

Sociolinguistic Variation and Language Acquisition across the Lifespan

Edited by
**Anna Ghimenton
Aurélie Nardy
Jean-Pierre Chevrot**

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Sociolinguistic Variation and Language Acquisition across the Lifespan

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Volume 26

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Introduction

Bridging contexts to document sociolinguistic variation in acquisition

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Sociolinguistic variation in acquisition is now an established and dynamic field that provides the common ground between sociolinguists and psycholinguists working from different vantage points and fields. This volume is a follow-up to Gunther De Vogelaer and Matthias Katerbow's volume *Acquiring Sociolinguistic Variation*, published in 2017 in the *Studies in Language Variation* series, John Benjamins, that gathered papers presented at the first conference on Variation in Language acquisition, launched by De Vogelaer and held at the Münster University in 2012. Whilst the first volume edited by De Vogelaer & Katerbow (2017) focuses primarily on a cross-linguistic comparison of the acquisition of sociolinguistic variation, the specificity of the present volume lies in the fact that it covers acquisition throughout the lifespan, contextualizing the acquisition of sociolinguistic variation in both first (L1) and second language (L2), as well as first and second dialect. Because this research area addresses fundamental theoretical questions across the field of language sciences, many directions of study have been explored over the last ten years. However, seldom have been the opportunities to confront these directions in one venue.

Studying the acquisition of sociolinguistic variation sheds new light on both cognitive and sociolinguistic issues. From an historical perspective, this interdisciplinary encounter would have been unexpected, considering what were the initial assumptions made in the field of linguistics. From the middle of the 20th century, the scientific approach to language was grounded on the hypothesis that languages are homogeneous systems clearly delimited from one another, and independent from other cognitive mechanisms. These delimitations have at least one fundamental drawback, which Levinson (Levinson, 2012, p. 396) has named “the original sin of cognitive science” being that classical approaches are based on the precept that human cognition is structured in a uniform way and that it is universal across

cultures and social groups. Focusing more particularly on the psycholinguistic approaches to language acquisition, this precept resulted in two consequences. Firstly, there has been a strict compartmentalization of research focused on situations in which children or adult learners acquired only one language at a time. Secondly, in cases where the individual is confronted with one single language, as is the case in monolingual acquisition for example, it was assumed that the linguistic knowledge that they acquire was homogeneous and stable (Chevrot & Foulkes, 2013; Menn & Matthei, 1992). During the second half of the 20th century, sociolinguistics started questioning this very conception of language, i.e. as a well-defined entity. The intrinsic variability of language became one of the key issues tackled by sociolinguists who acknowledged that languages are heterogeneous and evolving systems, due to their internal dynamics, the contact between them, and their relation to the social organization, which is itself ever-changing, composite and multi-layered (Laks, 2013; Weinreich, Labov & Herzog, 1968). Sociolinguists describe the internal heterogeneity of languages with reference to variables, i.e. points of variation which enable speakers to say the same thing in different ways, with the variants being “identical in reference or truth value, but opposed in their social and/or stylistic significance” (Labov, 1972: 271). The same framework is applied to alternation between distinct languages, as multilinguals “continually engage in choices amongst alternatives which have the same referential meaning or function” (Poplack, Zents & Dion, 2012: 207). A large body of research has established that these choices convey indexical meaning (information about speakers and context) and that they depend on social factors, like gender, ethnicity, social class, interaction (Eckert, 2008; Foulkes, 2010). The historical contextualization above, albeit brief, unveils the striking points of convergence between the social and cognitive sciences approaches to language acquisition, suggesting that the two perspectives are not only complementary but would mutually benefit from a joint approach. The current scientific context, which strongly encourages interdisciplinarity, is a fertile ground for the burgeoning of new scientific research focused on the topic of acquisition of sociolinguistic variation, reinforcing it as a clearly identifiable and established field.

The first aim of the book is to integrate sociolinguistic and psycholinguistic issues by bringing together researchers who develop conceptions of language acquisition that take into account the language-internal or cross-linguistic variation in both first and second languages. The second aim is to group within the same venue, research that deals with the acquisition of variation that has hitherto followed four separate research directions despite their shared object. In line with these objectives, these four directions were highlighted at the second *Variation in Language Acquisition Conference*¹ (ViLA2) that was held in Grenoble (France), in 2014, from December 3 to 5. Although the majority of the chapters are based on relabored and expanded versions of the papers presented at this conference, not

all are. We decided to broaden the focus in order to provide a more well-rounded view of this topic so that a lifespan perspective on the acquisition of sociolinguistic variation could be made available to the scientific community in the same volume.

The first direction deals with child acquisition of L1 dialectal varieties. The individuals concerned in this research strand are children in contact with varieties of the same language from an early age. They grow up in families living in communities where one language is dominant in their linguistic environment and children are exposed to different social dialects pertaining to that particular language. From birth to pre-adolescence, there is a progressive alignment of preferences towards the standard varieties, and thus to the most prestigious ones (Kinzler & DeJesus, 2012). However, when children reach the stage of adolescence, the popularity of the prestigious varieties decreases, characterized by processes of destandardization (Kristiansen & Grondelaers 2013) and restandardization (Bell, 2014), where informal varieties gain prestige and benefit from a wider use. The second direction mirrors the first only that research here deals with children growing up in multilingual communities developing multilingual and multidialectal repertoires. This research strand documents phenomena of language mixing that are overlaid on dialectal variation in each language. The third research direction investigates the acquisition of language-internal variation as well as language mixing in the case of L2 learning in contact with L1 speakers. Different contexts of acquisition are involved in this research strand ranging from formal language learning situations to more informal encounters, study-abroad contexts or again in situations of migration. In these L1 and L2 speakers' encounters, issues of variation are documented in light of the socialization processes involved that lead to language-internal variation or, more broadly, plurilingual practices in interaction. An important difference that distinguishes this direction from the previous ones is that L2 individuals here do not benefit from the same sort of scaffolding L1-speaking children receive. In addition, the L1-L2 speaker encounters deal with the converging forces between different cultures and perspectives. The fourth research direction involves the study of lifelong second dialect acquisition. This research strand involves the social and cognitive processes underpinning of dialect learning throughout the life-span in case of geographical, political or social mobility from one language community to another.

From this body of research, it clearly emerges that one acquires sociolinguistic variation throughout the lifespan yet its specific milestones have yet to go beyond the descriptive level. Building on Chevrot & Ghimenton's (2019) review, we will illustrate this point by taking the example of a child facing inter- or intralinguistic variation from their environment. They will start by producing the dialectal (social and regional) variants and adjust the frequency of use of particular variants according to the use their interlocutors' make. These adjustments mark the burgeoning of

stylistic abilities. When the child is about five, preferences for their own dialectal variety is common. At 9 – 10 years, preferences for the prestigious varieties reach a peak whilst this tendency is reversed in adolescence where the non-standard varieties gain much popularity, both in perception and in production. While unveiling these milestones and their descriptors is critical, a number of questions remain unanswered. The first crucial issue concerns the cognitive forces driving the selection of one variety over another, irrespective of the age or life-stage. A classic example concerns the much debated question on what social agent has more influence on the adolescent's choices: are the parents (often used as a proxy for family) or peers who have the most influence? Furthermore, how do these influences evolve over time? Said in other terms, scholars face the challenge of describing how the weight of factors, such as power, prestige, social networks evolves throughout the lifespan and how and under which circumstances these factors drive the acquisition of new practices or the maintenance of old ones. In other terms, how can the cognitive mechanisms behind the selection of one or the other variety be explained by integrating the social dimensions underpinning language production in interaction?

Aiming to bring together these four directions in one volume, we grouped the chapters in two sections, covering different stages of the acquisition of sociolinguistic variation across the life-span of the individual who may be confronted with issues of mobility (social, political and geographical) and/or formal and informal encounters with members who do not share the same dialect(s) or language(s). This volume is a first step in tackling the unanswered questions by covering studies on language variation in acquisition conducted in ten different sociolinguistic contexts: Europe (France, Belgium, Austria, Switzerland), the Americas (Jamaica, United States and Canada), Asia (Indonesia, Singapore) and Australia. Investigating the same (or similar) research questions in a diversity of fields allows the reader to tease out the factors that impact and steer the acquisition of sociolinguistic variation, allowing for further research in the field. These chapters illustrate the common scientific preoccupations across a diversity of theoretical and methodological approaches. Conceiving the research methodology on a continuum ranging from ecological to experimental methods, the chapters gathered different types of data that can be grouped as follows: (1) socio-interactional (Zenner & Van de Mieroop; Liégeois; Starr & Wang; Siegel), (2) sociolinguistic interviews (Kushartanti et al.; Shin; Ender; Gautier & Chevrot) and (3) data from experimental studies (Kaiser & Kasberger; Hudson Kam; Lacoste; Gautier & Chevrot).

For the sake of coherence, the book contains two sections: (1) child language acquisition and sociolinguistic variation and (2) second language acquisition and dialectal variation in adults, dividing the life-span into two periods. Each section is introduced by a leading scholar in the field, respectively Jennifer Smith and Vera Regan, who were two of the invited speakers at the Vila2 conference. Their two

introductory chapters include an overview of the main trends of each area, an historical perspective allowing them to contextualize the chapters in this volume by mentioning how they provide an original and important contribution to the field of child and adult language acquisition of variation.

The first section focuses on language acquisition and sociolinguistic variation in childhood and on the importance of the interplay between the social and linguistic constraints together with their effect on young children's acquisition. **Liégeois** focuses on the schwa elision paradigm and compares its production in interadult and adult-to-child interactions within the francophone context of metropolitan France. Social (style) and linguistic (phonetic, lexical, semantic and syntactic) constraints are explored. While Liégeois' analyses focus on the constraints that characterize discourse produced in the child's presence, **Zenner & Van De Mieroop** take a more pragmatic stance in their study of caregivers' speech during dinnertime conversations taped in the Dutch-speaking context of Flanders. They focus on the varieties chosen in the production of control acts in a quantitative and qualitative approach. Variation between standard and vernacular forms is pragmatically grounded and this sheds light on how ordinary interactions contain not only social and linguistic material but also ideologically oriented uses of language, like the preference for the standard when adopting an educational stance through discourse production. **Shin** gives a complementary perspective to Liégeois and Zenner & Mieroop's research. Moving the focus on children's production, she compares the acquisition processes of bilinguals (English-Spanish) and monolinguals by focusing on the subject pronoun paradigm. She introduces a novel perspective on how frequency can account for the order of acquisition of pronouns, the discourse pragmatic constraints being acquired first whilst the morphological ones lag behind. Frequency was also found to be an important factor in **Kushartanti et al.**'s exploration of 63 Indonesian children's (3–5 years) order of acquisition of sociolinguistic and linguistic constraints in the multilingual Indonesian context. The question whether children acquire the social constraints before linguistic ones has yielded different results but studies have seldom documented this question in language contact contexts. Focusing on children's early production of prefix markers of transitivity or intransitivity, Kushartanti et al.'s research highlights the impact of frequency of exposure to one or the other language variety in determining the order of acquisition of both linguistic and social constraints. Moving the focus on perception, **Kaiser & Kasberger** question at what age children develop awareness of different varieties and at what age do they develop language-specific attitudes. They conducted a study in the Austrian bidialectal context where, in a matched guise experiment they asked 205 children (aged 3 to 10) to choose which production (standard German or dialect) they preferred. From 7 years onwards, children begin to prefer the standard, and thus most prestigious variety. Regarding production, **Lacoste** examines how

24 seven-year-old primary school children acquire a phonetic Standard Jamaican English speech pattern (duration, pitch and loudness in word-final syllables). She also explores the relationship between the children's production patterns realized in the classroom and their attention to speech in different stylistic environments (free talk, picture description, reading).

Moving the focus from children to adults, the second section deals with second language or second dialect acquisition in adulthood. The section opens with **Starr & Wang's** analysis of the acquisition of L2 patterns of variation through the analysis of two L2 Mandarin-speaking political figures over a time period from 1966 to 1992. Their analyses reveal that, besides factors such as L1 background, education, and stance towards standard language, variation found in the two political figures' language use depended on political factors. Indeed, their use of the standard norm was higher in the period following political campaigns promoting the use of Mandarin. Whilst Starr & Wang investigate the ways political and ideological factors influence production, **Gautier & Chevrot** study the acquisition of two sociolinguistic variables of 29 American and Chinese learners of French in a study-abroad experience in France. The two variables are optional liaison and *ne* of negation, two typical variables investigated in both L1 and L2 variation in acquisition studies. Similarly to what was noticed in Kushartanti et al., in this particular L2 learning context, sociolinguistic awareness does not emerge at the same moment for both variables. For the *ne* variable, learners' acquisition seemed to be guided by awareness of its sociolinguistic value, whilst for the acquisition of optional liaison, it appeared to be driven by frequency of exposure. Moving to another situation of language contact, between dialect and standard in German-speaking Switzerland, **Ender** explores the linguistic repertoires of eight L2 speakers who have either English or Turkish as their L1. Data were collected via structured interviews and revealed that there were different patterns in the use of language varieties in their repertoires. Importantly, Ender underscores that despite the informants' ability in discriminating between standard and dialect variation, using these two varieties is much more challenging as other factors come into play, namely identity and social categorization of the varieties. **Siegel** also investigates issues of identity, taking an original turn compared to the existing literature. He examines how issues of authenticity, ownership and legitimacy constrain the acquisition of Australian English by speakers of other dialects, and on second dialect acquisition in general. This is a timely contribution as it moves beyond studies investigating the ways in which dialects indexes a particular identity, in terms of the speaker's ethnicity and regional provenance and explores the acquisition of variation in bidialectal situations capturing its multidimensionality. This section ends off with **Hudson-Kam's** contribution in which she delves into the psycholinguistic mechanisms underpinning the L2 acquisition of variation. Through an experiment where learners were exposed to

a miniature artificial language, Hudson-Kam investigated whether learners gain access to socially-constrained variation by first associating speech pattern variation (in this case, variable determiner usage) with particular speakers. In the light of her data (production and judgement data), no particular evidence was found that participants learned the speaker-specific patterns of variation. Hudson-Kam draws parallels between child and adult acquisition of sociolinguistic variation, suggesting that children, like adults, are not very likely to start learning sociolinguistic variation via a speaker-tracking mechanism. Rather, her study underscores the fact that sociolinguistic variation is social at its very core.

