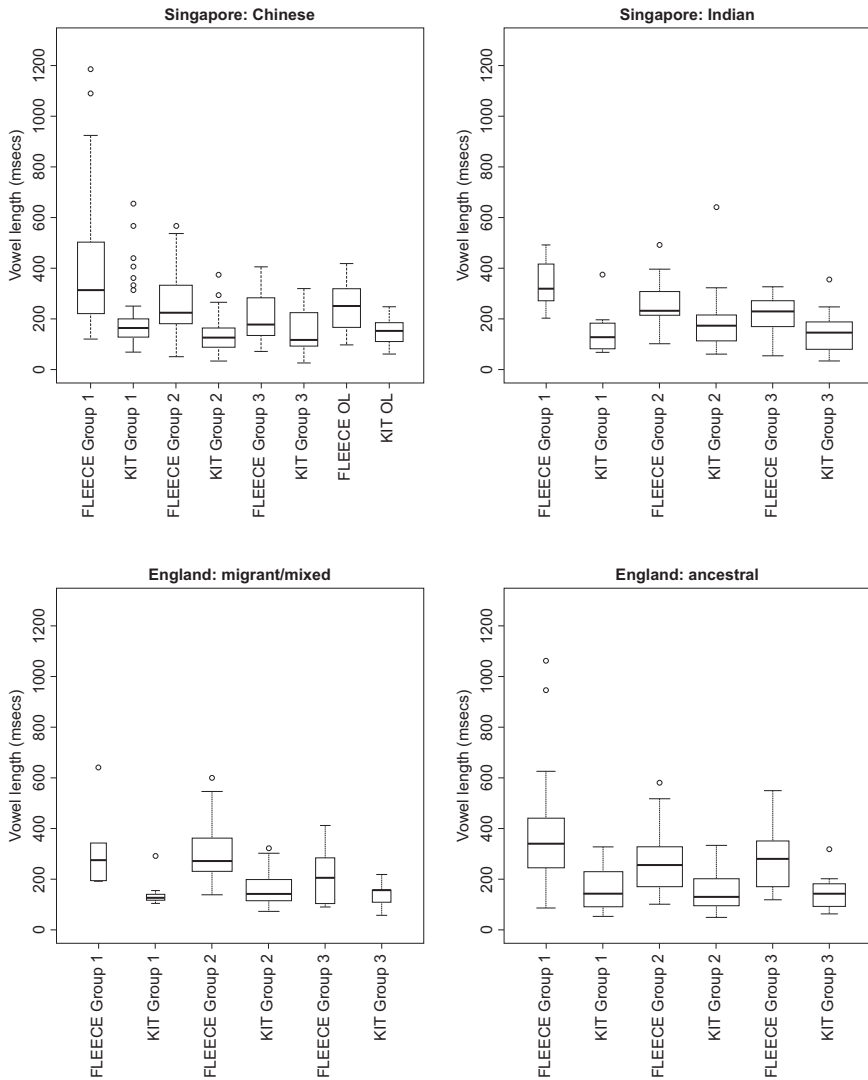


Figure 8.25 FLEECE vs. KIT according to age/MLU group and ethnicity/speaker group

vowels. For small children, the literature reports “a short vowel lengthening constraint” (Yuen et al., 2014, p. 1477). The existence of such a constraint, which was not detected for long vowels in Yuen et al.’s (2014) study, was interpreted as “further support for the position that AusE children have a phonemic vowel length distinction by the age of 3” (Yuen et al., 2014, p. 1477). This is a

convincing interpretation and one that also applies to my findings. The constraint explains why KIT is always comparatively stable and also less heterogeneous in its realizations. It is thus less susceptible to age effects than FLEECE. It is the latter that is mainly responsible for the reduction in vowel contrasts, which, however, does not lead to a merger, as we have seen previously.

What is more, vowel length appears to be more heterogeneous in the youngest group (and this is particularly true for the Chinese Singapore group), as variation (i.e., the range of the boxes and whiskers and the number of outliers) also decreases with an increase in age. These tendencies of stabilization in vowel realization around the age of three to four are once more in line with what is reported in the acquisition literature (cf. Section 4.2.3). However, why variation is more prominent in the Singapore groups – and especially in the Chinese Singaporeans – is a question I can only speculate on. One conceivable explanation lies in the overall strong heterogeneity of the system, as has already repeatedly been observed in the other parts of the study (cf. Chapters 6 and 7 and Section 8.1). Once more, children may simply be confronted with a variety of realizations of the same linguistic characteristic. That automatically leads to a more variable output, especially in the early years of acquisition, in which vowel realization is rather unstable *per se*. In other words, it may be that differences in the realizations of the vowels (and the length differences between them in the adult input) reinforce the general acquisition effects. What is more, cross-linguistic influence may again play a role, and it may be (by chance) that the Chinese Singaporeans make stronger use of the playful lengthening of vowels than the children in the other three groups. Whatever the reasons are, on a more general level – and more importantly, for the study at hand – the results once more suggest that the Singapore groups cluster together in their vowel productions, as do the migrant/mixed group and the ancestral English children.

Looking into the MLU/age-related differences in the realization of FOOT and GOOSE across the four groups, a very similar picture emerges (see Figure 8.26). FOOT is comparatively stable in its realization across MLU and speaker groups; FLEECE decreases in length with increasing age, with the strongest decline mainly taking place between groups 1 and 2. These tendencies are again strongest for the Chinese Singaporeans; the skewed, reverse results for the Indian group 1 (the median is shorter for GOOSE than for FOOT) are most likely due to extremely low token frequencies (three FLEECE and eight KIT tokens only) and are therefore not to be taken at face value. Due to the similarities in the results, the general observations and interpretations discussed for KIT/FLEECE also apply to the realizations of the FOOT/GOOSE vowels. This time, however, the outliers clearly show the smallest length difference between the two vowel sets, which might at least come close to a vowel merger. This is in line with some of the observations in the subject pronoun and past tense investigations, which at times suggest that the MLU outliers show the least standard behavior. Still, realizations in the outlier group have also been identified as very diverse and unrelated to age and MLU group, which is why we can safely rule out that these results point toward a linguistic delay or deficit in these children.

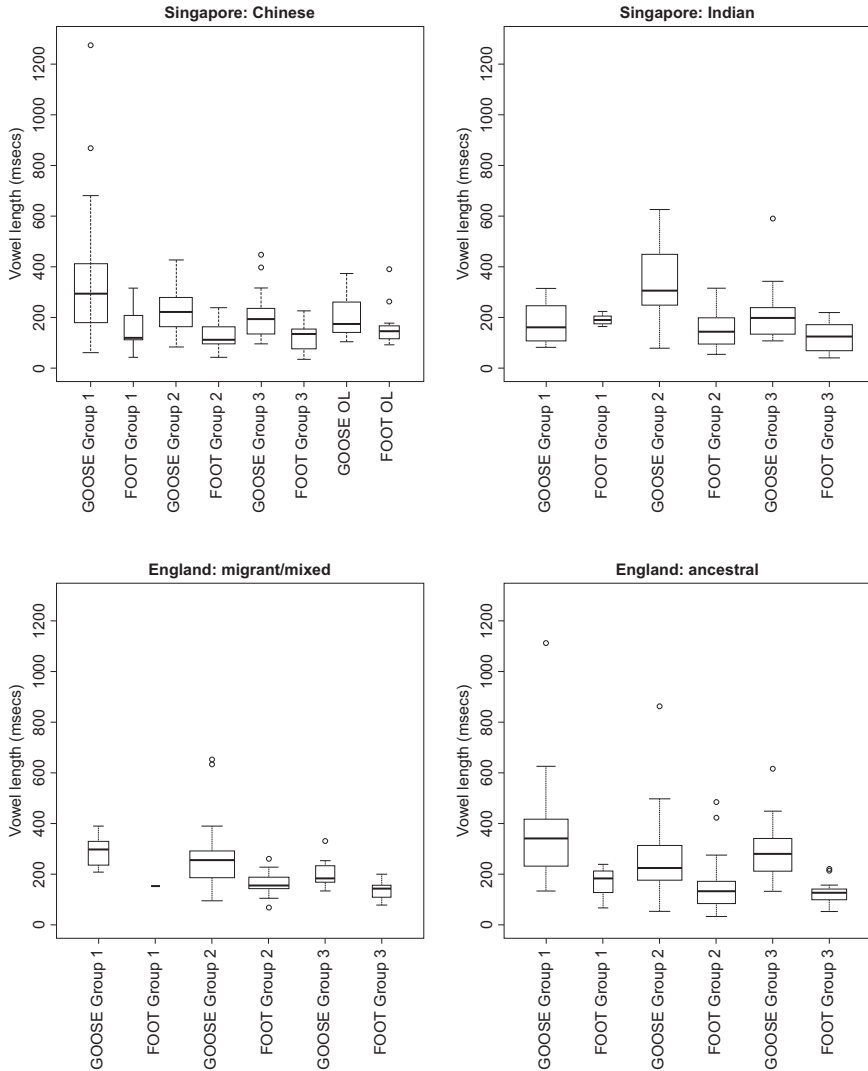


Figure 8.26 GOOSE vs. FOOT according to age/MLU group and ethnicity/speaker group

8.4 Discussion: a merger in vowel length in high front and high back vowels?

Before turning to a general discussion and conclusion on the question of whether L1 child SingE is characterized by a KIT–FLEECE and/or FOOT–GOOSE vowel merger, I briefly approach the question of whether vowel length in these sets can be merged from yet another perspective. In their study “50 msec,” Labov and

Baranowski (2006) investigate a very similar question, viz. “whether a small difference in vowel length can effectively preserve a phonemic distinction” (p. 223). Though the focus is different – the authors look into the processes and effects of chain shifting in North American English – their conclusion that “a duration difference of 50 msec may play an active role in differentiating the subset of short vowels from the subset of long and ingliding vowels” (p. 239) contains some interesting insights for my study as well. In addition, sixty to seventy msec has been reported as a “sizeable [difference] in length associated with long versus short vowels” (Labov & Baranowski, 2006, p. 228; see also Peterson & Lehiste, 1960). I take these observations as a starting point for once more approaching the question of whether length distinctions between KIT–FLEECE and FOOT–GOOSE are still phonemic in L1 SingE.

To this end, I measured average vowel lengths for KIT–FLEECE and FOOT–GOOSE across the four main groups investigated, viz. “Singapore: Chinese,” “Singapore: Indian,” “England: ancestral,” and “England: migrant/mixed,” in msec. To avoid potential age effects (as I was not interested in that here), I focused on those children who most likely had already developed a stable, or rather, “final state” vowel repertoire, viz. the group 2 and group 3 children. I excluded the outliers as well as the mixed group from Singapore for reasons of low token frequencies.

The additional vowel length measures have revealed that the average length differences for all groups are well above the fifty msec threshold for both the KIT–FLEECE and FOOT–GOOSE sets. In fact, they all range above the sixty to seventy msec difference: S:Chinese = 100, S:Indian = 82, E:migrant/mixed = 133, and E:ancestral = 121 msec for KIT–FLEECE; 94, 92, 74, and 136 msec, respectively, for FOOT–GOOSE. I assume that the comparatively higher length differences for the children are due to the fact that Peterson and Lehiste (1960) refer to adult data. As observed earlier (cf. Figure 8.25 and Figure 8.26), length differences decrease with an increase in age, thus differences from the vowel length means of adults might still exist as remnants of age effects (for similar findings, see Iivonen, 1987; Kehoe & Lleó, 2003; Smith, 1978). Apart from some minor differences in the results due to the methodological modifications undertaken, the general trends observed earlier (Section 8.3) can all be confirmed and will not be repeated here.

Looking into the results for the individual group 2 and 3 children, however, reveals further interesting insights into the strong inter-speaker variability already identified in Sections 6.2 and 7.1. Figure 8.27 exemplarily illustrates the strong differences between the Singaporean children for the FLEECE–KIT sets; the results for GOOSE–FOOT are comparable and will not be reported in detail.

As Table 8.2 shows, differences between FLEECE and KIT range from 4 msec (Xu) to 199 msec (Isla and Pinky Pie); differences between GOOSE and FOOT range from –1 msec difference (Mechelle) to 152 msec (Ana). This translates to a difference of 195 msec and 153 msec, respectively, between the children with the lowest mean differences and the children with the highest; this attests quite a strong variation among the children. The other children are distributed across the whole continuum. Xu is the only child who does not clearly differentiate long and short FLEECE vs. KIT, and GOOSE vs. FOOT; Manikandan and Mechelle

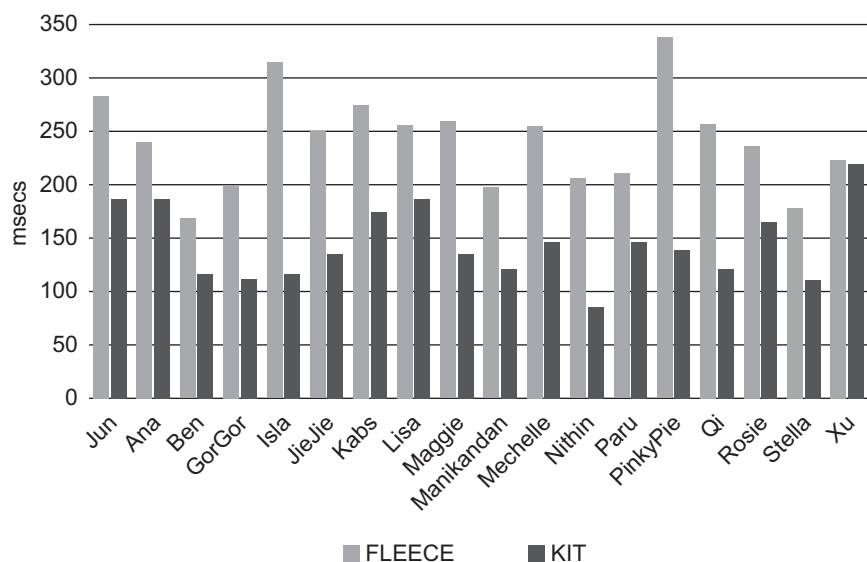


Figure 8.27 Average length differences, FLEECE vs. KIT (individual participants, Singapore)

Table 8.2 A comparison of length differences between KIT–FLEECE and FOOT–GOOSE (Singapore)

<i>Child</i>	<i>Length difference KIT–FLEECE</i>	<i>Length difference FOOT–GOOSE</i>
Xu (7;1/f/C)	4	41
Ben (8;0/m/C)	53	67
Ana (3;8/f/I)	54	152
Paru (12;1/f/I)	62	146
Lisa (8;6/f/C)	68	85
Stella (6;9/f/C)	69	72
Rosie (6;3/f/I)	72	132
Manikandan (7;11/m/I)	74	41
GorGor (8;0/m/C)	86	119
Jun (5;0/m/C)	95	124
Kabs (5;4/m/I)	99	134
Mechelle (7;0/f/I)	108	–1
JieJie (5;0/f/C)	116	103
Nithin (8;9/m/I)	121	98
Maggie (4;11/f/C)	124	73
Qi (5;8/f/C)	136	94
PinkyPie (5;6/f/C)	199	133
Isla (5;2/f/C)	199	98

do not, on average, employ the GOOSE–FOOT split. In these cases, one could speak of a vowel length merger, but in general the results show that L1 child SingE is not characterized by such.

Table 8.2 further illustrates that the prominent heterogeneity among the children is not governed by either of the two major sociolinguistic parameters under observation, viz. MLU group/age or ethnicity. Thus, even though variationist approaches seem to agree on the fact that variation is never random, the differences in vowel length means appear rather eclectic. What is more, an exemplary analysis of Mechelle's vowel length realizations suggests that vowel length also shows a considerable range in realization (for FOOT, between 90 and 222 msec; for GOOSE, between 110 and 254 msec) within individual children, and that, even more importantly, there is also a considerable overlap between the sets.

When comparing the exact results for the individual children (cf. Table 8.2), it turns out that only a few children behave in consistent ways. Some children show extremely different values for their average length differences between KIT–FLEECE and FOOT–GOOSE.