Both sections encompass four cross-sectional thematic issues accounting for the integration of social and cognitive aspects: acquisition of social meaning (indexicality, status, perceptions and identity) in contexts of bilingual and bidialectal contact (Kaiser & Kasberger, Siegel, Starr & Wang); acquisition of social and linguistic constraints in bilingual and/or bidialectal contexts – in adults (Ender) and in children (Kushartanti et al., Shin) – and L2 acquisition within a study abroad experience (Gautier & Chevrot); learning processes of socially meaningful variation through the lens of experiments based on an artificial language (Hudson Kam) or through the observation of naturally occurring language practices within the home (Zenner & Van de Mierop); and role of variation within the environment in the acquisition of socially indexed variables (Liégeois, Lacoste). This volume gathers theoretical and empirical research that documents the acquisition of variation in a wide range of sociolinguistic contexts. More importantly, both production and perception studies are represented in one volume allowing the reader to see how, on the one hand, variation is acquired in childhood or at a later stage and, on the other hand, how perception and production feed into one another building awareness of the social meaning underpinning language variation.

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SECTION 1

**Child language acquisition
and sociolinguistic variation**

Child language acquisition and sociolinguistic variation

Jennifer Smith
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Research in First Language Acquisition shows that despite its highly complex nature, children learn to speak quickly, and apparently with little effort. Within the first four years or so, young speakers are near fluent in the language(s) to which they are exposed, moving from cooing and babbling, to saying /sɪp/ and then /ʃɪp/, and from *push truck* to *teddy is pushing the truck* (e.g. Brown 1973; Grunwell 1981). This remarkable development has been well documented, providing us with a fund of knowledge on the stages that a child goes through in acquiring language, and the possible theoretical mechanisms that account for these. However, the majority of the research conducted in this field has largely concentrated on the acquisition of standard varieties, where deterministic, or invariant, forms are the focus of research. At the same time, research in sociolinguistics has shown that language is full of *variable* forms. For example, there is not one but multiple ways of expressing future temporal reference, as in (1):

- (1) a. I'll buy the dress.
- b. I'm going to buy the dress tomorrow.
- c. I'm gonna buy the dress.
- d. I'ma buy the dress.
- e. ...

Moreover, choice of form has been shown to be governed by a series of interacting social and linguistic constraints on use. In the case of (1), for example, formality, ethnicity, geography, subject type, clause type, amongst others (e.g. Tagliamonte, Durham & Smith 2014; Torres-Cacoullous & Walker 2009) all condition the variability. In addition, these influences are probabilistic: it may be, for example, more likely to use *going to* in formal situations and *gonna* in more informal contexts; for clause type, it may be more likely to use *will* in declaratives but *going to* in interrogatives. The rule governed, structured nature of variation applies not only to realisation of

future temporal reference, but is replicated over multiple variables across multiple varieties worldwide.

As the “goal in acquisition is mastery of the language in use around them” (Clark, 2016: 18), it follows that mastery of the *variable* forms of language to which a child is exposed must also be integral to this goal. However, such variation is “especially interesting from the perspective of acquisition because of the apparent challenge it presents to children” (Hudson Kam, 2015: 907): learning a language is already highly complex, but what happens when the type of variation like that of (1) is added to that complexity? Despite this seemingly impossible task, Chambers (2003: 174) makes the common-sense observation that “when children acquire their mother tongues, they evidently acquire the local variants and the norms of their usage too”. The evidence for such a statement is all around us, in the mouths of children in Louisiana (2), Belfast (3), and Trinidad (4).

- (2) Alya (3;4), Louisiana, USA (Green 2011)
 Alya: Baby \emptyset looking at the dog. He \emptyset gon bite. He \emptyset a boy? ...And *he's* a boy? And they \emptyset brothers.
- (3) Stuart (3;5), Belfast, UK (Henry 2016)
 Stuart: I *saw* Peter...I *seen* Superman in the playground.
- (4) Kareem (2;7–3;11), Trinidad (Youssef 1991)
 Kareem: Cos babooman *go* bite me.... I *will* tell me Mummy and throw you away. I *gonna* carry you.

The key question is: when and how does such variation arise? Labov (1964: 91–3) suggested that children first acquire the basics of language structure and only much later, in adolescence, do they fully develop patterns of sociolinguistic variation as they move from the close confines of home and school to the wider linguistic world. However, a growing body of research on younger children suggests that it may be earlier. Some studies have found that systematic patterns are acquired in the preadolescent years e.g. 10–12 (e.g. Reid 1978; Renn & Terry 2009; Romaine 1984; Chevrot, Beaud & Varga 2000), and others in the first school years i.e. six to eight years old (e.g. Labov 1989; Patterson 1992). Even more recent research has provided evidence that they are acquired even earlier, with key variables developing around two to four years old (e.g. Chevrot & Foulkes 2013; Díaz-Campos 2005; Foulkes, Docherty & Watt 2005; Green 2011; Kushartanti 2014; Roberts 1994; Smith et al. 2007, 2009, 2013). Such findings have led researchers to conclude that the acquisition of variation is an “integral part of acquisition itself” (Roberts 2005: 154), where the 3–4 year age range is “a critical period for the acquisition of dialectal norms of the speech community, just as it is for language learning in general” (Roberts & Labov 1995: 110). This leads Chambers (2003: 174) to conclude that “[t]here are no studies indicating a time gap between the acquisition of grammatical competence

and the development of sociolinguistic competence.” At the same time, Kerswill (1996: 199) points out that “exactly when a child acquires a feature of his or her first dialect depends on the linguistic level [and] the complexity of the conditioning” of the variable in question. This means that some variable rules will be acquired at the same time as categorical ones, but depending on their complexity, others may take longer to acquire. In addition to these linguistic considerations, Chevrot et al. (2000: 296) suggest that the age at which sociolinguistic patterns are acquired “depends on the perceptual salience of the variants in question [...] and their sociolinguistic value in a given community.” Thus, the interplay between social and linguistic constraints may have a profound effect on what is acquired when.

The ambient variety to which the child is exposed is also crucial in the acquisition of variation. Labov (2001: 437) observes that “children begin their language development with the pattern transmitted to them by their female caretakers”. In doing so, they are said to “replicate faithfully the form of their parents’ language, in all of its structural detail” (Labov 2007: 349). The result is that “we all speak our mother’s vernacular” (Labov 2001: 416) in the first few years of life. Studies which have looked at both caregivers and children support this view, demonstrating a strong link between caregiver input and child output with respect to variation (Foulkes et al. 2001; Kerswill & Williams 2000; Smith et al 2007, 2009, 2013). At the same time “many parents are reluctant to speak dialect to their (young) children, and prefer a standard-like variety, even if they would speak dialect towards each other” (De Vogelaer et al. 2017: 10). If this is the case, then how does this impact on vernacular norms in the transmission of forms from parent to child?

While research on deterministic forms in first language acquisition is extensive, research on acquisition of variation is much more restricted, thus the papers in Section 1 provide an excellent contribution to questions surrounding the acquisition of vernacular norms. Through a series of analyses of variation in the speech of young children in a number of different languages worldwide and across different contexts of use and in both production and perception, we add to our knowledge of this most complex of questions – when and how does variation arise in the speech of young children?

Liégeois focuses on schwa elision in French, “the optional realisation of the central vowel sound schwa, also called “silent e”” (p. 21). This variable demonstrates classic sociolinguistic conditioning in adult speech, where, in addition to social constraints such as class and style, phonetic, lexical, semantic and syntactic constraints on use are also noted. In this paper, the author turns to the question of how this variable is modulated in caregiver speech when compared to adult norms and how, in turn, it is acquired by young children. In doing so, he is able to provide the “detailed template” (Labov 2001: 416) of community and caregiver in input of this variable, thus allowing him to assess more fully output in child speech.

Data from a longitudinal study of three families shows that schwa absence – the non-standard form – is lower in caregiver speech when compared to adult to adult speech. Further, this modulation wanes as acquisition progresses. In other words, as the child grows older, the caregiver starts to use variant forms in line with community use. This provides further evidence that in interaction with children, caregivers avoid non-standard, dialect forms, at least in the earlier stages of acquisition (e.g. Roberts 2002; Foulkes et al. 2005; Smith et al. 2007, 2013), just as De Vogelaer et al. (2017) suggest. Further analysis of the linguistic constraints on use in one family show that factors demonstrated to condition variability in adult speech are not evidenced in the speech of the child. Instead, Liégeois calls on a usage-based model to explain these results, where ‘frozen’ constructions are first memorized and only later applied to more abstract categories.

Zenner and Van De Mieroop also focus on caregiver speech, and take as a starting point previous findings which show that caregivers styleshift with variables which have social significance in the community (e.g. Foulkes et al. 2005; Smith et al. 2007, 2013). In this research, they attempt to link such implicit sociolinguistic pedagogy to more explicit language pedagogy in these early years, and specifically the sociolinguistic correlates of “control acts” defined as “utterances designed to get someone else to do something” (Goodwin 2006: 517). In doing so, the paper addresses the question of “which position standard and vernacular forms hold on this continuum from explicit to implicit, from authoritative to democratic, and what this reveals about the social meaning of the varieties under scrutiny” (p. 54). The data focus on the alternation between standard and vernacular forms of address in control acts in a variety spoken in Flanders, a “Dutch language laboratory” (p. 55) where hyperstandardised forms from Standard Dutch may be employed by caregivers as the “best language” in interaction with their children. Quantitative and qualitative analysis of the speech of five families involved in dinner table conversations reveals correlations between implicit and more explicit language learning directives in caregiver/child interaction: standard variants were used for ‘softer’ control acts: non-authoritative speech acts which are equated with “‘better’ parenting” (p. 73). This study not only talks to the idea that caregivers take “the role of teachers of language seriously” (Roberts, 2002: 343), but also into the wider ideologies of parenting in the Western world.

Zenner and Van De Mieroop’s paper centres on the analysis as discourse-pragmatic influences on caregiver speech. Shin’s paper also focuses on this area of the grammar, but turns from caregivers to the children themselves. Specifically, she addresses the claim that features which involve the interface between syntax and discourse-pragmatics represent a more ‘vulnerable’ area of the grammar – those which are more difficult to acquire and are more easily lost – than those which involve the syntax-semantics or syntax-morphology interface. One result of this

Interface Hypothesis is that bilingual speakers may diverge from monolingual speakers in using a form which is pragmatically inappropriate in certain contexts, but would not do so with morphologically-based constraints. To test this claim, she conducts an analysis of the variable realization of subject pronouns in 28 Spanish-English bilingual school children and compares their use to monolingual speakers. As the author points out, previous research on variable subject pronoun realization is extensive (and is in fact a showcase variable in sociolinguistic research), but here she extends this research to ask whether both discourse-pragmatic and/or morphological factors show divergence from monolingual patterns in bilingual speakers. Her results show that, contrary to the Interface Hypothesis, the bilingual children have acquired the discourse pragmatic constraint on pronoun use but not the morphological constraint. In line with Liégeois, she interprets this result as arising from frequency, where learners need to experience numerous exemplars in order to extract generalizations in patterns of morphosyntactic variation. Such an analysis contributes more widely to questions surrounding how the mental grammar, in combination with external pressures, is organized in the context of variation (e.g. Adger & Smith 2010; Labov 1989; Foulkes et al. 2001).

Kushartanti, Van de Velde and Everaert's paper stays focused on the child, and specifically on the question of the order of acquisition of sociolinguistic constraints. Are social constraints acquired first, or linguistic, or both at the same time? Labov (1989) suggests that social and stylistic constraints are acquired before articulatory and grammatical constraints, but subsequent studies show mixed results in terms of order (e.g. Cornips 2017; Roberts 1994; Patterson 1992; Youssef 1991). Given this, this study is a timely contribution to that debate. The data come from 63 Jakarta Indonesian preschoolers aged 3;0 to 4;5 recorded at two different time points in a more formal and more informal situation. A multilingual situation exists in Indonesia, but here the authors concentrate on the use of two varieties to which the children are exposed: Bahasa Indonesia, the standard variety, and Colloquial Jakarta Indonesian, the vernacular variety, with the analysis focused on prefixes which mark transitivity and intransitivity across the two different varieties. They first find that vernacular variants dominate in these preschoolers, with very few children being 'bistylistic' across the two time periods. Thus, the acquisition of the two different varieties is sequential rather than simultaneous. In terms of order of acquisition of the social and linguistic constraints, further analysis shows that across both varieties, the children had acquired the linguistic constraints, but only in the vernacular variety had they acquired the social constraints on use. The authors point out that the ambient language to which these children are first exposed is the vernacular variety – Colloquial Jakarta Indonesian – thus they acquire the constraints on use faster. Bahasa Indonesia constraints would presumably come later, when the children move from the home into the wider world. As noted above,

Chambers (2003: 174) suggests that there is no time gap between the acquisition of grammatical competence and the development of sociolinguistic competence. This study suggests that in situations where more vernacular and more standard varieties exist side by side, more exposure to one or the other in the first few years of language acquisition has a significant effect on what is acquired when.