The results from England reveal a similarly heterogeneous picture, i.e., the variation among the individual children in this cohort is also quite pronounced (see Table 8.3). However, the exact manifestations of these differences, as well as particularly the lowermost outliers as much, are once again more pronounced in the Singapore group. As another similarity to the Singapore results, no clear pattern in terms of the influence of age or speaker group can be observed (if anything, a tendency toward a more prominent FOOT–GOOSE contrast in the ancestral English children).

We are thus confronted with another instance of conformity between the two major groups in qualitative terms (i.e., the results are characterized by a strong intra- as well as inter-speaker variability); the main difference here lies in the exact quantitative manifestations of these differences.

Table 8.3 A comparison of length differences between KIT–FLEECE and FOOT–GOOSE (England)

<i>Child</i>	<i>Length difference KIT–FLEECE</i>	<i>Length difference FOOT–GOOSE</i>
Ann (5;10/f/a)	47	80
Eve (3;9/f/a)	70	98
Mia (10;9/f/migr.)	73	72
Fifi (5;5/m/a)	74	113
Lea (4;2/f/a)	82	129
Leo (6;7/m/mixed)	110	58
Laura (7;11/f/a)	115	169
Tom (4;7/m/mixed)	129	93
Lala (10;0/m/a)	130	152
Sveta (4;7/f/migr.)	137	101
Es (8;5/f/a)	145	177
Musya (4;4/f/migr.)	156	45
Masha (4;7/f/migr.)	226	86
Kat (3;2/f/a)	241	104

8.5 Reporting the statistical results

In the linear mixed-effects model, CHILD and WORD were again set as random effects. As Tables 8.4 and 8.7 show, the standard deviations for both WORD and CHILD are huge when compared to the results, viz. the median (in msec) for the individual sets. This shows that both factors have a strong effect on the data. The standard deviation for CHILD once more confirms the strong inter-speaker variation observed throughout all empirical parts of the study.

The *lmer* output for vowel length realizations in KIT vs. FLEECE shows that ETHNICITY/GROUP once again has a significant impact on the data (cf. the Intercept, viz. “ethnicity/group: England-ancestral, MLU group 1, phone label: FLEECE” as compared to the “Singapore-mixed” group; see Table 8.4). However, MLU GROUP and PHONE LABEL appear to be the much stronger predictors for the realization of vowel length.

Table 8.4 R output of the linear mixed-effects model (vowel length, KIT–FLEECE according to ethnicity/group)

<i>Random effects:</i>				
<i>Groups</i>	<i>Name</i>	<i>Std.Dev.</i>		
CHILD	(Intercept)	61.08		
WORD	(Intercept)	51.26		

Number of obs: 584; Groups: CHILD, 49; WORD, 33

<i>Fixed effects:</i>				
	<i>Estimate</i>	<i>Std. Error</i>	<i>p-value</i>	<i>Dec</i>
(Intercept)	338.054	30.814	4.88E-15	***
Ethnicity/group: England-migrant	−9.863	38.335	0.79789	ns
Ethnicity/group: England-mixed	−39.98	57.569	0.4908	ns
Ethnicity/group: Singapore-Chinese	−17.896	27.679	0.52078	ns
Ethnicity/group: Singapore-Indian	−56.113	34.957	0.11428	ns
Ethnicity/group: Singapore-mixed	−148.334	67.394	0.03104	*
Phone label: KIT	−148.739	28.634	9.25E-06	***
MLU group 2	−52.044	24.147	0.03723	*
MLU group 3	−78.115	27.724	0.00768	**
Ethnicity/group: England-migrant* phone label: KIT	19.463	31.385	0.53544	ns
Ethnicity/group: England-mixed* phone label: KIT	43.684	42.15	0.30052	ns
Ethnicity/group: Singapore-Chinese* phone label: KIT	37.626	22.612	0.09672	ns
Ethnicity/group: Singapore-Indian* phone label: KIT	78.188	28.042	0.0055	**
Ethnicity/group: Singapore-mixed* phone label: KIT	96.797	62.471	0.12187	ns

Table 8.5 Post-hoc results (significant contrasts, ethnicity/group* phone label)

<i>Contrast</i>	<i>Estimate</i>	<i>Std. Error</i>	<i>p-value</i>	<i>Dec</i>
E: ancestral,fleece – E: ancestral,kit	148.497	28.70294	0.0005	***
E: ancestral,fleece – S: Chinese,kit	130.1212	35.92454	0.0313	*
E: migrant,fleece – E: migrant,kit	128.9007	33.89285	0.0146	*
S: Chinese,fleece – E: ancestral,kit	129.2178	35.83088	0.0322	*
S: Chinese,fleece – S: Chinese,kit	110.842	26.50942	0.0123	*

Table 8.6 Post-hoc results (significant contrasts, MLU group)

<i>Contrast</i>	<i>Estimate</i>	<i>Std. Error</i>	<i>p-value</i>	<i>Dec</i>
group 1 – group 3	72.42932	29.41552	0.0477	*

The post-hoc results clearly confirm that length differences between FLEECE and KIT exist not only for the English ancestral and migrant groups but also for the Chinese Singaporean group (see Table 8.5). Interestingly, for the other ethnicities/groups, no significant contrasts were returned. This, however, does not necessarily run counter to the general results but rather illustrates that phonemic contrasts are not as absolute as sometimes assumed. As observed in Section 4.2.3, vowels preceding voiced consonants have been reported to be nearly twice as long as their counterparts preceding voiceless consonants (e.g., House, 1961, p. 1175; Buder & Stoel-Gammon, 2002, p. 1855; see Peterson & Lehiste, 1960, p. 702 for a more detailed discussion of the effects that particular classes of consonants can have on vowel realizations). As Peterson and Lehiste (1960, p. 702) note, this means that, strictly speaking, durational contrasts between the vowel pairs are never absolute and that the sets overlap at the margins; e.g., the durations of long nuclei followed by voiceless consonants can be very similar to those of short nuclei with voiced consonants.

Table 8.6 once more illustrates a significant difference between MLU group 1 and MLU group 3.

The *lmer* results for FOOT–GOOSE according to ethnicity/group reveal a largely similar picture, the only – but definitely important – difference here being that ETHNICITY/GROUP has not been returned as a significant factor at all (see Table 8.7).

The contrast between foot and GOOSE is again significant (see Table 8.8); MLU group contrasts are not.

In general, the results corroborate the earlier observation that, for the realization of vowel length, ETHNICITY/GROUP is not as strong a predictor as for the realization of the two morphosyntactic characteristics. This suggests that the differences between the Chinese Singaporeans and any of the other groups is not as prominent here. However, because MLU GROUP/AGE and the intra-linguistic criteria play an equally prominent role, I interpret the missing ethnic differences – together with the earlier findings on the realization of vowel qualities – as indicative of homogenization tendencies in the Singapore cohort.

Table 8.7 R output of the linear mixed-effects model (vowel length, FOOT–GOOSE, according to ethnicity/group)

<i>Random effects:</i>		
<i>Groups</i>	<i>Name</i>	<i>Std.Dev.</i>
CHILD	(Intercept)	65.61
WORD	(Intercept)	33.55

Number of obs: 470, groups: CHILD, 51; WORD, 29

Fixed effects:

	<i>Estimate</i>	<i>Std. Error</i>	<i>p-value</i>	<i>Dec</i>
(Intercept)	187.73	22.99	4.73E-12	***
Phone label: GOOSE	117.56	19.36	7.77E-06	***
MLU group 2	−46.77	24.39	0.0609	ns
MLU group 3	−70.29	28.53	0.0176	*

Table 8.8 Post-hoc results (significant contrasts, phone label)

<i>Contrast</i>	<i>Estimate</i>	<i>Std. Error</i>	<i>p-value</i>	<i>Dec</i>
FOOT–GOOSE	−117.449	19.46085	<.0001	***

8.6 Discussion and summary

Pulling together the results of the two studies on vowel qualities and quantities, I now return to the question of whether L1 SingE is characterized by a vowel merger or near vowel merger of the KIT–FLEECE and FOOT–GOOSE sets, as is often claimed for adult L2 SingE. In this respect, the realizations of vowel qualities by the Singaporean children show some clear spectral overlaps for both pairs. However, phone duration has turned out to be phonemic for all groups, even if contrasts between KIT–FLEECE and FOOT–GOOSE are slightly weaker in the Singaporean children, especially in comparison to the English ancestral group.

I would like to come back to the question of why the Singaporean children obviously merge their KIT–FLEECE and FOOT–GOOSE vowels in spectral terms but maintain phonemic length distinctions. First, speakers tend to preserve contrasts – whether this is the result of misunderstandings or a strategy to avoid misunderstandings (e.g., Martinet, 1955 vs. Labov, 1994, pp. 580–588; see also Labov & Baranowski, 2006, p. 223). This is also confirmed by findings from the early acquisition of vowels: even very young children maintain either the qualitative contrast or the durational contrast in languages that employ tense/lax distinctions, as in the KIT and FLEECE sets (cf. Buder & Stoel-Gammon, 2002, p. 1862). For language learners in general (be they L1 or L2 learners), keeping one distinct feature to maintain

a contrast often seems enough. This explains why the children drop one but maintain the other. But why, then, do they quite uniformly maintain the durational differences and not the spectral ones? I assume that the answer, once more, lies in the mechanisms of language acquisition. Vowel length is more perceptually salient than qualitative characteristics, “so that even if the speakers lack experience with contrastive temporal distinctions in their L1, they can still exploit this dimension in the L2” (Kivistö-de Souza et al., 2017, p. 35; Bohn, 1995; Bohn & Flege, 1990). As Bohn states: “Whenever spectral differences are insufficient to differentiate vowel contrasts because previous linguistic experience did not sensitize listeners to these spectral differences, duration differences will be used to differentiate the non-native vowel contrast” (Bohn, 1995, pp. 294–295). This does not so much seem to be a feature of L1 transfer, as this trend has been reported both for learners speaking languages that employ phonemic length distinctions and those speaking languages that do not (cf. Section 8.2). Such an interpretation makes sense but presupposes that the general pattern detected here (viz. the reduction of qualitative differences and the maintenance of length contrasts) must already be present in the input the children receive. This is not unlikely, but such an interpretation clearly challenges many of the earlier accounts of adult L2 SingE that report a vowel merger for these (and similar) sets. Assuming a general acquisitional reason behind this phenomenon would also explain why ethnicity is not a significant factor in the realization of durational contrasts in these pairs. Furthermore, it is interesting to note that the development of phonemic length distinctions in SingE clearly proceeds somewhat inversely to what has been reported for standard varieties such as AmE. Here, phonemic length distinction is mostly lost, and length is conditioned by phonological environment (e.g., Roach & Hartman, 1997, p. ix). The existence of such inverse (or rather, delayed?) developments in SingE indicates developmental potential for the English language beyond the traditional native speaker paths and certainly the potential for further differentiation and pluralization of English worldwide. I return to this in Chapter 9 and discuss such considerations against the background of the whole set of linguistic findings from the present study.

Last but not least, I turn to the hypotheses presented in Section 4.3.1. Here, Hypothesis 3a turned out to be partially valid. As the diverse results and discussions in the preceding sections have revealed, Singaporean children indeed show reduced vowel contrasts with respect to spectral differences. Even though contrasts between KIT–FLEECE and FOOT–GOOSE are indeed also slightly reduced, the discussion of the results in Section 8.4 suggests that a phonemic length contrast between the two lax/tense vowel pairs is maintained by both Chinese and Indian Singaporeans. This has been at least partially corroborated by the mixed-effects model, so that my data do not support the vowel length merger theory presented in much of the literature on SingE.

The quasi-nonexistent differences between the Chinese and Indian Singaporeans in turn render Hypothesis 3b invalid. Potential reasons for this lack of difference have been discussed in some detail earlier. Acquisition effects and, potentially, the influence of language attitudes and norm orientation (cf. Sections

6.4 and 7.5) seem to overrule the intra-linguistic mechanisms suggested by Hulk and Müller (2000) – if these are transferable to the phonological domain at all.

Despite all inter- as well as intra-individual variation observed, which clearly confirms Hypothesis 3c, the results from the phonological analysis can be taken as further evidence that homogenization tendencies are at work in SingE. Where these come from (i.e., which mechanisms are involved in the specific instances), what they might lead to, and, most importantly, whether the children can also be considered the initiators of language change, will be discussed in the following chapter, which brings together both the theoretical considerations as well as the whole range of linguistic findings from the present study.

Notes

- 1 Note that the link to the website offering the formant values has changed to: <http://fass.ubd.edu.bn/data/JIPA-vowels/index.htm>.
- 2 This occurs when notches protrude beyond a hinge or medians lie very near a hinge (McGill et al., 1978, p. 14), and it generally indicates that token frequencies are very low and the sample is not representative.

9 Discussion

In the following, I bring together the diverse, substantial findings from across the entire project and discuss them against the methodological and theoretical background of the overall study (Section 9.1). Section 9.2 presents some of the theoretical implications emerging from the overall results.

9.1 Singapore English as an emerging new L1 variety

The results of the investigation of the acquisition, properties, and use of L1 child SingE are manifold and unprecedented in many respects – as is the investigation itself. First of all, the study has empirically corroborated in some detail what had long been noted in the literature on SingE in rather general terms, viz. the strong entrenchment of SingE as a first language in Singaporean society. The results presented and discussed in Chapter 5 show that, for the children investigated in the present study, L1 SingE is nearly as strongly entrenched in Singaporean society as English is entrenched as a first language in the traditional L1 speaker bases such as England. The essential differences are primarily a matter of degree. The primary difference lies in the fact that in the one context, English has been around for some 1,500 years, while in the other, it is still comparatively new. What is more, England has long been the traditional and mainly monolingual basis of English, whereas in Singapore, English has always coexisted with a variety of other local languages. It has come a long way, especially when considering that only about 200 years after its introduction to the island as a foreign language, without a massive influx of settlers (and thus native speakers of the language), it has developed into a language increasingly used as an L1. At least in the population segment considered in the present study, viz. in academic families, nowadays it is apparently even more important than the ethnic languages that had long been spoken in these families. The questionnaire study has revealed that English is the dominant language for most of the children investigated; it is the language most frequently used in the households under observation, even though many of the children's parents are still L2 speakers of English themselves. Even though the high usage frequencies and the strong entrenchment of English as observed in the present study may, at least partly, be symptomatic of families and speakers from highly academic backgrounds, it can safely be

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assumed that the general trends and developments observed also account for the status and use of English in Singapore as a whole (cf. Section 2.3.3).

Still, the evolution of L1 SingE has been crucially different from what can be observed in other postcolonial contexts that have English as a first language – from the United States to other former colonies such as Australia or New Zealand. These colonies hosted major segments of native speakers from early on, and their L1 varieties emerged mainly on the basis of continuity and the perpetual transmission of English by L1 speakers to new generations of L1 speakers. Effects of language contact as well as questions of identities clearly played a role in all these contexts as well but are certainly stronger in the development of an erstwhile L2 variety (due to transfer and other mechanisms of second language acquisition), especially in a highly multilingual scenario like Singapore, where the sources for cross-linguistic influence and transfer are manifold.

Section 5.3 provides a thorough documentation of the most prominent characteristics of L1 SingE that can be observed in the child corpus at hand. Not surprisingly, these characteristics are mostly similar to what has been reported as characteristic of the L2 adult variety. However, I also pointed out some differences between the L2 and L1 variety (or maybe, rather, between adult and child SingE) that may indicate either true potential changes in the system or merely differences in documentation (i.e., what exactly is reported as frequent characteristics, for what reason, and in what detail). I will return to potential differences between L2 (adult) and L1 (child) SingE in the next section when I relate the quantitative findings from Chapters 6 and 7 to some quantitative results obtained on the basis of the ICE-Singapore corpus (a component of the International Corpus of English).