The above studies concentrate on production in both caregiver and child speech in the context of variation. Kaiser and Kasberger move from production to perception in their study of when children begin to acquire awareness of, and attitudes towards different varieties of a language. Just as with many other varieties (e.g. Preston & Robinson 2005), adult attitudes towards the dialect-standard continuum in the Bavarian-speaking regions of Austria are pervasive: dialect speakers are thought to be friendly and honest but also less intelligent. The question the authors want to address in this paper is: at what age do such attitudes arise? Labov (1964: 91–93) initially suggested that such attitudes may not become fully formed until early adolescence, but studies since have suggested that even preschool children may privilege the standard (e.g. Rosenthal 1974) although such attitudes are “markedly enhanced during the first years of schooling” (p. 135). The authors span these ages in their study of the sociolinguistic preferences of 205 children aged between 3 and 10 years using a match guise experiment, where they were confronted with the voice of a (bidialectal) doctor speaking in standard and dialect and asked to choose which one they preferred. Only the older children showed a clear preference for the standard speaker – the younger speakers showed no such preference. They suggest that schooling has a strong influence on a child’s attitudes, where standard norms are a key component of the educational system, and this is in line with other research on the formation of attitudes (e.g. Buson 2009). Thus, we might expect that while variation between standard and vernacular appears in preschool, meta awareness of these forms does not come in to play until later, in the first few years of formal schooling.

As noted above, many changes take place in the sociolinguistic norms of children as they move from caregivers and home to school and peers. One such change is said to be the rise in use of standard forms in this institutional setting of the classroom (e.g. Chevrot et al. 2000), an issue that Lacoste addresses directly in her paper. Lacoste notes that in Jamaica, children are mainly exposed to Jamaican Creole in the first few years of life. Once they enter formal schooling, they are exposed to Standard Jamaican English. This, in effect, means that “most Jamaican children in the present study may be regarded as ESL learners” (p. 162). In this study, Lacoste seeks to establish the effects of the classroom language on the children, both in the ambient variety and in more direct instruction. She focuses on the phonetic exaggeration of the three stress correlates: duration, pitch and loudness in word-final

syllables which is characteristic of classroom speech templates in the speech of 24 7 year old children and their teachers in three rural schools in central Jamaica across a number of different contexts of use. Auditory and acoustic analysis shows that “patterns of phonetic variation including remarkable ones are consistent with the children’s learned behaviour based on their attention to their teachers’ (variable) input” (p. 179). As with Liégeois, Lacoste turns to an exemplar-based model to explain how these young children acquire the phono-stylistic constraints operating on this area of the grammar.

It was noted at the beginning of this section that research on the acquisition of variation remains quite sparse. These papers bolster significantly this body of research, providing further findings on caregiver input and child output, effects of ambient language, the interplay of ‘external’ and ‘internal’ influences on variation, and how variation in production is translated in perception. These papers provide an excellent ‘shop window’ on the complexities of variation in the earlier years of language acquisition, and demonstrate how rich this field of study is for future research.

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Input effects on the acquisition of variation

The case of the French schwa

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This chapter addresses the acquisition of a French phonological variable: the schwa ([ə]) in clitics. Our research is based on data extracted from three longitudinal dense corpora. The aim is to analyse children's productions and two types of adult data: Child and Adult Directed Speech (CDS and ADS, respectively). The analyses show that schwa alternation is modulated in CDS, in the sense that parents produce the schwa variant of clitics significantly more often in CDS. However, differences between CDS and ADS tend to disappear during the course of language development. Our results also indicate that the acquisition of schwa alternation is not homogenous and depends on the clitic used and on factors linked to characteristics of CDS. These results support Usage-Based Theories and Construction Grammars frameworks which assume that CDS properties frame the course of acquisition.

Keywords: schwa, Child Directed Speech, input effects, spoken corpora, Construction Grammar, Usage-Based Models

1. Introduction

This chapter describes a corpus-based study of the acquisition by young French speakers of a dialectal variable: the optional realisation of the central vowel sound schwa, also called “silent e” (*é muet*). The study focuses on clitics containing a schwa: *ce, de, je, le, me, que, se* and *te*.¹ Schwa alternation is of particular interest because it involves several linguistic levels: phonetics and phonology, but also the lexicon, pragmatics, semantics and syntax. To take all these levels into account in our analysis, we adopted a Construction Grammar and Usage-Based Approach. With such models as a theoretical frame of reference, our corpus analyses comprise

1. “this”, “of” / “to” / “from” / “by” / “with” / “than” / “at” / “out of” / “off”, “I”, “the” / “it” / “him”, “me” / “myself”, “that” / “which” / “what” / “whom” / “than” / “wether” / “how”, “themselves” / “himself” / “herself” and “you” / “thee” / “yourself” / “thyslf”.

two steps: (i) a heuristic approach describing the use of schwa in clitics by all the speakers in our corpus, both adults and children, and (ii) a focus on the clitic “*je*” that has some specific features, as we will show in 5.2 and 5.3. We link parental and children’s productions to examine how child-directed speech (hereafter CDS) directs the evolution of children’s productions during acquisition.

2. The French schwa: A multifaceted variable

2.1 Schwa categories

French schwa possesses specific properties. It can be phonetically realised or deleted depending on various linguistic and extralinguistic factors. Schwa realisation (hereafter *schwa presence*) or deletion (hereafter *schwa absence*) can be either categorical or variable.

A categorical schwa presence or absence occurs in all speakers, irrespective of the speaker’s birthplace or the type of interaction taking place. It stems most often from phonotactic factors that fall under the “three-consonant rule” (*loi des trois consonnes*, Grammont 1914). This rule states that schwa is obligatorily present when surrounded by three or more consonants, so that its deletion does not bring these consonants together (“*s’il te plaît*”, “please”). Schwa elision in clitics is categorical before a word beginning with a vowel. For example, when the clitic “*le*” (“the”) is combined with the noun “*ami*” (“friend”) the schwa is deleted: “*l’ami*” (“the friend”).

Otherwise, schwa absence is optional. For example, the clitic “*le*” (“the”) in “*j’ai pris le bus*” (“I took the bus”) can be pronounced with or without schwa, [ʒɛpʁiləbys] or [ʒɛpʁilbys]. Our study examines this type of schwa alternation. Most phonologists (see for example Detey, Durand, and Lyche 2016) subdivide schwa alternations on the basis of the position the vowel occupies in words produced in isolation: (a) schwa within polysyllabic words, e.g. “*particulièrement*” (“particularly”), which can be pronounced either [pɑʁtikyljɛʁəmã] or [pɑʁtikyljɛʁmã], (b) schwa at the beginning of polysyllabic words, e.g. “*cheminée*” (“fireplace”), [ʃəmine] or [ʃmine], (c) schwa at the end of polysyllabic words, e.g. “*un acte judiciaire*” (“a judicial act”), [ɛ̃naktɛʒydisjɛʁ] or [ɛ̃naktʒydisjɛʁ], and (d) schwa in monosyllabic words, e.g. “*le bus*” (“the bus”), [ləbys] or [lbs].

This last type deserves special attention because when schwa is absent in such monosyllables, there is no alignment of syllable and word boundaries. As a result, a child acquiring the French language may find it difficult to parse input containing an absent schwa, as shown in previous studies regarding liaison acquisition (Chevrot, Dugua, and Fayol 2009; Chevrot et al. 2013; Nardy, Chevrot, and Barbu 2013).

2.2 Factors influencing schwa absence or presence

Variable schwa (that can be produced or not) is known to be a sociolinguistic variable of French, constrained by a variety of sociolinguistic factors such as the speaker's birthplace (diatopic variation), socio-linguistic status (diastratic variation) and context of interaction (diaphasic variation). Diatopic variation with respect to schwa usage within and outside European France was examined in the project "*Phonologie du Français Contemporain*" ("Phonology of Contemporary French", hereafter PFC; Durand, Laks, and Lyche 2002; Durand, Laks, and Lyche 2009). Concerning the schwa in clitics, Andreassen (2013) and Eychenne (2006) showed that its frequency varied according to the geographical area of data collection (Table 1). Schwa presence was very frequent among most French speakers in Southern France, but low among those in Quebec. Swiss French lay between the two.

Table 1. Rate of schwa presence by variety of French and clitic position. Adapted from Andreassen (2013) and Eychenne (2006)

Variety of French	Southern France	Quebec French	Swiss French
Clitic position	French (Languedoc survey)	(West Canada survey)	(Switzerland survey)
Beginning an intonation group	91%	29%	57%
Following a consonant	95%	85%	73%
Following a vowel	94%	17%	30%

Diastratic variation in the use of schwa was first reported by Delattre (1951) and later examined in a corpus study by Hansen (2000). Delattre argued that pronunciations such as [ʒystmã] (justement, exactly) or [fɔrtmã] (fortement, strongly) are unusual and can happen only in a hurried or casual style. According to the author, in these cases, the norm for "well-educated" speakers is to pronounce the vowel. Hansen examined corpora containing informal conversations. She showed that, within the same generation, "well-educated Parisians" tend to produce more schwas than those from a disadvantaged social background (2000:§ 28).

With regards to diaphasic variation, Delattre (1951) reports that schwa absence is more frequent in rapid speech. More recently, Hansen (2000) showed that differences between speakers with lower and higher socio-economic status occurred only in the context of informal communication: all speakers had similar performances in formal contexts such as interviews. A similar diaphasic variation was reported by Eychenne (2006), who used the PFC data collection protocol (Durand, Laks, and Lyche 2002, 2009): speakers generally tend to produce more schwas when reading texts than during informal conversations. For schwas in clitics, the author reported

a clear difference in use as a function of the task. Although some participants from Languedoc were found to delete schwa in spontaneous conversation, none did so while performing a reading task.

The presence or absence of schwa has also been shown to be constrained by phonetic and prosodic factors such as the structure of syllables surrounding the clitic, and the position of schwa in the prosodic group (Andreassen 2013; Côté 2007; Côté and Morrison 2007; Delattre 1951; Dell 1973; Dell 1978; Eychenne 2006; Morin 1978; Morin 1983, *inter alia*). As Table 1 shows, the phonetic properties of sounds surrounding the clitic significantly influence schwa alternation in certain varieties of French. The proportion of schwa absence was much higher in clitics after a vowel (83% and 70% in Quebec and Swiss French, respectively), than in those after a consonant (15% and 27%, respectively). The nature of the surrounding consonants also played a role. The frequency of schwa deletion in a three-consonant setting may depend on the degree of articulatory similarity between two preceding consonants. Delattre (1951) refers to Grammont (1914), who reported that schwa realization was more likely to be maintained when the first consonant was more closed than the second one.

As we reported in this section, variable schwa is a multifaceted phenomenon that implies several linguistic domains and therefore we believe it is relevant to analyse this phenomenon taking Usage-Based Models and Construction Grammar as theoretical frameworks. Indeed, as we will see in the next section of this study, these frameworks appear effective in order to analyse variable phonological phenomena whilst taking into account usage factors like, for example, the communicative situation and the usage frequency of types and tokens in discourse.

3. Variation and constructions

3.1 Usage-Based Models and constructions

Construction Grammars are concerned with describing how constructions are formed and organized at the cognitive level while Usage-Based Models have the main objective of describing the way in which they emerge, interact and evolve during the lifespan. If their main objectives diverge, these two theoretical frameworks share a common assumption: in Usage-Based Models and Construction Grammars, constructions are form-function pairings. The forms are varied, in both “shape” and “size”: a morpheme, a word or an idiom can be stored as a fully abstract pattern (Goldberg 2006). This position clearly differentiates these models from traditional formal approaches, mainly because of the following two consequences (Tomasello 2003):

- The highest level of abstraction observed or formalized by the linguist is not necessarily the highest level memorized by speakers;
- Frozen constructions, idioms, are an integral part of the speaker’s grammar.

All these constructions constitute a speaker’s grammar, which Langacker defines as “a structured inventory of conventional linguistic units” (2008: 222). One of the most important characteristics of these constructions is that they carry semantic and pragmatic properties. Such information is extracted from the situation of interaction in which they are produced. The second important characteristic of constructions is that they are “direct form-meaning” pairings that may include open slots as well as fixed slots (Bybee 2010: 9). While any construction can be inserted in an open slot, fixed slots are lexically constrained. According to Goldberg (2006), constructions concern “all levels of grammatical analysis” in the sense that any linguistic unit can be a construction, “including morphemes or words, idioms, partially lexically filled and fully general phrasal patterns” (Goldberg 2006: 5).