The findings in Chapters 6 through 8 are diverse but mostly in line with each other. They ultimately draw quite a comprehensive picture of the status and acquisition of some exemplary characteristics of L1 SingE. All three analyses have revealed that MLU group/age plays an important role for the realization and use of the linguistic phenomena under consideration in the present study. This could also be observed for the data collected from monolingual and bi-/multilingual children growing up in England, all of which is absolutely in line with research on the acquisition of the traditional L1 varieties BrE and AmE. However, an important difference shows in what I somewhat reluctantly refer to as the “final outcome” of the acquisition process in the Singaporean and English contexts.¹ Whereas in the children from England, the use of zero subject pronouns and bare verb forms referring to past tense contexts is transitional, both remain steady features of L1 child SingE and were also reported for the older children (though to a lesser extent than in the young children). It is interesting to see that, despite the fact that the immediate acquisition effects should be overcome in age cohorts beyond MLU group 1, differences also surface between MLU groups 2 and 3 in the Singapore data. Group 3 children always have considerably lower rates of zero subjects or bare verbs than the group 2 children. For the realization of the different types of pronoun *it* in the Chinese (and mixed) Singapore groups, the ctree analysis indeed reports a significant split between groups 1, 2, and the

outliers on the one hand and group 3 on the other. I initially created three groups (and not just two, which would have been sufficient to account for acquisition effects in the very young children) to look into the effect of formal schooling. I assume that this is exactly what we observe here. Because formal education strongly propagates the use of the standard manifestations of SingE, teachers are required to use the more standard realizations of SingE in class. Even though in reality implementations of this requirement may vary between teachers and the call for using the standard may not always be fully and consistently put into practice (cf. the discussion in Section 2.3.2), the use of English is likely to be more formal in the schooling context than in the home domain.

The differences between the two contexts (England vs. Singapore) might appear robust at first glance; however, a difference between the Chinese and Indian children from Singapore can be observed for both of the morphosyntactic features investigated as well. In this respect, the ctree analyses could clarify the somewhat obscure picture, viz. the finding that, on the one hand, differences seem to exist between the two general acquisitional contexts (England and Singapore) but that, on the other, there are also obvious differences between the two major groups investigated within the Singaporean context (Indian and Chinese). As the two ctree analyses have revealed, the significant split is not a neat divide between the two countries but rather between the Singaporean children of Chinese and mixed ethnicity² on the one hand and all the other children on the other. What is more, both the zero subject as well as the past tense marking data show further significant splits, (cf. Figure 6.18, node 3 and Figure 7.15, node 2) namely between ancestral and mixed families from England (viz. families in which at least one native speaker of BrE is present) on the one hand and migrant families from England and Indian Singaporeans (viz. families without a native speaker of BrE being present) on the other. This opens up interesting questions about (and perspectives on) the role of input and of the acquisitional environment. These questions cannot be attended to here; however, this observation clearly provides invaluable objectives for future research.

The results from the study on the realization of vowel quality and quantity in the lexical sets KIT–FLEECE and FOOT–GOOSE, however, draw a slightly different picture. Admittedly, these studies are not fully comparable: we cannot draw on the results of a ctree analysis for the vowel length study, as this is not possible for continuous data. Still, what the descriptive statistics have revealed is that, despite some minor differences, the migrant/mixed children from England pattern with their monolingual ancestral peers. The Singaporean children, however, show some important differences in their linguistic productions when compared to the children from England, in particular in their spectral realizations. These are a lot more heterogeneous. The qualitative differences between KIT–FLEECE and FOOT–GOOSE are distinctly reduced and sometimes even reversed in their realizations. Durational differences, however, have not turned out to be significantly distinct, and all groups (even the Chinese Singaporean children, who otherwise showed significantly distinct linguistic behavior from the rest) generally employ distinct length differences between the lax-tense pairs. The behavior of the Singaporean group

may appear surprising at first sight – and it is contrary to what is often reported in the literature on adult L2 SingE. Yet, it is totally in line with (and makes sense from) the Language Acquisition perspective, as it has been shown that learners often maintain length at the expense of vowel quality. This clearly highlights the acquisitional origins of SingE.

Still, this does not suggest that L1 SingE is a defective, inferior system when compared to the more traditional varieties. It is not the result of “incomplete acquisition” (Meisel, 2011, p. 121), as would be implicit in Meisel’s account of a linguistic system emerging in children who receive their major input from second-language speakers. Admittedly, Meisel might not have had in mind cases such as the one under investigation here; still, the scenario he describes applies here. The rhetoric and line of thinking he employs represent what is commonly found in the Language Acquisition literature. Still, what this shows is that there is an urgent need to bridge the gap between the World Englishes and Language Acquisition paradigms if we want to come to terms with the current linguistic realities of the spread, status, and acquisition of English worldwide (to be further discussed in Section 9.2).

The MLU results for the children from England and Singapore further support this as they do not differ in principle. The investigation has revealed that Singaporean children show slightly lower MLU values and more heterogeneous results (both for MLU word and MLU morpheme) but that the general developmental trend, viz. an increase in grammatical complexity at approximately the same ages, is the same. What is more, the slightly lower MLU values of the Singaporean children are totally explicable on linguistic grounds. SingE is characterized by what one might want to call “deletion tendencies,”³ viz. the omission of both free as well as bound lexical and grammatical morphemes (cf. Sections 2.4 and 5.3). This has been quantitatively corroborated by the exemplary analyses of the realization of subject pronouns (cf. Chapter 6) and past tense marking (cf. Chapter 7). Both studies have revealed substantial rates of zero subject pronouns and bare verbs throughout MLU/age groups and ethnicities. I interpret this as suggestive of the possibility that SingE might be turning into a language that is typologically distinct from the traditional standard varieties of English. The idea that it may turn toward full analyticity is further reinforced by the fact that past tense marking is definitely not the only inflectional form on the verge of getting lost (cf. the feature overviews in Sections 2.4 and 5.3). What is more, the detailed comparisons and discussions of different contexts and realizations of past tense marking, viz. on regular vs. irregular verbs (cf. Section 7.1), on negated structures (cf. Section 7.2), and on constructions involving *finish* as a completeness marker (cf. Section 7.3), clearly reinforce the interpretation that Singaporean children appear to be acquiring the English language in strongly analytical ways. This also makes sense from a cross-linguistic perspective, especially when considering the outstanding influence the different Chinese languages have had on the development of SingE. However, to investigate whether these tendencies really constitute instances of language change and whether these are initiated by the child generation or have long been part of

the L2 SingE system, we have to look into data from adult speakers (cf. Buschfeld, in prep.).

Despite the general tendencies of systematicity the data have revealed, I have repeatedly shown that L1 child SingE is characterized by a great amount of heterogeneity in addition to the age/MLU-related differences briefly discussed earlier. Inter-speaker variability is guided both by the more general factor “ethnicity” and also by individual language use, which, as the analyses have all revealed, can vary considerably. Intra-speaker variability has been observed both in the general feature screening (cf. Section 5.3) and in the quantitative, more detailed analyses in Chapters 6 through 8. This suggests that the children indeed “pick and mix features from the caregivers’ speech” (Schreier, 2014, p. 232), as has often been observed for “high-contact polyglossic scenarios [in which] a target language with reference norms is not available” (Schreier, 2014, p. 232). It further suggests that the question of exactly which type of adult SingE the children acquire is obsolete, as it cannot be assumed that children in such contexts copy the adult input one-to-one. Considering the extensive discussion in Section 2.3.2 of how to best conceptualize SingE, the assumption that children might acquire one or the other variety of SingE only (as, for example, expressed by Gupta, 1994) appears outdated and no longer tenable, simply because the clear-cut diglossic distinction that was previously postulated does not seem to exist in adult speech either. Intra-speaker variability, as reported earlier, has also repeatedly been observed in adult speech production (e.g., Leimgruber, 2013), even within the same communicative event. It has been suggested that one possible interpretation would be that these speakers are code-switching from CSE to SSE, but, as Wee and Ansaldo (2004) also rightly point out, “this does raise the rather tricky issue of when a particular utterance can be said to be colloquial rather than standard” (p. 66). In this respect, some diagnostic features that are supposed to mark an utterance as either CSE or SSE have been suggested. Fong (2004, p. 76) points out the presence of discourse particles as diagnostic of a CSE utterance; Gupta (1994, pp. 10–11) brings in a number of such diagnostics (zero subjects among them). As repeatedly attested before (to my knowledge, mostly for adult data, though), my data show clear instances of usage contexts in which such “diagnostics” are constantly used side-by-side with standard representations of SingE. Therefore, the data at hand once more clearly show that we can no longer conceptualize SingE as a diglossic speech system in Gupta’s terms (if that ever was valid). My results clearly corroborate Leimgruber’s (2013) conclusion that “the variation in Singapore English between what has, traditionally, been called ‘Standard English’ on the one hand and ‘Singlish’ on the other hand is less than straightforward” (p. 100). As outlined in some detail in Section 2.3.2, he suggests a model of indexicality that, first and foremost, evades the so-far common practice of defining sub-varieties. Indeed, the notion of indexicality, viz. that linguistic variables and their realizations index certain social meanings, stances, or pragmatic functions (Leimgruber, 2013, pp. 52–62), is an interesting one and valid in many respects. It promises an understanding and flexible handling of the question of why speakers use specific variables and