We can therefore say that Usage-Based Models and Construction Grammars place several linguistic units (morphemes, words, phrases...) at the same level. These classic linguistic units undergo specific treatments in traditional formal approaches, which consider grammar as a two-level system of rules and lexical information. Usage-Based Models and CG replace this sharp distinction by a continuum bounded at one end by fully lexicalized constructions (idioms, frozen constructions), and at the other end by fully abstracted constructions only containing open slots. These open slots, as defined by Bybee, can be filled with elements that correspond to their “semantic features (such as ‘motion verb’) or grammatical features (such as ‘pronoun’)” (Bybee 2001: 343).

However, these sets of constructions do not correspond to a simple inventory of structures: all the constructions, containing phonological, syntactic and semantic properties, are interconnected and organized in a construction network, which Goldberg (2006) terms a “constructicon”. In this theory, frequency is one of the most important factors structuring linguistic competence in memory: frequency effects can be particularly important during language acquisition, as in the Usage-Based scenario of language acquisition proposed by Tomasello (2003). The effects of frequency on linguistic acquisition can be confirmed at several levels of linguistic analysis, e.g. lexical (Hills 2013; Hart and Risley 2003), syntactic (Veneziano and Parisse 2010) or phonological (Docherty et al. 2006; Smith, Durham, and Richards 2013).

Two types of linguistic frequencies are often distinguished owing to their different impacts on the structure and organization of the “constructicon” (Goldberg 2006; Langacker 2009; Tomasello 2003; Abbot-Smith and Tomasello 2006; Bybee 2006; Bybee 2010; Croft and Cruse 2004; Matthews et al. 2005): token frequency and type frequency. These two frequencies are thought to have different impacts

on the cognitive entrenchment, abstraction and productivity of memorized constructions (Behrens 2009; Bybee 2006; Tomasello 2003). According to Langacker (2009), type frequency favours the abstraction, and hence the productivity of a construction, while token frequency favours the cognitive entrenchment of a fully lexicalized construction. In other words, “token frequency helps to preserve idiosyncratic forms, whereas type frequency contributes to a pattern’s productivity” (Langacker 2009: 638).

However, the abstraction of a construction (influenced by type frequency) does not necessarily erase the trace of the previous lexicalized construction memorized earlier: Usage-Based Models consider that human memory is able to store redundant information, if this information is stored at different levels (Kemmer and Barlow 2000). In other words, the “constructicon” can include different constructions that carry the same meanings, but these must occur at different levels of abstraction. This assumption can be related to those pertaining to Exemplar Theory (Pierrehumbert 2001). In this sense, Usage-Based Models are often described as hybrid models “in which much of the extraneous detail of original instances are retained, but where some kind of more abstract schema is gradually formed on the basis of these.” (Abbot-Smith and Tomasello 2006: 282). This means that a fully lexicalized construction can represent an exemplar of a completely abstracted construction that is also memorized (Kemmer and Barlow 2000).

3.2 Frequency effects and phonological variation

A few studies, focused mainly on English, have looked at input effects on the acquisition of phonological variation. If frequency effects play an important role in the structure of a speaker’s linguistic system, then parental input characteristics must influence the trajectory of children’s early language acquisition. The aim of these studies is generally twofold: describing parental productions in order to determine whether parents modulated their speech in CDS and, in the case where a modulation was observed, measuring whether it has a significant influence on language acquisition.

Foulkes et al. (2005) focused on the phonetic variants of /t/ in word-medial and word-final prevocalic contexts in English spoken in Tyneside. In these contexts, two variants of /t/ can be heard in spontaneous speech:

- The standard variant, the voiceless stop [t].
- Non-standard variants, grouped under the name of “glottal variants”, all laryngealized and characterized by “a period of creaky phonation and which usually but not always involves a simultaneous oral occlusion” and “best transcribed [ɖ]” (Foulkes, Docherty, and Watt 2005: 185).

Based on the transcription of 3000 contexts extracted from interactions in 40 mother-child (aged between 2;0 and 4;0) dyads collected at home, the authors observed that adults tend to use standard variants more often when they address their children: the standard variant [t] is more often produced in CDS than in data recorded from informal conversations between female speakers in the same region and social class. This held for both word-medial (59% in CDS versus 10% in ADS) and word-final prevocalic contexts (18% in CDS versus 5% in ADS). It was found that mothers tend to use standard variants more often when they address their children. However, this general tendency is influenced by the children's age: speech to older children contains more glottals, i.e. non-standard variants than speech to younger children. The older the child, the less CDS is modulated.

Comparing these results with productions from children, Docherty et al. (2006) undertook a study to test input effects on language development. The results show that children adopt production patterns closely matching those of their mothers for CDS, especially in word-medial position, where the use of glottals amount to 36% for mothers, close to the rate of 33% observed in the children's productions. Furthermore, the authors report that children seem to have understood the linguistic constraints influencing variation: in word-final contexts, children's usage of standard and non-standard variants depends on whether the word is followed by a vowel-initial word or by a pause. Drawing a parallel with the pattern observed in adults, children tend to use more standard variants in pre-pausal contexts than in pre-vowel contexts.

Similar results were found by Smith et al. (2013) in a study on the usage of two phonological variables in Scottish English: the "hoose variable" (alternation between the diphthong [ʌʊ] and the monophthong [u:]) and the "negation variable" (alternation between the Scottish forms [na] and [ne] and the Standard English variants "n't" and "not"). Based on 29 caregiver/child pairs self-recorded at home in various natural settings, the results for these two phonological variables showed that parents tend to modulate their speech when they address children. For the "hoose variable", the use of the standard variant is 63% in CDS, compared with a mere 6% in ADS. For the "negation variable", while parents tend to use the local variant almost exclusively in ADS (only 1% standard variant), they vary their production in CDS (28% standard variant). Concerning the ways CDS evolved with the child's age, the results obtained by Smith et al. (2013) corroborate those of Foulkes et al (2005): the older the child, the less frequently standard variants are used in CDS. However, a more detailed analysis of the "hoose variable" shows that the amount of local variant usage seems to be influenced by the frequency of the form: in both CDS and ADS, the more frequent the form, the more the local variant is used.

Concerning French schwa, to our knowledge, the only published study is that of Andreassen (2013). She focused on medial schwa in polysyllabic words produced in

natural settings in Swiss French. Six children aged between 2;7 et 3;2 were recorded during interactions with their mothers. In order to study the effect of the speech addressee, the author compared mothers' speech with ADS data extracted from PFC corpora, recorded in the same area (Durand, Laks, and Lyche 2002; Durand, Laks, and Lyche 2009). The data on adult speech revealed that adults tended to produce schwa more often in CDS than in ADS.

These studies contain three important findings. First, parents modulate their usage of phonological variables when they address children, especially young children. Phonemes that can be deleted in spontaneous speech are more often produced in CDS than in ADS (Andreassen 2013; Bernstein Ratner 1984; Buchan and Jones 2014). Concerning phonemes for which we can observe alternation between standard and non-standard variant, the standard variant is often preferred in CDS, and is always more frequent in CDS than in ADS (Dilley et al. 2013; Foulkes, Docherty, and Watt 2005; Smith, Durham, and Richards 2013). In a sense, this modulation thus exposes children to a great variability in certain contexts in which non-standard variants are strongly preferred in ADS. Third, CDS properties evolve according to children's age and token frequency. Regardless of the phonological variable, parents tend to use local variants more often as children get older, suggesting that the parental modulation adapts to the child's language development (Foulkes, Docherty, and Watt 2005; Smith, Durham, and Fortune 2009). Third, token frequency appears to have a specific impact on variation: phonological variation in both CDS and children's productions seems to depend on the usage frequency of the token. This supports the hypothesis that at least for certain phonological variables, a "case-by-case" learning of variation occurs (Chevrot, Beaud, and Varga 2000; Díaz-Campos 2004). In other words, phonological variation, under the influence of token frequency, can be in some cases directly memorized at a lexical level and not be the result of an abstracted rule application.

While this kind of hypothesis, for French, has previously been tested under experimental conditions (especially for liaison phenomena, see Chevrot, Dugua and Fayol, 2009), our goal today is to test it using a spoken corpus recorded during natural settings. The next section presents the methodology employed in this way to observe variable schwa.

4. Methodology

4.1 Data collection

The analysis proposed here is based on the corpus of the project “Acquisition de la Liaison et Interactions Parents-Enfant” (“Liaison Acquisition and Parents-Child Interactions; ALIPE corpus, Liégeois, Chanier and Chabanal 2014). This corpus includes three dense subcorpora of interactions between three first-born children and their parents, collected in natural settings. Dense corpora are based on relatively long recordings (one hour in our case) repeated over a relatively short period, one week for this study (for details on “dense sampling methodology” see Lieven and Behrens, 2012). Each family was recorded at home in two or three sessions recorded several months apart. Two families lived near Clermont-Ferrand (Auvergne – Rhône-Alpes region) and one family lived near Nevers (Bourgogne – Franche-Comté region) and none of the speakers spoke a dialectal French variety known to strongly favour schwa absence or schwa production. The parents were given a digital recorder and were asked to record their child one hour per day for about one week, during routine child-parent interactions (bath, meal or playtime). The ALIPE corpus is described in Table 2.

Table 2. Size of the subcorpora in number of tokens and duration of recording

Subcorpus	Recording session	Child’s Age	Number of tokens	Duration of recording
Salomé subcorpus	S1	2;4	29,788	5 h
	S2	3;0	26,102	4 h 55
Baptiste subcorpus	S1	2;11	20,398	4 h 55
	S2	3;6	19,989	4 h 24
Prune subcorpus	S1	3;4	33,568	5 h
	S2	4;0	10,695	1 h 59
	S3	5;4	25,491	4 h 03
Total			166,031	30 h 16

This methodology has the advantage that the observer was not present during recording, and that the corpora involve speech produced in various interactive situations. The corpus contains not only children’s speech and CDS, but also ADS, allowing for the observation and comparison of ADS and CDS.

4.2 Corpus annotation

The ALIPE corpus comprises approximately 30 hours of recordings corresponding to 166 031 tokens. The corpus was transcribed and annotated with the aim of observing variation in schwa usage. Each subcorpus (of approximately ten hours per subcorpus) was transcribed, annotated and structured by two researchers using CLAN (Computerized Language ANalysis; MacWhinney 2000) and following CHAT conventions (Codes for the Human Analysis of Transcripts). In order to favour data interoperability and exchange, all the data was then converted to a format based on the TEI-P5 format (Text Encoding Initiative, The TEI Consortium 2014), the TEI-CORPO format (Parisse et al. 2017; Liégeois et al. 2015).

All clitics containing a schwa were annotated by two coders, who indicated whether they perceived the schwa to be present or absent. To check the accuracy of the annotation process, an inter-coder agreement value was calculated on the first 500 clitics of the corpus. The kappa coefficient obtained (Cohen 1960) was 0.835 (92% agreement), validating the annotation procedure. Annotation adjudication was applied for cases of disagreement between annotators. Data points where adjudication was not successful, because of speech overlap or background noise, were excluded from analysis.

4.3 Data selection

For this study, we did not include all clitics containing a schwa. First, only spontaneous speech was considered, thus excluding all forms of repetition or memorized forms of speech: recitation of nursery rhymes, singing and reading. In fact, it is acknowledged that speakers tend to produce more schwas in reading contexts than in spontaneous conversation. Concerning nursery rhymes and singing, the situations generally do not permit variation: set verse forms generally prevent speakers from alternating between schwa absence and presence, and speakers recite the verse as they have learnt it. Although these specific situations represented only 1.5% of the corpus, we decided to exclude them from our analysis. We also decided to exclude any sequence of two or more schwa clitics, as in an utterance like “*il me le prend*” (“he takes it from me”) because schwa absence in one clitic entails schwa presence in the other ([iməlpvã] or [imləpvã] but never [imlpvã]). We also excluded all clitics produced at the end of an utterance or before a long pause. The schwa of these clitics, generally produced when a speaker hesitates or stutters, admits no variation and is always produced in our corpus. Moreover, in hesitations, speakers generally lengthen the vowel to lengthen the utterance.

We examined 10.303 clitics with these criteria. We divided our corpus into three subcorpora, each corresponding to one of the children we recorded. For each

subcorpus, we also distinguished between recording sessions: two for Baptiste (2;11 and 3;6) and Salomé (2;4 and 3;0) and three for Prune (3;4, 4;0 and 5;4). The data distribution in our three subcorpora is presented in Table 3 (for occurrences counts of variable schwa for each clitic in a recording session, see the appendix).

Table 3. Number of clitics in the three subcorpora

	Baptiste subcorpus	Salomé subcorpus	Prune subcorpus	Total
Child	332	1336	1931	3599
Adults: CDS	853	1914	1235	4002
Adults: ADS	652	715	977	2344
Adults: Other*	101	147	110	358
Total	1938	4112	4253	10303

* For example, monologues, phone call or speech addressed to pets.

5. Analysis

Our data collection methodology yielded three types of data, collected in the same situations: children's speech, CDS, and ADS. In this section, we describe the usage of clitic schwa in children's speech, CDS and ADS, and examine the relationships between children's speech and CDS.

5.1 General comparison of CDS, ADS and children's speech

To determine whether input effects could be established in the acquisition of the variation between production and absence of schwa, we first take a descriptive and heuristic approach describing schwa usage in the three speech types we recorded: Adult Directed Speech, Child Directed Speech and children's speech. As no significant difference was found between fathers' and mothers' usages in alternation between schwa absence and schwa presence (Liégeois 2014), we pooled maternal and paternal productions in our analyses of the CDS and ADS. For each recording session (S1, S2 and S3) and speech type (CDS and ADS), we calculated the rate of schwa absence in clitics. Results are reported in the Figure below (for number of variable schwa in each subcorpus, see the appendix).