not others when they have more than one variant at their disposal. In terms of the linguistic variation found in countries such as Singapore (as reported for adult data in earlier studies and confirmed by the child data at hand), it has high explanatory potential and scientific appeal. My data further reinforce Leimgruber's (2013, p. 104, *italics in original*) proposition that "it is important for the model to identify *features* (or variables) of what may be considered, in an attempt to simplify the discussion, codes associated with the local vernacular (Singlish) and the/an international standard (StdE)." I agree with his observation that the earlier models' general assumption that speakers use a homogeneous code in any one utterance (p. 115) is misleading, if not inadequate.⁴ Still, I consider the indexing practices as suggested in his model far too absolute, particularly in that they assume that "any utterance is interpreted as potentially indexing a particular social meaning" (Leimgruber, 2013, p. 63). First of all, even if Leimgruber assumes that indexing can also operate subconsciously (2013, p. 20), I doubt that every speaker makes concrete choices about any particular linguistic expression he or she uses (as suggested in the exemplary analysis he offers; 2013, pp. 56–58). What is more, interpreting specific instances of variation and language choice appears difficult at times; the approach is therefore "imposed" in certain parts. Can we really always know what exactly a speaker wants to index? Does a speaker him- or herself always know what he or she wants to index? And, most importantly, does he or she really intend to index something with each and every linguistic element in a sentence? I do not believe so. What is more, even though it has been repeatedly shown that children can make their own linguistic choices and are also influenced and guided by questions of norm orientation and language attitudes, in my opinion the kind of linguistic exploitation envisaged by Leimgruber (see also Alsagoff, 2007) presupposes too strong of a metalinguistic competence. This might be an approach guided too strongly by an analytical linguist's mind. I do not see how the average adult, not to mention children, could approach language use that way at all times. I am not trying to refute the indexicality model here – it seems to make sense in many respects; I simply question the practice in which we as linguists attempt to make sense of every single linguistic utterance.

Coming back to the concrete manifestations of the heterogeneity in the Singapore cohort (reported previously), four interrelated questions remain to be discussed:

- (1) Where does the strong heterogeneity in the child data come from?
- (2) How should the inter-ethnic differences between the Chinese and the Indian children, as well as the sometimes surprising similarities (e.g., in the use of the *finish* structure across the two groups), be interpreted? How should we then account for the diverging results for the realization of vowel sounds (i.e., the finding that inter-ethnic differences are only minimal in that regard)?
- (3) What do the overall results imply about the mechanisms at work in the acquisition of newly emerging L1 varieties such as L1 SingE?

- (4) What do this heterogeneity and the other findings reported suggest about the status and the nature of L1 child SingE as such?

The answer to Question (1) is comparatively straightforward: if the input the children receive is highly diverse (and it is; but once more, I am not suggesting that adult SingE is unsystematic!), the output must be heterogeneous, especially if we take into consideration the observations from the study of new dialect formation that children “pick and mix” (Schreier, 2014, p. 232) from heterogeneous input. This means that when children are “[b]orn into a heterogeneous mixture of socially and/or regionally distinct varieties, they do not adopt one of the varieties as a model but choose and adopt features from several ones, combining them into a new koiné that develops stability and homogeneity over time” (Schreier, 2014, p. 232; cf., for example, Hickey, 2003; Trudgill, 2004 on the formation of New Zealand English). I briefly discuss the last part of this assumption, viz. that these speech forms ultimately develop stability and homogeneity, against the backdrop of my results and in relation to Question (3). From the perspective of Language Acquisition research, it has been suggested that such heterogeneous, “unstable” input (and Meisel explicitly relates his argument to L2-based input here) may contain the triggers for language change (cf. Buschfeld, in prep.).

Regarding Question (2), the potential sources of the inter-ethnic differences detected between the Chinese and Indian groups in the realization of subject pronouns and past tense marking have already been discussed in some detail in Sections 6.4 and 7.5. I have identified instances of cross-linguistic influence as potential sources of such differences. However, and in some ways more importantly, the results have also revealed that cross-linguistic influence cannot be the only source. I have discussed language attitudes and norm orientations as other potential factors guiding inter-ethnic variation. However, these considerations become particularly interesting and complex when also factoring in the results from the vowel study. Here, the statistically significant differences between the Indian and Chinese groups mostly disappear. Why is that the case? The answer is, again, speculative but might revolve around the notion that not all language levels behave in the same ways when it comes to their acquisition. This has been repeatedly observed in the Language Acquisition literature (e.g., that some linguistic levels are more vulnerable to age effects than others; e.g., Bylund et al., 2013, pp. 93–94). In a similar vein, it can be argued that while speakers might be able to deliberately control their grammatical realizations (cf. my considerations that Indian Singaporeans have long traditionally oriented themselves more strongly to the standard realizations of SingE), it is certainly beyond their reach to make deliberate, spontaneous decisions about their exact vowel lengths. Cross-linguistic influence/transfer does not offer an adequate explanation here, as the Chinese and Indian languages involved do indeed differ in their realizations of vowel contrasts. This would again give reason to expect intra-ethnic differences. I therefore suggest that the reduced inter-ethnic differences in the vowel realizations point toward homogenization tendencies, discussed in relation to Question (4).

In terms of Question (3), the results and discussions of the present study clearly suggest multicausality when it comes to the mechanisms behind the emergence of L1 child SingE and its exact manifestations. Results have repeatedly shown that cross-linguistic influence (or transfer, on the side of the adults) cannot be the only explanation here. Issues of norm orientations and language attitudes have been argued to play a role, as well as other mechanisms of language acquisition, as, for example, discussed against the background of the results of the vowel realization study. The immediate manifestations of these acquisition-based mechanisms, i.e., whether they are mechanisms of simultaneous bilingual L1 acquisition or adult L2 acquisition, depend on whether the observed characteristic was already present in adult SingE and thus part of the input the children receive or whether specific manifestations have emerged in the child generation (and therefore may represent differences from adult SingE). I have pointed to some potential differences between the L1 and L2 varieties in passing. Yet this question cannot be answered conclusively, as this would require an in-depth comparison of adult and child data (cf. Buschfeld, in prep.). Still, differences in the realizations of particular characteristics between the generations, especially quantitative differences, are to be expected. First, typical acquisitional stages that English-speaking children generally go through, viz. the early omission of modals, auxiliaries, subjects, and past tense inflections, may interact with the input Singaporean children receive, which makes the very same features available. This might influence the children in their early productions (in which they are not much different from children growing up in England), viz. it might provide positive evidence for their “child grammars,” and might therefore increase the usage frequencies of particular characteristics even in later acquisitional stages. Second, as already pointed out earlier, Language Acquisition researchers have argued that L2 input may contain the triggers for language change; the rationale behind this assumption, however, is a different one. Most of what has been observed in the present study, however, points toward strong continuity between adult and child productions (and likewise the L2 and L1 systems) and thus once more highlights the crucial importance of input. Still, the differences may be of a quantitative nature, the differences between child and adult SingE thus constituting an interesting topic for future investigation (cf. Buschfeld, *fc.*).