Our subcorpora can be divided into two groups. The first group concerns the Baptiste subcorpus (recording sessions 1 and 2) and the first recording session of the Salomé subcorpus, since these subcorpora indicate a clear tendency for the children to produce schwa much more often than the adults. Moreover, we showed in a previous study (Liégeois 2014) that, regarding liaison acquisition, these three recording sessions concern stages one and two of the developmental scenario

proposed by Chevrot, Dugua and Fayol (2009) while the second recording session of the Salomé subcorpus and the Prune subcorpus concern stage three of this scenario. These results lead us to conclude that Baptiste and Salomé (only for the first recording session) are at an early stage of their acquisition of phonological variation. This conclusion is supported by a more general observation on the children's speech. Thanks to the CLAN program (MacWhinney 2000), we have been able to compute two classical measures to evaluate the development of child language: the Mean Length of Utterance (MLU) and the Vocabulary Richness using VOCD software implemented in CLAN (Malvern and Richards 1997; McKee, Malvern, and Richards 2000). Results presented in Table 4 confirm that we can group together the Baptiste subcorpus and the first recording session of the Salomé subcorpus on the basis of the fact that the children produce on average 2.5 and 3.5 words per utterance and VOCD values never go beyond 80.

Table 4. MLU and VOCD values for each child per recording session

Subcorpus	Recording session	MLU	VOCD
Baptiste	S1	2.61	52.17
	S2	3.51	64.21
Salomé	S1	3.58	79.11
	S2	4.97	111.02
Prune	S1	4.39	130.92
	S2	4.73	143.15
	S3	5.01	141.79

In this section, we first focus on this early stage.

In the Baptiste subcorpus, we observe that the child produces most schwas. During both recording sessions (see Figure 1), absence rates are very low (respectively 10% and 13%) compared to the rates in ADS (between 62,9% and 71%). The data extracted from the first session of the Salomé subcorpus follow the same pattern: while the child almost consistently produces clitic schwas (86,9% of schwa production), the production rate in her parents' speech is only about 30% when they speak to each other. This data indicates that at an early stage, children show a clear tendency to produce clitics with schwas, i.e. the standard variant of the clitics. Nevertheless, although we base our analysis on a limited number of occurrences, the children's production varies according to the clitic involved and the syntactic context (for more details, see the appendix). For example, in Baptiste's productions, we observe schwa absence only for the clitics "de", "je", "le" and "se". Most of the time, these seem to involve lexicalized constructions memorized without the schwa. For example, the only case of schwa absence for the clitic "se" during the first

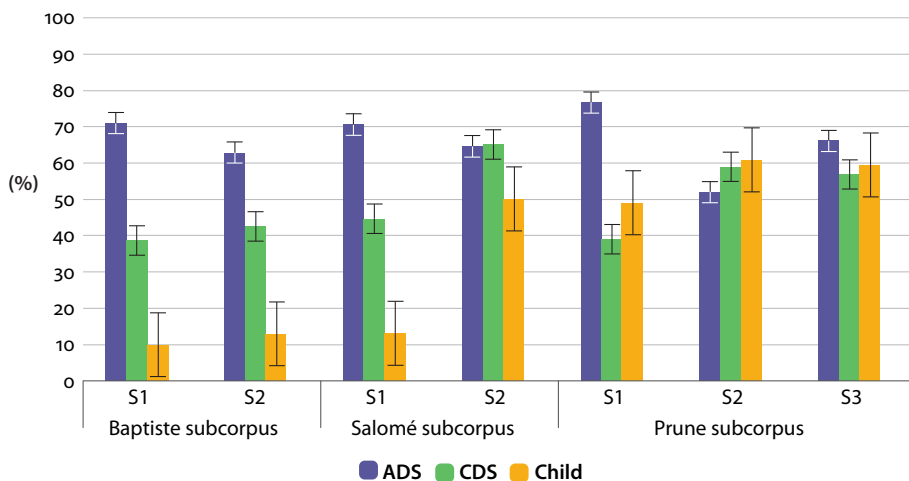


Figure 1. Rates of schwa absence in ADS, CDS and children’s speech

session of recording is in an instance of the construction “qu’est-ce qu’il se passe ?” ([keskispas], “what’s happening?”), while schwa is often produced in others $|se + \text{VERB}|$ constructions. For Salomé, we note a clear modulation of the usage of “*le*” depending on its syntactic category. The clitic “*le*” can be categorised either as a determiner preceding a noun or an adjective or as a pronoun preceding a verb. As shown in Table 5, Salomé tends to produce schwa more often when “*le*” precedes a noun or an adjective.

CDS and ADS in the Baptiste and Salomé subcorpora (first recording session only) also show significant differences (see Table 6). While adults tend to not produce clitic schwas when they speak to each other, the opposite tendency is found in CDS. As shown in Table 6, parental usage is significantly different according to a chi-squared test (including Yates’ correction for continuity) comparing absence rates of clitic schwas in CDS and in ADS. Rates of schwa absence are significantly higher in ADS than in CDS for Baptiste’s parents in the first session (71% and 38,6%, $\text{Chi}^2 = 60.71$; $p < 0.001$) and in the second one (62,9% and 42,5%,

Table 5. Salomé’s usage of the schwa in “*le*” according to syntactic category

	Syntactic category of “ <i>le</i> ”	Schwa absence	Schwa presence	Total	Rate of schwa absence
S1	Determiner	3	107	110	2.7%
	Pronoun	2	3	5	40
S2	Determiner	28	67	95	29.5%
	Pronoun	15	5	20	75%

Chi2 = 32.057; $p < 0.001$). For Salomé's parents, rates of schwa absence are significantly higher in ADS than in CDS in the first session of recording (70,6% and 44,6%, Chi2 = 89.6058; $p < 0.001$). CDS is thus modulated for the production of schwas at an early stage of acquisition, in other words when children themselves mainly favour the standard variants of clitics. Moreover, this modulation tends to disappear when these children's usages of the variable are close to the adults' usages in ADS, i.e. when absence rates exceed 50%. For example, we no longer find any significant difference between CDS and ADS in the second session of the Salomé's subcorpus (respectively 65% and 64.5% of schwa absence) or the second session of the Prune's subcorpus (respectively 59% and 52% of schwa absence). From our point of view, it seems that parents clearly stop modulating their speech when children use the variable in the same way as in adult directed interactions.

However, we note that the speech of Prune's parents is modulated during the first recording session, yet absence rates in Prune's speech are relatively high (49%). We interpret these results as reflecting a transition period. It is likely that this recording session corresponds to a period during which Prune is just starting to not produce schwas, like the adults. As we did not collect interactions before this stage, this remains a hypothesis. Moreover, we note a significant difference between absence rates in ADS and CDS at stage 3 (Chi2 = 8.7326; $p < 0.01$) while the rates are relatively close (66,1% and 56,9%). This data shows that a slight modulation between ADS and CDS can still be noticeable even when absence rates in the child's speech are very close to those of adults.

Table 6. Comparison of schwa absence rates in ADS and CDS

Subcorpus	Session	Speech direction	<i>n/N</i>	Chi2
Baptiste	S1	ADS	149/210	Chi2 = 60.71
		CDS	193/500	$p < 0.001$
	S2	ADS	278/442	Chi2 = 32.057
		CDS	150/353	$p < 0.001$
Salomé	S1	ADS	343/486	Chi2 = 89.6058
		CDS	475/1066	$p < 0.001$
	S2	ADS	148/229	Chi2 = 0.0028
		CDS	552/848	$p > 0.05$
Prune	S1	ADS	158/206	Chi2 = 86.284
		CDS	239/613	$p < 0.001$
	S2	ADS	13/25	Chi2 = 0.071974
		CDS	144/244	$p > 0.05$
	S3	ADS	493/746	Chi2 = 8.7326
		CDS	215/378	$p < 0.01$

These first results, although they inform us about general usage of clitic schwas in children's speech, in ADS and in CDS, are not controlled to measure the effect of phonological contexts on schwa absence. To fill this gap, we did a new annotation on our data, based on the transcription and the annotation of schwa absence. Our main aim was to annotate information about the right and left contexts of the clitic production. For this purpose, for each schwa clitic we noted:

- Whether the token preceding and following the clitic in the same utterance was monosyllabic or polysyllabic. In some cases, a clitic is not directly preceded by another token because it begins an utterance. However, as a result of our data selection, clitics were always followed by another token because they never end an utterance. As stated earlier, we ignored the few clitics ending an utterance (see 4.3).
- The structure of the syllables that directly follow and precede the clitic: CV structure (Consonant-Vowel), V structure (Vowel), CCV structure (Consonant-Consonant-Vowel), etc.

Since our aim is to determine whether the modulation between ADS and CDS is conditioned by the phonological context, we focus on recording sessions that showed a significant variation between schwa usage in CDS and ADS. Unfortunately, CDS and ADS data were in part insufficient for a statistically pertinent analysis: for Prune's parents, we recorded only three phonological contexts for which we could report at least ten occurrences in both ADS and CDS. For Baptiste's parents, no phonological context occurred at least ten times in either ADS or CDS. The following analysis thus focuses on the productions of Salomé's parents during the first recording session. During this recording session, we observed 11 different phonological contexts with at least ten occurrences in ADS and CDS.

5.2 Phonological contexts

To measure the effect of phonological context on the modulation between ADS and CDS, we compared the rate of schwa absence for each phonological context in ADS and CDS (Table 7).

A detailed study of the phonological contexts of schwa production yields two important findings. First, we note that the modulation observed in CDS was not affected by the phonological context of clitic production: in each context observed, the rate of schwa absence is higher in ADS than in CDS. However, this modulation is uneven: it varies according to the phonological context. For example, we observe a clear tendency to avoid groups of three consonants in CDS: the absence rates are very low when clitics precede a CCV token, regardless of whether they follow

Table 7. Rates of schwa absence in CDS and ADS according to phonological context of production (Salomé subcorpus, first recording session)

Left context		Right context		ADS	CDS
Type of token	Syllable structure	Type of token	Syllable structure		
Beginning of utterance	/	Monosyllabic	CV	89.7% (26/29)	44.7% (21/47)
Monosyllabic	CV	Monosyllabic	CV	73.8% (48/65)	65.4% (89/136)
Monosyllabic	CV	Polysyllabic	CV	86% (37/43)	74.7% (59/79)
Monosyllabic	CV	Monosyllabic	CCV	83.3% (10/12)	12.5% (3/24)
Monosyllabic	CV	Monosyllabic	CVC	86.4% (19/22)	63.5% (40/63)
Monosyllabic	CCV	Monosyllabic	CV	85.7% (18/21)	84.2% (16/19)
Monosyllabic	CVC	Monosyllabic	CV	30.4% (7/23)	10.5% (4/38)
Monosyllabic	V	Monosyllabic	CCV	90.9% (10/11)	29.4% (5/17)
Monosyllabic	V	Polysyllabic	CV	87.5% (14/16)	48.3% (14/29)
Polysyllabic	CV	Monosyllabic	CV	83.3% (20/24)	68.6% (24/35)
Polysyllabic	CV	Polysyllabic	CV	95.8% (23/24)	66.7% (32/48)

monosyllabic tokens that contain only a vowel, or that have a CV structure (respectively about 29.4% and 12.5% schwa absence). For the same contexts, the absence rates are clearly higher in ADS, with respectively 90.9% and 83.3% of absence. Data from another phonological context indicate that parents avoid grouping three consonants when they speak to their child. This context involves clitics following a CVC monosyllabic word and preceding a CV monosyllabic word (for example “*par le bas*”, “from the bottom”). However, in this context, the absence rate is also low in ADS (only 30%). Hence it seems that parents tend mainly to respect the “*loi des trois consonnes*” (“three-consonant rule”, Grammont 1914) when these consonants are part of three separate graphical units.

Among all the phonological contexts presented in Table 7, one stands out, namely the context “Beginning | Monosyllabic – CV”, the only one in which a clitic begins an utterance. Only four clitics were found in this phonological context: “*ce*”, “*de*”, “*je*” and “*le*”. Of these, “*je*” is by far the most frequent, being produced in about 80% of the contexts. For this clitic, the absence rate is about 92% in ADS (24/26) and about 60% in CDS (20/33). However, Salomé’s parents’ usage varies widely depending on the verbal form involved. In CDS, as far as the most frequent collocation “*je vais*” (“I come”) is concerned, we note that parents mostly tend to delete the schwa, the production rate being only 20% (3/15). Although it is known that the phonetic characteristics of consonants /*ʒ*/ and /*v*/ favour schwa absence (because the first consonant is more open and front-articulated than the second one, Delattre 1951; Dell 1973; Léon 1992), it is still surprising to observe such a high

rate of absence in CDS, especially since the speakers always produce the schwa in very similar phonological contexts: for example, in the same phonological context, Salomé's parents always produce the schwa in the collocation "*je veux*" ("I want"). We will now take a closer look at the $|je + \text{VERB}|$ context.