With regard to Question (4), the picture is once again complex. Many of the results point toward strong inter- as well as intra-speaker variability and thus heterogeneity in the data. At first sight, this may be taken to suggest that L1 SingE is just an unstable, “immature” system, but, as also stated by Anchimbe (2012, p. 13; 2009), I believe that this is a misconception. First of all – and as repeatedly highlighted – the data show clear homogenization tendencies. These can be found, for example, in the strong similarities in the vowel productions between the Chinese and Indian groups observed in Chapter 8, as well as in the use of characteristics by the Indian group that appear to have their origin in transfer from Chinese (e.g., the *finish* past tense marking strategy). The same has been argued with respect to a feature of apparently Malay origin, viz. with respect to the missing (or minimal) aspiration of initial voiceless plosives (cf. Section 5.4). As none of the

children investigated here speaks any Malay (and the same is true for their parents), this characteristic, still found in my child data, must be the result of a homogenization process that already took place in the adult generation. Indeed, some researchers had explicitly pointed out the “increasing similarity of Singaporean English as spoken by those of different ethnic backgrounds” (Platt & Weber, 1980, p. 46) as early as in the 1980s; others document the existence of ethnic varieties of SingE (e.g., Lim, 2001). This has raised an important and controversial issue that has been discussed for quite a while now. However, looking into the broader context of SingE and pulling together the diverse set of earlier findings as well as the results of the present study reveals that the two observations are not mutually exclusive in principle. On the one hand, inter-ethnic differences exist, in particular in quantitative terms; i.e., in the exact realizations of the frequencies of particular features. On the other hand, homogenization tendencies can be observed and might proceed further, in part certainly as the result of L1 acquisition.

Second, the previous analyses have also uncovered some systematic, general tendencies when it comes to the realization of subject pronouns, past tense marking, and tense and lax vowels. In the subject pronoun domain, for example, the type of pronoun strongly guides the realization of subjects. In the past tense domain, general, systematic patterns in and differences between the marking of regular vs. irregular verbs, negated structures, and the diverse *finish* structures exist, which have been interpreted as indicative of a potential change toward even stronger analyticity of SingE. With respect to the realization of qualitative and quantitative vowel contrasts, the results of my study show some consistent differences – but also similarities – between the Singapore data and the data from England. For example, differences manifest in the absence of GOOSE-fronting and the general merger (or at least near-merger) of spectral differences in the Singapore data; similarities show in the (mostly) consistently maintained length differences in both contexts.

The interplay of variability and heterogeneity on the one hand and systematicity and homogenization tendencies on the other suggests that L1 child SingE is not a completely ungoverned, unsystematic system but a variety “in the making,” with an often diverse set of more formal and more informal options for the realization of a specific feature. This argument would be similar to what has been suggested for L2 SingE by Deterding (2007, p. 12): “The indeterminate occurrence of some of the features may partly arise because of the emergent status of Singapore English: it is still developing into a mature variety with its own standards which have yet to become fully established, and this may result in an extra element of instability.” However, strictly speaking – and as Deterding himself partly admits – such an evaluation is not unproblematic, especially if one argues that the linguistic system under consideration is autonomous and emancipated. Judging something as “immature” does, strictly speaking, not follow this line of thinking, as it still compares the system against a putatively more advanced, more mature standard. Is it not rather the case that “language variation is in fact endemic in all societies” (Deterding, 2007, p. 12), as has

long been demonstrated by Labov (e.g., 1966)? In a similar line of thinking, it has been commonly accepted that all languages are changing constantly, and language acquisition and grammatical development are often viewed as continuous processes, i.e., entailing “intermediate grammars constructed by the child in the course of acquisition” (Hyams, 1989, p. 215). Looking into the future of a language, however, is always a speculative activity. Still, some of the findings on L1 child SingE can be interpreted as sounding the bell for new developments and ultimately as indicating new processes of language change, especially when interpreted against the background of some of the approaches to the origins and mechanisms of language change. This constitutes an interesting and important topic for future research and should be investigated in the near future as a follow-up project to the present study, as it adds important facets to the investigation of L1 child SingE (cf. Buschfeld, in prep.).

9.2 Theoretical implications

The theoretical implications evolving from the present study are manifold and include findings on both a micro as well as a macro level. Especially in terms of the micro level, I cannot discuss these findings in full detail. Here, I provide some of the pertinent examples, most importantly to corroborate my general claim (on the macro level) that only an approach combining different linguistic paradigms and perspectives can comprehensively shed light on the development of such new L1 varieties as child SingE. What is more, the examples to follow will show how both paradigms (viz. the World Englishes and Language Acquisition paradigms) can profit from such an integrated approach, as the present study has derived findings that would not have been attained by either of the two fields on the basis of traditional, “isolated” analyses.

Findings such as the results on the realization of subject pronouns in L1 child SingE, for example, bear on established theories of language acquisition. The discussion revolving around the validity and exact properties of the subject parameter within the generative framework of Language Acquisition nicely lends itself as an exemplary case. My findings on the acquisition of L1 child SingE clearly support the assumption briefly discussed in Valian (2016; see also Roeper, 2000; Valian, 1994; Yang, 2002) that children might have two values activated when it comes to parameter setting (viz. the null and non-null subject value) or even multiple grammars. However, while BrE/AmE children would at some point choose the non-null subject parameter as their target one, L1 SingE keeps the two options alive even after the early acquisitional stages. As has been argued earlier, I interpret this as indicative of the fact that SingE has the status of a partial null-subject language. This (as well as the similar findings for other languages) clearly questions the binarity of the null-subject parameter and may even give reason to rethink the parametric approach to language acquisition in general, as suggested in many non-generative accounts of language acquisition.

What is more, the present study shows how what is often taken for granted in World Englishes studies or is prematurely ascribed to mechanisms of language

transfer might be more complex. I have illustrated how more detailed insights into the theories and mechanisms of language acquisition can contribute to a better understanding, and therefore more detailed and adequate interpretation, of what is observed in both first- and second-language varieties of English. A case in point here is my interpretation of the results from the study on the realization of vowel contrasts in L1 child SingE.

In more general terms, the identification of the interaction of multiple, partly consecutive, partly parallel acquisition effects working on the development of L1 child SingE crucially contribute to our understanding of its emergence and its exact linguistic manifestations: L1 SingE seems to have emerged as the product of the peculiar sociolinguistic ecologies of Singapore (as outlined in Section 2.3), language contact, and an unprecedented “acquisition chain,” including effects of both second language acquisition (as transmitted through the adult input) and first language acquisition (as operating on the acquisition of SingE as an L1). Both processes are, in turn, influenced by particular mechanisms of language contact, transfer/cross-linguistic influence, and other effects of language acquisition. More precisely, second language acquisition effects have generated a highly ambiguous input for the children, which then constitutes the input for bilingual L1 acquisition, which is influenced by its own (though partly similar) acquisitional mechanisms.

Still, Language Acquisition research has even more to offer when it comes to the explanation of specific developments and characteristics – and I briefly go into more detail here. One such example can be found in the Similarity Principle, which predicts that, for example, the diphthong [eɪ] is more susceptible to assimilation and thus monophthongization than [oɪ] or [aɪ] because the two sounds in the first diphthong are more similar than the diphthongs in the latter two examples (Donegan, 2013, p. 48). The finding that in SingE, monophthongization is particularly frequent for FACE, GOAT, and SQUARE vowels, which have merged to [e], [o], and [ɛ] respectively, illustrates the principle in action and helps explain why SingE is the way it is beyond the usual recourse to transfer. It is indisputable that language contact and transfer have played important roles in the formation of second-language varieties of English and that cross-linguistic influence often influences bilingual first language acquisition. Yet, the present study has repeatedly shown that these are not the only mechanisms at work in these processes. If we want to come to a more comprehensive and detailed understanding of the mechanisms underlying the emergence and shapes of the different Englishes emerging around the globe as either L1 or L2, we, as World Englishes researchers, have to deepen our understanding of acquisition-guided processes and principles. On the other hand, we are faced with the opportunity (and, actually, responsibility) to show the Language Acquisition world that there is more than just language-internal principles at work on the emergence of speech systems (as is, of course, acknowledged in more recent Language Acquisition theorizing). Most importantly, current developments in the World Englishes context such as the emergence of new L1 varieties of English should (and hopefully will) lead First Language Acquisition researchers to broaden their horizons and rethink

their (with all due respect) limited contextualizations of the native speaker concept and of accounts of the acquisition of English in general.