5.3 Focus on the $je + \text{VERB}$ context

We now focus on constructions containing the clitic "*je*" preceding a verb. Again, we want to focus on recording sessions that showed a significant variation between schwa usage in CDS and ADS but, because of insufficient data in the Baptiste and Prune subcorpora,² we limit our analysis to the study of the first recording session in the Salomé subcorpus, consisting of about 30.000 tokens and 2.100 clitics (675 occurrences of "*je*"). We extracted all $|je + \text{VERB}|$ constructions produced at least four times by the child (Figure 2; for numerical data, see the appendix). Our data shows a great variability between CDS and the child's productions depending on the verb involved: except for "*vais*", Salomé's productions show a strong but uneven tendency to produce schwa. For example, schwa is almost always produced when the clitic precedes the verbal form "*peux*" (3% schwa absence), whereas we note a greater variability for the verbal form "*fais*" (44% schwa absence). As we observed for CDS, the verbal form "*vais*" seems to fall outside this general pattern of schwa presence: in this particular context, in most cases (71%; 22/31), Salomé does not produce the schwa. This high rate of schwa absence might seem surprising in view of the strong tendency to produce schwa observed in Salomé's speech when we take into consideration all the clitics (see Figure 1). Since the rate of schwa absence is also very high in this context in CDS, we can hypothesize that for any particular collocation, the higher the absence rate in CDS, the more the child tends to use the non-standard variant of the clitic. However, Spearman's rank correlation coefficient computed between schwa absence rates in CDS and in Salomé's production of $|je + \text{VERB}|$ shows no significant correlation ($\rho = 0.257$; $p = 0.66$). Likewise, we found no significant correlation between the number of times parents used the non-standard variant of a clitic before a given verb and the absence rates observed in the child's productions ($\rho = 0.319$; $p = 0.54$). This result shows that an "item by item" learning of variation (Chevrot, Beaud, and Varga 2000; Díaz-Campos 2004) cannot be postulated for all $|je + \text{VERB}|$ contexts.

2. Baptiste produced only 14 occurrences of "*je*" at S1 and 20 at S2 and preferred using the third person pronouns "*il*" or "*elle*" or the reflexive pronoun "*moi*" to express actions of which he was the agent (Liégeois 2014). This phenomenon appears frequently at an early stage of language acquisition and can last a few months (Morgenstern 2010).

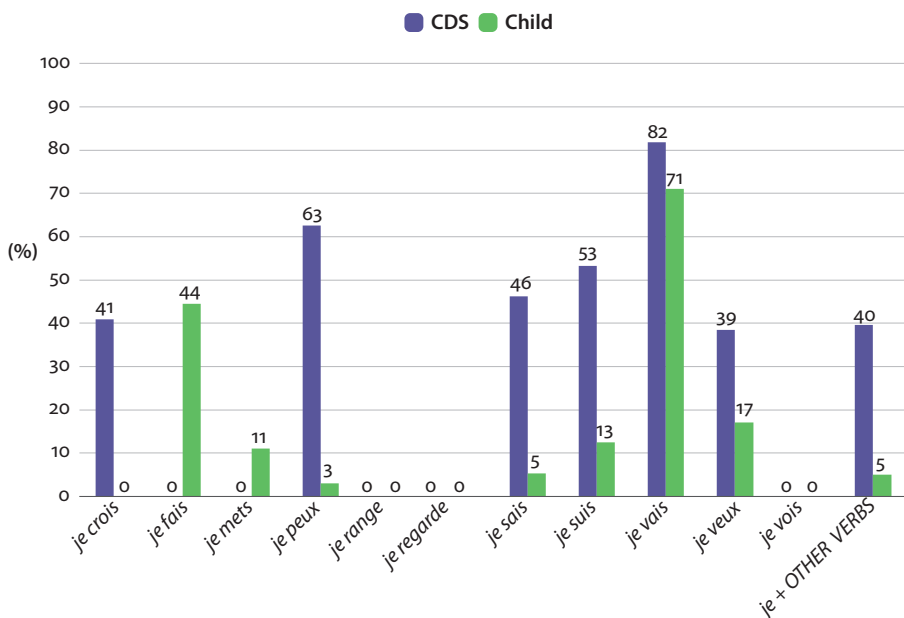


Figure 2. Rates of schwa absence for clitic “je” in CDS and Salomé’s speech, by verb

Phonological properties of the collocation “*je vais*” cannot explain Salomé’s behaviour during the first session. We note a clear difference in the variation observed for “*je veux*” and “*je vais*”, even though these two contexts share the same syllabic properties. In each case, the verbal form is a CV monosyllabic form beginning with /v/. We also verified whether the left context could explain the variation observed with these two verbal forms, but no clear pattern emerged: each collocation begins an utterance or is directly preceded by a monosyllabic or a polysyllabic form, without affecting the child’s behaviour. This suggests that at an early stage of acquisition, the variation observed in the [je + VERB] construction is guided neither only by frequency effects in CDS nor only by phonological properties of utterances. However, concerning “*je vais*” in particular, a detailed study of the verbal form distribution and the lexical properties of the collocation suggests that usage factors could explain Salomé’s behaviour. First, the collocation “*je vais*” is particularly frequent, both in the input (the most frequent [je + VERB] construction in CDS, 44 occurrences) and in the child’s productions (the third most frequent [je + VERB] construction in the child’s productions, 31 occurrences). Second, the verbal form [ve] is exclusively preceded by the clitic “*je*”, in both CDS and the child’s productions. This collocation also has the particularity of being able to precede another verbal form to express future action (e.g. “*je vais courir le prochain marathon*”, “I am going to run the next marathon”). In parental productions (in both CDS and ADS), this is the case in all

the uses of the collocation. The verbal form “*vais*” thus never expresses a movement (e.g. “*je vais à la piscine*”, “I go to the swimming pool”) but always sets the action in a near future. In these cases, the action is expressed by a non-finite verbal form (here “*courir*”, “run”). In Salomé’s utterances, we found only one case of the collocation “*je vais*” used to express a movement. In this case, the schwa of the clitic is produced. Furthermore, as we observed earlier, parental usage of the collocation “*je vais*” is also specific. While we found a clear modulation between CDS and ADS for all other collocations, the gap between the production rates in CDS and ADS is particularly narrow for “*je vais*”, for which we find a slight difference between the production rate in CDS and the one in ADS (81,8% and 100%, see Figure 3).

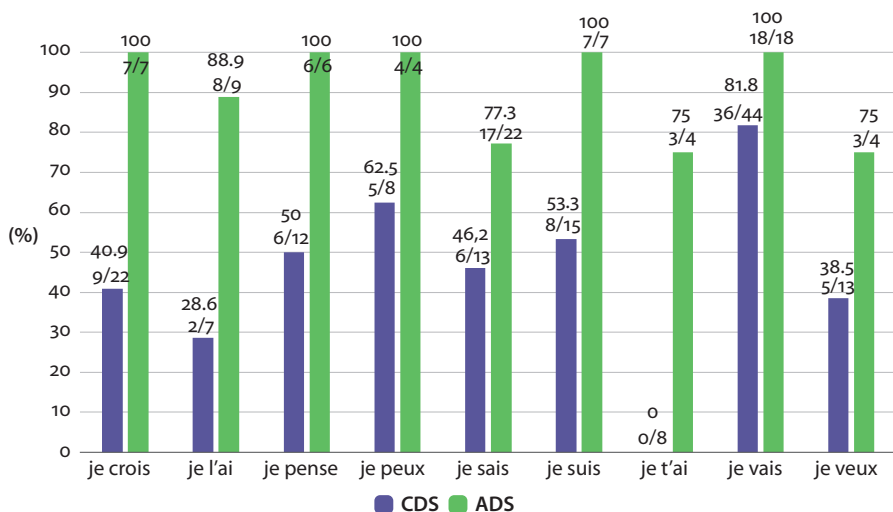


Figure 3. Rates of schwa absence in the speech of Salomé’s parents according to lexical context

6. Discussion

Although our analysis is based on a small number of subjects, our results yield some important findings regarding the acquisition of variation, specifically the acquisition of schwa. First, we note that parents tend to produce more standard variants when they talk to their children, especially at an early stage of language acquisition. Importantly, we did not find any significant difference comparing rate of speech in ADS and CDS in the ALIPE corpus (Liégeois, 2014), so the modulation observed cannot be explained by arguing that adults speak more slowly in CDS than in ADS. Parental production of standard variants decreases as the child grows older and

these observations corroborate previous results concerning phonological variation (Dilley et al. 2013; Foulkes, Docherty, and Watt 2005; Smith, Durham, and Richards 2013; Buchan and Jones 2014) and can be compared with those concerning the evolution, during the course of language acquisition, of lexical diversity and length of utterances in CDS (Cameron-Faulkner, Lieven, and Tomasello 2003; Huttenlocher et al. 2007). Importantly, parental modulation was observed in the speech of both mothers and fathers: for schwa variation in clitics, we did not observe the gender effect traditionally reported in the literature for CDS, in both phonological variation (Foulkes, Docherty, and Watt 2005) and mean length of utterances (Majorano, Rainieri, and Corsano 2013).

Second, our results show that the factors traditionally stated to influence schwa variation (“*loi des trois consonnes*”, consonant articulatory properties, etc.) cannot alone explain children’s production, especially for specific constructions such as “*je vais* + VERB”. Concerning this specific construction, we argue that a set of factors is associated with usage, e.g. type and token frequencies. Accordingly, the fact that (i) schwa is mainly absent in children’s productions, even at an early stage, and (ii) schwa is not more present in CDS than in ADS in this particular construction contrary to others, points to the memorization of a lexicalized construction in which the schwa is always absent. Salomé thus could memorize two types of constructions, both allowing her to produce “*je vais*”. One of these is a partially lexicalized one |[ʒve] + VERB| and does not contain schwa. According to Usage-Based approaches and Construction Grammars, this assumption is justified by several factors related to usage. First, the verbal form “*vais*” is always preceded by the clitic “*je*”, and this high co-occurrence could favour the memorization of a lexicalized construction (Goldberg 2006; Tomasello 2003; J. Bybee 2006; J. Bybee 2010). Second, this construction has the special feature of often preceding an infinitive verbal form to express a proximate future. In our parental data, in both CDS and ADS, the construction was always used to express a future, and never to express a movement. Salomé was therefore exposed to a construction that is very frequent, and structurally and semantically stable, together favouring the entrenchment of a lexicalized construction. Moreover, in Salomé’s productions, the single case of “*je vais*” expressing a movement was a case of schwa production (“*je vais chez mémé*”, “I go to grandma’s house”). This production could logically result from a more abstract construction |*je* + VERB| that allows alternation between schwa absence and schwa presence. Finally, we also propose the hypothesis that this partially lexicalized construction |[ʒve] + VERB| is available in the adult *constructicon*. In contrast to other “*je* + VERB” constructions, Salomé’s parents tended not to produce schwa in this context when they addressed her. We postulate that lack of modulation in this context in CDS reflects a deep entrenchment of the partially lexicalized construction. The high frequency of this construction and the stability of

its meaning could favour deep entrenchment, and high productivity of the partially lexicalized construction (without schwa) compared with a more abstract one. This hypothesis is supported by data from speech addressed to Baptiste: compared with other “*je + VERB*” constructions (62.7% schwa absence, 47/75), schwa was almost always absent in “*je vais*” (95.5% schwa absence, 21/22).

Finally our data suggests that the alternation between absence and presence of schwa (in both adult and children’s productions) cannot be studied in a uniform way: traditional phonological approaches fail to fully explain all contexts of schwa production because contexts are not uniform. Sometimes variation is possible in a construction, and sometimes a construction is stored with or without schwa. This conclusion is also supported by the usage of other clitics, especially “*le*” (“the”) preceding a noun, which will be the topic of a forthcoming study. While the rate of schwa absence is low in parental productions directed to Salomé (23.4% schwa absence, 50/214) compared with absence rates in ADS (57.1% schwa absence, 32/68), we noted frozen constructions in which schwa was always absent in CDS, such as “*tout le temps*” (“always”), which we take as a further example of a lexicalized construction memorized without schwa.

To explain the course of the acquisition of variation, Usage-Based Models, by taking into account usage properties, Construction Grammars and Exemplar-Based theory, seem to offer useful theoretical frameworks. It is crucial that these models allow us to avoid analysing all contexts of schwas with the same rules in order to take into account all possible factors that influence the absence or presence of schwa.

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Appendix

Baptiste subcorpus							
Recording session	Speakers	Clitic	Number of schwa absence	Number of schwa presence	Number of clitics	Rate of schwa absence	
Baptiste, Stage 1	Child	<i>de</i>	8	20	28	28,6%	
		<i>je</i>	4	10	14	28,6%	
		<i>le</i>	1	89	90	1,1%	
		<i>que</i>	0	5	5	0,0%	
		<i>se</i>	1	2	3	33,3%	
	Parents: CDS	<i>ce</i>	4	10	14	28,6%	
		<i>de</i>	63	99	162	38,9%	
		<i>je</i>	37	15	52	71,2%	
		<i>le</i>	37	125	162	22,8%	
		<i>me</i>	11	3	14	78,6%	
		<i>ne</i>	1	4	5	20,0%	
		<i>que</i>	14	17	31	45,2%	
		<i>se</i>	13	14	27	48,1%	
	Parents: ADS	<i>ce</i>	4	7	11	36,4%	
		<i>de</i>	34	20	54	63,0%	
		<i>je</i>	58	8	66	87,9%	
		<i>le</i>	24	15	39	61,5%	
		<i>me</i>	7	2	9	77,8%	
		<i>que</i>	10	9	19	52,6%	
		<i>se</i>	5	0	5	100,0%	
		<i>te</i>	7	0	7	100,0%	
	Baptiste, Stage 2	Child	<i>ce</i>	0	2	2	0,0%
			<i>de</i>	13	55	68	19,1%
			<i>je</i>	8	12	20	40,0%
			<i>le</i>	2	77	79	2,5%
			<i>me</i>	1	2	3	33,3%
			<i>ne</i>	0	2	2	0,0%
			<i>que</i>	0	5	5	0,0%
<i>se</i>			1	12	13	7,7%	
Parents: CDS		<i>ce</i>	4	9	13	30,8%	
		<i>de</i>	55	66	121	45,5%	
		<i>je</i>	31	14	45	68,9%	
		<i>le</i>	22	72	94	23,4%	
		<i>me</i>	2	1	3	66,7%	
		<i>ne</i>	1	3	4	25,0%	
		<i>que</i>	13	13	26	50,0%	
<i>se</i>	9	7	16	56,3%			
<i>te</i>	13	18	31	41,9%			

Baptiste subcorpus						
Recording session	Speakers	Clitic	Number of schwa absence	Number of schwa presence	Number of clitics	Rate of schwa absence
Parents: ADS		<i>ce</i>	19	17	36	52,8%
		<i>de</i>	67	43	110	60,9%
		<i>je</i>	80	13	93	86,0%
		<i>le</i>	53	58	111	47,7%
		<i>me</i>	14	12	26	53,8%
		<i>ne</i>	0	2	2	0,0%
		<i>que</i>	31	16	47	66,0%
		<i>se</i>	10	2	12	83,3%
		<i>te</i>	4	1	5	80,0%

Salomé subcorpus						
Recording session	Speakers	Clitic	Number of schwa absence	Number of schwa presence	Number of clitics	Rate of schwa absence
Salomé, Stage 1	Child	<i>ce</i>	0	3	3	0,0%
		<i>de</i>	9	48	57	15,8%
		<i>je</i>	54	250	304	17,8%
		<i>le</i>	5	127	132	3,8%
		<i>me</i>	1	8	9	11,1%
		<i>que</i>	0	30	30	0,0%
		<i>se</i>	0	3	3	0,0%
		<i>te</i>	2	2	4	50,0%
	Parents: CDS	<i>ce</i>	16	49	65	24,6%
		<i>de</i>	101	109	210	48,1%
		<i>je</i>	119	116	235	50,6%
		<i>le</i>	79	188	267	29,6%
		<i>me</i>	27	16	43	62,8%
		<i>ne</i>	9	19	28	32,1%
		<i>que</i>	69	48	117	59,0%
<i>se</i>		9	14	23	39,1%	
Parents: ADS	<i>ce</i>	18	2	20	90,0%	
	<i>de</i>	88	47	135	65,2%	
	<i>je</i>	122	14	136	89,7%	
	<i>le</i>	43	45	88	48,9%	
	<i>me</i>	21	2	23	91,3%	
	<i>ne</i>	1	3	4	25,0%	
	<i>que</i>	36	25	61	59,0%	
	<i>se</i>	6	3	9	66,7%	
	<i>te</i>	8	2	10	80,0%	

Salomé subcorpus						
Recording session	Speakers	Clitic	Number of schwa absence	Number of schwa presence	Number of clitics	Rate of schwa absence
Salomé, Stage 2	Child	<i>ce</i>	8	9	17	47,1%
		<i>de</i>	26	86	112	23,2%
		<i>je</i>	272	114	386	70,5%
		<i>le</i>	43	84	127	33,9%
		<i>me</i>	37	33	70	52,9%
		<i>que</i>	5	50	55	9,1%
		<i>se</i>	4	12	16	25,0%
		<i>te</i>	3	8	11	27,3%
	Parents: CDS	<i>ce</i>	14	15	29	48,3%
		<i>de</i>	98	74	172	57,0%
		<i>je</i>	162	41	203	79,8%
		<i>le</i>	103	98	201	51,2%
		<i>me</i>	37	10	47	78,7%
		<i>ne</i>	4	5	9	44,4%
		<i>que</i>	51	26	77	66,2%
		<i>se</i>	19	11	30	63,3%
	Parents: ADS	<i>ce</i>	3	7	10	30,0%
		<i>de</i>	24	37	61	39,3%
		<i>je</i>	47	2	49	95,9%
		<i>le</i>	34	23	57	59,6%
<i>me</i>		12	2	14	85,7%	
<i>ne</i>		0	1	1	0,0%	
<i>que</i>		14	8	22	63,6%	
<i>se</i>		10	0	10	100,0%	
<i>te</i>	4	1	5	80,0%		

Prune subcorpus						
Recording session	Speakers	Clitic	Number of schwa absence	Number of schwa presence	Number of clitics	Rate of schwa absence
Prune Stage 1	Child	<i>ce</i>	0	27	27	0,0%
		<i>de</i>	54	94	148	36,5%
		<i>je</i>	332	113	445	74,6%
		<i>le</i>	67	188	255	26,3%
		<i>me</i>	17	25	42	40,5%
		<i>ne</i>	0	7	7	0,0%
		<i>que</i>	2	45	47	4,3%
		<i>se</i>	13	4	17	76,5%
<i>te</i>	4	6	10	40,0%		

Prune subcorpus						
Recording session	Speakers	Clitic	Number of schwa absence	Number of schwa presence	Number of clitics	Rate of schwa absence
	Parents:	<i>ce</i>	20	28	48	41,7%
	CDS	<i>de</i>	57	90	147	38,8%
		<i>je</i>	78	72	150	52,0%
		<i>le</i>	42	110	152	27,6%
		<i>me</i>	10	12	22	45,5%
		<i>ne</i>	1	13	14	7,1%
		<i>que</i>	19	16	35	54,3%
		<i>se</i>	6	10	16	37,5%
		<i>te</i>	6	23	29	20,7%
	Parents:	<i>ce</i>	6	3	9	66,7%
	ADS	<i>de</i>	35	18	53	66,0%
		<i>je</i>	63	7	70	90,0%
		<i>le</i>	26	15	41	63,4%
		<i>me</i>	6	1	7	85,7%
		<i>que</i>	16	2	18	88,9%
<i>se</i>		3	1	4	75,0%	
<i>te</i>		3	1	4	75,0%	
Prune, Stage 2	Child	<i>ce</i>	1	1	2	50,0%
		<i>de</i>	39	34	73	53,4%
		<i>je</i>	117	36	153	76,5%
		<i>le</i>	36	37	73	49,3%
		<i>me</i>	22	8	30	73,3%
		<i>ne</i>	1	4	5	20,0%
		<i>que</i>	8	19	27	29,6%
		<i>se</i>	3	4	7	42,9%
	<i>te</i>	3	5	8	37,5%	
	Parents:	<i>ce</i>	4	6	10	40,0%
	CDS	<i>de</i>	42	22	64	65,6%
		<i>je</i>	48	23	71	67,6%
		<i>le</i>	29	31	60	48,3%
		<i>me</i>	6	3	9	66,7%
		<i>que</i>	11	7	18	61,1%
<i>se</i>		1	0	1	100,0%	
<i>te</i>	3	8	11	27,3%		
Parents:	<i>ce</i>	1	1	2	50,0%	
ADS	<i>de</i>	1	6	7	14,3%	
	<i>je</i>	5	1	6	83,3%	
	<i>le</i>	6	4	10	60,0%	

Prune subcorpus						
Recording session	Speakers	Clitic	Number of schwa absence	Number of schwa presence	Number of clitics	Rate of schwa absence
Prune, Stage 3	Child	<i>ce</i>	8	2	10	80,0%
		<i>de</i>	47	74	121	38,8%
		<i>je</i>	187	30	217	86,2%
		<i>le</i>	45	84	129	34,9%
		<i>me</i>	12	13	25	48,0%
		<i>ne</i>	0	1	1	0,0%
		<i>que</i>	9	18	27	33,3%
		<i>se</i>	16	1	17	94,1%
		<i>te</i>	6	2	8	75,0%
	Parents: CDS	<i>ce</i>	7	12	19	36,8%
		<i>de</i>	62	55	117	53,0%
		<i>je</i>	38	8	46	82,6%
		<i>le</i>	53	54	107	49,5%
		<i>me</i>	9	2	11	81,8%
		<i>ne</i>	1	4	5	20,0%
		<i>que</i>	20	13	33	60,6%
		<i>se</i>	6	2	8	75,0%
		<i>te</i>	19	13	32	59,4%
	Parents: ADS	<i>ce</i>	16	11	27	59,3%
		<i>de</i>	105	75	180	58,3%
		<i>je</i>	190	42	232	81,9%
		<i>le</i>	90	67	157	57,3%
		<i>me</i>	33	8	41	80,5%
		<i>ne</i>	0	5	5	0,0%
		<i>que</i>	41	36	77	53,2%
		<i>se</i>	14	7	21	66,7%
		<i>te</i>	4	2	6	66,7%

	Salomé's speech				Child Directed Speech			
	Number of schwa absence	Number of schwa presence	Number of clitics	Rate of schwa absence	Number of schwa absence	Number of schwa presence	Number of clitics	Rate of schwa absence
<i>je vais</i>	22	9	31	71,0%	36	8	44	81,8%
<i>je fais</i>	4	5	9	44,4%	0	0	0	/
<i>je veux</i>	16	78	94	17,0%	5	8	13	38,5%
<i>je suis</i>	3	21	24	12,5%	8	7	15	53,3%
<i>je mets</i>	1	8	9	11,1%	0	0	0	/
<i>je sais</i>	1	18	19	5,3%	6	7	13	46,2%
<i>je peux</i>	1	32	33	3,0%	5	3	8	62,5%
<i>je crois</i>	0	6	6	0,0%	9	13	22	40,9%
<i>je vois</i>	0	5	5	0,0%	0	0	0	/
<i>je range</i>	0	4	4	0,0%	0	0	0	/
<i>je regarde</i>	0	4	4	0,0%	0	0	0	/
<i>je + OTHER</i>	2	38	40	5,0%	38	58	96	39,6%
VERBS								

The alternation between standard and vernacular pronouns by Belgian Dutch parents in child-oriented control acts

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This paper studies the social meaning of standard and vernacular pronouns of address in Dutch by zooming in on the position they hold in parents' control acts to their children. Linking the hyperstandardized linguistic situation in Flanders with the Western-European ideal of democratic parenting, we expect to find that the standard forms are more typically connected to more indirect, softer control acts. This hypothesis is tested through a mixed method approach, where quantitative and qualitative analyses are used to chart the choices of ten Belgian Dutch parents when issuing directives to their children. Studying 452 pronouns we identify a clear link between the choice of variety and parameters such as type of control act, repetition, mitigation and boosting and type of pronoun, with 'irritation' as mediating factor.

Keywords: control acts, vernacular, standard language, child-directed speech, hyperstandardization, Dutch, mixed methods

1. Introduction

'Control acts' or 'directives' can be broadly defined as "utterances designed to get someone else to do something" (Goodwin 2006: 517). Because of the "inexact relationship between grammatical form and social action" (Craven and Potter 2010: 422), these can be expressed by means of a wide variety of different syntactic forms. They have thus received quite some attention in a variety of research domains, ranging from speech act theory (Searle 1969) over politeness theory (Brown and Levinson 1987) to studies in the field of conversation analysis (for an overview, see Curl and Drew 2008). While some studies tend to group all these different forms of directives together as versions of the same action, other studies discern between these various forms, such as, for example, between requests and directives (Craven

and Potter 2010). In order to avoid terminological confusion, we use the umbrella term “control acts” to refer to all these different ways of impinging on recipients’ freedom of action (cf. Blum-Kulka 1997).

In this paper, we study variation between standard and vernacular pronouns of address in Flemish parents’ control acts to their children as a means of uncovering the social meaning of these varieties. To lay the ground, we below first provide an overview of the main research strands in previous approaches to control acts, then we discuss why studying variation between standard and vernacular forms in these specific speech acts can be used to uncover the social meaning of specific varieties. The introduction is then rounded off with a presentation of the Belgian Dutch linguascope, which is presented as an intriguing laboratory for the study of variation in child-directed control acts. Section 2 then proceeds to a presentation of the data and variables used in our study. In Section 3, we present the results of our mixed-methods approach, in which inferential statistical models are used as input for multimodal discursive analysis. The results of both the quantitative statistical modeling and the qualitative discursive approaches are brought together in Section 4, where we present a conclusion to this study and an outlook to the future.