The same is true in the opposite direction. For example, Bao's (2015) account of an interaction of *SysTRANS* and *LexFilter* is in essence a sociolinguistic, Singapore-adapted version of Hulk and Müller's (2000) structural overlap/ambiguity hypothesis. However, Bao does not refer to it. This should, of course, not belittle all past achievements in the disciplines; they are all valuable in themselves and have fundamentally contributed to our understanding of the specific facts and circumstances they were applied to. However, all these examples show two interrelated things: (1) World Englishes and Language Acquisition researchers are looking into similar objects of research and sometimes need – and come up with – fundamentally similar findings and explanations. The similarities are mainly concealed by ideological stances that could easily be gotten rid of without risking any loss in insights; (2) The opposite is the case: opening up scientific horizons would yield unprecedented insights and depth in the understanding of many of the linguistic phenomena that characterize our global world – e.g., the ever-growing spread and entrenchment of English in an increasingly multilingual world, the different usage contexts and resulting manifestations of English world-wide (ENL, ESL, EFL, English as a Lingua Franca, grassroots Englishes, English for Specific Purposes, etc.), and the acquisition of all these types. All these facets of the English language are closely intertwined, and I claim – and this is reinforced by the findings and interpretations in the present study – that we have to look at the phenomenon as a whole if we truly want to understand its individual parts. I therefore conclude that it is high time that the two disciplines that have so far been mainly involved in the investigation of these contexts work more closely together.

Such a call can be contextualized as part of a larger research trend, viz. bridging gaps between disciplines, that mainly originates in the debate over what makes a second-language variety a second-language variety and how these varieties can be delineated from so-called learner Englishes (among the first, Bon-gartz & Buschfeld, 2011; Buschfeld, 2013), the main idea here being that such strict differentiation does meet linguistic realities (see also, e.g., Biewer, 2011; Laporte, 2012; Nesselhauf, 2009). The alleged interface between ESL and EFL has become one of the major objectives of World Englishes studies in recent times (e.g., Buschfeld & Kautzsch, 2017; Buschfeld, *fc*; Koch et al., 2016; Percillier, 2016). The present study has added valuable and unprecedented insights to this theoretical debate by bringing in the First Language Acquisition perspective (see also Buschfeld, *fc*. 2020).

Notes

- 1 The question here is whether something like that really exists, as individual language use (and language in general) is constantly changing throughout one's lifetime. What I refer to here is language use no longer strongly affected by age-induced acquisition effects (such as the omission of subject pronouns or past tense endings as the product of early language acquisition).

- 2 Note, though, that the child contributing most of the data to the mixed ethnicity group has Mandarin as her other language.
- 3 Consider here Mesthrie's (2006) argument for an "antideletion" tendency in Black South African English and the implicit idea that languages might have a drift in that they show some underlying direction of development when undergoing language change (see also Schneider, 2007, p. 90).
- 4 But see, for example, Gupta's (1994) admission that codes may demonstrate the potential of "leaking" into one another.

10 Conclusions

In 1984, the former Prime Minister of Singapore, Lee Kuan Yew, stressed that Singaporeans should adhere to bilingualism because “English will not be emotionally acceptable as [their] mother tongue. To have no emotionally acceptable language as [a] mother tongue is to be emotionally crippled” (excerpt from the “Speak Mandarin Campaign Speech,” cited in Wee, 2004a, p. 1020). Still, English has long been attributed the status of an important additional language (and, rather confusingly from the language acquisitional perspective, is sometimes even referred to as “first language”; Gupta, 1998, p. 117; cf. Section 3.3) in the linguistic ecology of Singapore, mostly due to its ethnically neutral status and Singapore’s strong aspirations toward global economic success. As Wee (2004a) points out, “the role of English in the unequal allocation of social and economic capital is acceptable precisely because English is officially no one’s mother tongue. Thus, to accept English as a mother tongue for any ethnic community would undermine its officially neutral status” (p. 1020).

The present study has, repeatedly and from different angles, shown that Singapore is faced with a gap between a mostly government-driven ideology and linguistic realities that could hardly be more extreme. The ongoing debate is nothing more than a misconception revolving around ideology-laden terminologies, Western-based conceptions of an old-fashioned native speaker ideal, and the idea that anything deviating from the standard realizations of British (and maybe American) English is just a form of corrupted speech. We tend to ignore the fact that, even in Great Britain, only a small minority would really speak such a standard form of English. The (socio)linguistic situation of Singapore has changed drastically in the last three decades. As has been repeatedly noted in the literature and empirically verified by this study, English has developed into an important first language, especially for new generations of Singaporeans, in recent years. Nevertheless, any effects of emotional deformation and linguistic or ethnic inequalities have failed to appear, not least because the trend of acquiring English as an L1 is not restricted to one ethnic community, but occurs in all ethnic groups, even though to different extents.

The present study is the first of its kind in that it is the first comprehensive, empirical investigation of an emerging postcolonial L2-based first-language

variety of English. Its results and achievements are manifold. I would like to conclude by coming back to the central findings of my study:

- (1) L1 child SingE is an important L1 for many Singaporean children, used in a variety of domains of daily life and with a range of different interlocutors. Often, it is even the dominant language in the children's linguistic repertoires and the language most frequently used in Singaporean homes.
- (2) L1 child SingE is characterized by a range of features on all levels of language organization, strongly reminiscent of what has been reported for L2 adult SingE. This is not surprising and does not deny L1 SingE native speaker status in principle, i.e., simply because it is apparently built on an L2 variety. Still, the study has pointed out some potential differences between adult and child SingE. These are especially of a quantitative nature. This supports the idea that we might be dealing with a case of language change in progress. Still, future research has to shed more light on this issue to come to conclusive insights on the question of potential language change in SingE.
- (3) L1 child SingE is characterized by great inter- as well as intra-speaker variability. Still, L1 child SingE is not as unsystematic as it might seem at first sight. The results have also revealed instances of clear systematicity as well as inter-ethnic homogenization tendencies. I have interpreted these findings as evidence that L1 child SingE is still "in the making" but definitely has to be considered an L1 system in its own right.
- (4) L1 child SingE is not different from other L1 varieties of English in principle, and it is by no means defective or inferior to other L1 Englishes! Much of what the Singaporean children do is similar to what children growing up in England do; in the end, they all acquire English. In other respects, the data show important differences between the two child cohorts, both in qualitative and especially quantitative terms. This not only stresses the independent character of L1 child SingE, it also gives reasons to expect further differentiation in the English Language Complex, potentially even including changes on the typological level (cf. Buschfeld, in prep.).
- (5) From a theoretical perspective, the study clearly shows that only an integrated approach – one that combines perspectives and methodologies from different linguistic disciplines while ridding itself of ideologically loaded objectives – can comprehensively shed light on the acquisition, properties, and use of the newly emerging L1 varieties, such as can be found in the Singapore context. To that end, the traditionally employed separation of the World Englishes and Language Acquisition paradigms needs to be reconsidered, or rather, the two disciplines should work more closely together.
- (6) Finally, and most importantly, there is no reason to deny Singaporeans native speaker status, especially against the background of the discussion of the native speaker concept in Section 3.3 and the overall results from the present study (or maybe we should just do away with emotionally and ideologically charged notions such as "native speaker" altogether).

Singaporeans acquiring English as an L1 from birth are first-language speakers of English in the same sense as traditional L1 English speakers. They should be granted the same rights and status when it comes to questions of ownership and proficiency – in public and political discourse and by linguists alike. They do not acquire a defective system, just yet another version of a complex system of Englishes.

Based on the fundamental notion that all languages are changing constantly, this should be easy to accept, at least from a linguistic perspective. It may take a while until an acceptance and implementation of such major reconceptions reaches the public, non-linguistic sphere, particularly because they rest upon centuries-old (mis-)conceptions and ideologies. Let's rise to the occasion and take Singapore as a starting point for once more rethinking our conceptions of the English language and the notions related to its acquisition, use, and norms.

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