1.1 Control acts

Different forms of control acts are traditionally situated on a continuum from more to less coercive, or, alternatively, from direct to indirect in the way in which one’s will is imposed upon another. For example, in her seminal work on control acts, Ervin-Tripp identified the following forms on this continuum: need statements, imperatives, embedded imperatives, permission directives, question directives and hints (Ervin-Tripp 1976). She argues that this list is ordered “approximately according to the relative power of speaker and addressee in conventional usage and the obviousness of the directive” (Ervin-Tripp 1976: 29). Next to the interlocutors’ relative social statuses, issues of politeness (Blum-Kulka 1990) are deemed relevant in the choice for one form over another. Furthermore, a range of contextual factors also comes into play when interlocutors design control acts, such as pressure/tension (Ervin-Tripp 1976: 36) as well as speakers’ evaluations of their own entitlement and their management of contingencies surrounding the execution of the directive or request (Craven and Potter 2010; Curl and Drew 2008). Finally, researchers have recently argued that the social force of control acts in their praxeological context is also constituted by other aspects of the utterance, such as its prosody as well as its related non-verbal resources (e.g. eye-gaze, haptics) and its spatial configurations – in particular regarding the calibration of the interlocutors’ embodied actions vis-à-vis one another (Goodwin and Cekaite 2013; Rossi and Zinken 2016). All these elements potentially influence one another, and this complex interplay of relevant

factors then results in the particular way in which control acts are formulated and what type of social force they obtain. In spite of this complexity, recent research has emphasized the importance of not looking at these factors in an essentialist way (e.g. an interlocutor's social status as more/less powerful in comparison to another interlocutor), but in an interactionally situated way instead, thus focusing on the subtle management of local entitlements (Kent 2012: 712). From such an interactional perspective, the formulation of 'control acts' can mainly be related to "the degree to which the speaker assumes control over the recipient's actions, or the recipient retains autonomy over their own conduct" (Kent 2012: 712).

Many studies on control acts have focused on interactions in a family context. Importantly, in relation to this context, Blum-Kulka has argued that "the politeness system of family discourse is highly domain-specific and that within it unmodified directness is neutral or unmarked in regard to politeness" (1997: 150). In particular, parents' use of unmodified directness indexes the asymmetrical power relation between themselves and their children. Even though this is not regarded as offensive (Blum-Kulka 1990: 259), these coercive directives are often accompanied by forms of mitigation that soften the control act's impositional force. Moreover, in relation to interactions with young children, there is of course another factor that needs to be taken into account, viz. the children's own language development stage and their ability to comprehend control acts that are indirect. It is thus not surprising that parental use of direct and indirect control acts varies in relation to the age of the children (Brumark 2006a), and that, in spite of parents' general "predilection for direct communication" – in line with Blum-Kulka (1997)'s observations –, parents tend to use more direct regulators with younger children and more indirect control acts with older children (Brumark 2010: 1082). As such, not only less emphasis is placed on parental control, while more autonomy is – or seems to be – granted to the children, but older children are also increasingly socialized into the rules of politeness (Blum-Kulka 1997: 12). Yet, not only the children's age, but also the activity and the conversational context turns out to have an impact on the way control acts are formulated (Brumark 2006b), thus once more highlighting the importance of the local interactional context.

Of course, parents need to meet multiple socialization goals oriented to their children's acquisition of sociocultural competence (Ochs and Schieffelin 1984; Ochs and Shohet 2006: 36), but in this chapter we particularly zoom in on the "*socialization to use language*" (Schieffelin and Ochs 1986: 163, italics in original) in appropriate ways. We specifically focus on the interplay between the children's socialization into the various ways in which control acts can be formulated, the impositional force of these formulations as well as their socialization into language variation and the social meaning of the different varieties or languages that are part of the local linguistic repertoire (cf. Schieffelin and Ochs 1986: 171–172).

1.2 Standard-vernacular variation in control acts

In recent years, research on child-directed speech has taken an interest in the way parents vary between standard and vernacular forms when addressing their children (Foulkes et al. 2005; Van De Mieroop et al. 2016). Clear age effects are found, with parents typically using more standard forms for younger children, and increasingly alternating between standard and vernacular forms as children grow older. Van De Mieroop et al. (2016) have demonstrated how situational parameters mediate this pattern: in more relational speech (e.g. discussing social events), parents opt for the more informal vernacular forms, whereas transactional contexts (e.g. dealing with table manners) more readily trigger standard forms. Through their choices, parents as such implicitly socialize their children towards the norms of the speech community, and hence provide us with a window into their language regard (Preston 2013): standard forms are deemed better fit for more formal situations, vernacular forms are considered more appropriate for small-talk.

This paper adopts this basic idea of uncovering parents' language regard through the variation they exhibit in child-directed speech, focusing on parents' pronoun choice in control acts in Flemish dinner table conversations. The basic conviction is that the continuum that was described above from more explicit to more implicit ways of expressing control acts carries with social meaning: formulating control acts implicitly is more strongly aimed at stimulating children's autonomy, whereas more explicitly expressed control acts can be linked to more disciplined parenting styles (Blum-Kulka 1990; Clift 2016). The current Western-European ideal of democratic parenting (Pečnik 2007 on the mutuality model, see also Schaffer 1996) can as such be linked to more implicitly expressed control acts, which are less authoritative.

The main question in this paper is which position standard and vernacular forms hold on this continuum from explicit to implicit, from authoritative to democratic, and what this reveals about the social meaning of the varieties under scrutiny. Four theoretical options can be considered: (1) no variation between standard and vernacular forms is attested in control acts; (2) free variation occurs, with standard and vernacular alternating without being connected to either explicit or implicit forms; (3) structured variation occurs, with the standard forms being associated with the democratic option of implicitly formulated directives; (4) the reverse situation occurs, where the vernacular is associated with softer, more democratic parenting. Which of these options is the most likely hypothesis depends on the socio-cultural situation in which the varieties under scrutiny emerged. A specifically interesting socio-cultural situation is found in Flanders, where Colloquial Belgian Dutch and Standard Dutch alternate. In the next section, we briefly describe the background to this linguistic situation and then describe which of the theoretical options described is most likely.

1.3 The Dutch language laboratory

Due to a long history of foreign rule, the standardization process in Flanders was delayed, which eventually resulted in an exogenous norm-orientation: in the second half of the twentieth century, the then long-established Netherlandic Dutch norm was adopted. Flemish language users however never truly internalized the norm, instead developing their own informal variety, known as Colloquial Belgian Dutch (henceforth CBD, see Geeraerts & Van de Velde 2013; Zenner et al. 2009, 2016; Ghyselen & De Vogelaer 2013). There is some debate about the status of CBD as a variety (mainly pertaining to the homogeneity of its linguistic features, see Plevoets 2008; Ghyselen 2015), but the main point for our purposes is to appreciate the large (linguistic and attitudinal) distance between the official standard variety (Standard Dutch, hence SD) and the informally used CBD.

In part resulting from decades of hardcore language planning (with TV broadcasts titled *Hier spreekt men Nederlands* ‘here one speaks Dutch’) the linguistically distant standard variety acquired a good deal of prestige, leading to a situation of hyperstandardization: the “large-scale, propagandistic, scientifically supported and highly mediated linguistic standardization campaign” (Jaspers & Van Hoof 2013) led to strong and persistent standard language ideologies in the Flemish region. The prestige and status that the standard forms acquired in this period (roughly 1950s–1980s) still stand strong: attitudes towards the standard are unequivocally positive (see Grondelaers & Van Hout 2011, 2016). Additionally, the situation of hyperstandardization ensures that Belgian Dutch language users are well aware of what counts as standard and what does not. This is particularly true for the pronouns of address (see Lybaert 2014), the linguistic feature under scrutiny in this paper, which Vandekerckhove (2004: 981) refers to as “one of the most obvious exponents of Colloquial Belgian Dutch”.¹

The fruitfulness of the Belgian Dutch context for research on the acquisition of variation has already been amply demonstrated by amongst others De Houwer (2003), Van De Mierop et al. (2016) and De Vogelaer and Toye (2017). To date, however, research on (variation in) control acts in Belgian Dutch families is rare – if not non-existent. Nevertheless, linking the hyperstandardized linguistic situation in Flanders with the Western-European ideal of democratic parenting (Pećník 2007, see also Schaffer 1996) offers us a specific hypothesis concerning the four theoretical links between control acts and linguistic variation discussed above. Given the fact that Standard Dutch is still considered the “best” variety available in Flanders, we can hypothesize that parents will use this variety more frequently in what they

1. Translated here from Dutch. The original reads “een van de duidelijkste exponenten van het (tussentalige) Vlaamse Nederlands”.

consider to be the “best” parenting, which in this Western context would be the use of indirect, softer control acts. In the next section, we describe the data and variables we used to corroborate this hypothesis.

2. Data and variables

For our study on variation between Standard Dutch (SD) and Colloquial Belgian Dutch (CBD) forms of the pronouns of address in child-directed control acts, we focus on naturally occurring data. In order to avoid the traditional issues with the observer’s paradox as much as possible, we work with self-recordings. The specific data used in this paper is presented in Section 2.1, after which we succinctly describe the pronouns of address typically available in the linguistic repertoire of Belgian Dutch parents. Finally, we present an overview of the predictors included in our study.

2.1 Self-recordings

From a larger database of dinner table conversations in Flemish households with young children, we selected five families for this study based on several criteria. First, all parents live in the Brabantic dialect area and have done so at least since moving in together. Second, all parents are between 31 and 39 years old. Third, at least one of the parents works in a pedagogical context. On the one hand, this ensures comparability across the families. On the other hand, given our hypothesis on Western European parenting ideals, it is advised to work with a group of families who is most likely aware of these democratic ideals. Third, all children in the family are seven or younger, which means that families with children who have completed their early acquisition process are excluded. At the same time, it is expected that at least half of the children in the family have arrived at the verbal stage of their language development. Finally, we selected only families where all children have the same biological gender to neutralize gender differences as a potentially influential factor of within-family variation. Table 1 provides an overview of the families included in our study. The family codes are created by combining the first letter of the father’s surname with the first letter of the mother’s surname. The children receive an ID that starts with “CH”, followed by a number that indicates their position in the family (the oldest child receiving number 1, the second child receiving number 2 etc.), followed by a stop. The letter after the stop indicates the child’s gender (B for boys and G for girls), with the final number in the children’s ID representing the child’s age. For example, CH1.B4 is a four-year old boy who is the first of two children in family ‘hv’.

Table 1. Overview of collected utterances for the five selected families

Family code	Speakers	Total utterances
hv	MOT	1560
	FAT	998
	CH1.B4	1300
	CH2.B2	498
vl	MOT	1193
	FAT	720
	CH1.G4	765
	CH2.G2	357
sv	MOT	663
	FAT	899
	CH1.B6	218
	CH2.B4	481
	CH3.B3	407
td	MOT	1213
	FAT	950
	CH1.G3	950
	CH2.G1	54
vd	MOT	952
	FAT	951
	CH1.B7	341
	CH2.B5	499
	CH3.B4	490
	CH4.B1	0

All families were asked to self-record during mealtime for at least four hours in a four-week period. Parents were told the data would be used for research on language acquisition in young Flemish children, which means that they were not aware of the fact that we were primarily interested in their own language use. Extensive debriefing was organized after the recordings took place, at which point parents were informed of our research design. Table 1 provides us with the total number of utterances in our database for each of the individual speakers. All utterances were transcribed using the CHAT-conventions of the CHILDES project (MacWhinney 2000) for the quantitative analyses (conducted in R, R Core Team 2017), and following the Jeffersonian transcription system (Jefferson, 2004), complemented with symbols to code the multimodal details as developed by Mondada (2016) for the qualitative analyses (see Appendix A for an explanation of these conventions). For this study, we zoom in on utterances containing control acts of parents directed to their children that also contain pronouns of address.

2.2 Response variable: Pronouns of address in control acts

We mined the transcriptions of the five families for control acts uttered by parents to their children. As explained in the introduction, we follow a broad approach in which all utterances of parents towards children that in some way impinge on the children's freedom of action (cf. Blum-Kulka 1997) are retained for further analysis. In practice, the control acts were identified by one of the authors, but dubious cases were discussed between the authors.

In a next step, we isolated those control acts that contain at least one pronoun of address. We focus on pronouns of address as we expect Flemish language users to be aware of the variation between standard and vernacular for this feature, given that the variable has been subject to at least some kind of metapragmatic discussion in Flanders (cf. Johnstone et al. 2006; Vandekerckhove 2004).

We refrain from a detailed discussion of the history of the Belgian Dutch pronominal system and of the occasionally untidy overlap of dialect, Colloquial Belgian Dutch and standard forms in this system (see Debrabandere 2005 and De Vogelaer 2008). Instead, we adhere to a more rudimentary binary distinction between Standard and Colloquial Belgian Dutch forms, which suffices for our current purposes, though note that the CBD forms are also part of the dialect system of certain speakers.

Our analyses focus in on a subset of the pronoun system, namely on subjective and possessive forms used in casual speech (for an overview, see Table 2), where clear variation is attested between SD (Standard Dutch) and CBD (Colloquial Belgian Dutch) forms. In Standard Dutch, the informal nominal forms (with and without inversion) are *je/jij* and the informal possessive forms are *je/jouw*. For CBD, *ge/gij* is used nominally in SVO-sentences and in VSO-sentences. In the latter case of subject-verb inversion, we also find the clitic variants *-de* and *-degij* (a double form combining *de* and *gij*). The possessive form in CBD is *uw*, which actually coincides with the formal speech Standard form *uw*. This does not pose any issues in our database, where the degree of informality is never as high as to expect the marked standard form *uw*. Finally, note that the full forms *jij/jouw/gij/-degij* are typically used to add emphasis.

Figure 1 provides a descriptive overview of the percentage of CBD-forms of the pronouns found in the control acts of the parents in our database for each of

Table 2. Overview of the standard (SD) and non-standard (CBD) pronouns of address in Belgian Dutch under investigation in this study

Register	Type	Standard Dutch	CBD
casual speech	nominal, SV	<i>je/jij</i>	<i>ge/gij</i>
	nominal, VS	<i>je/jij</i>	<i>ge/gij/-de/-degij</i>
	possessive	<i>je/jouw</i>	<i>uw</i>

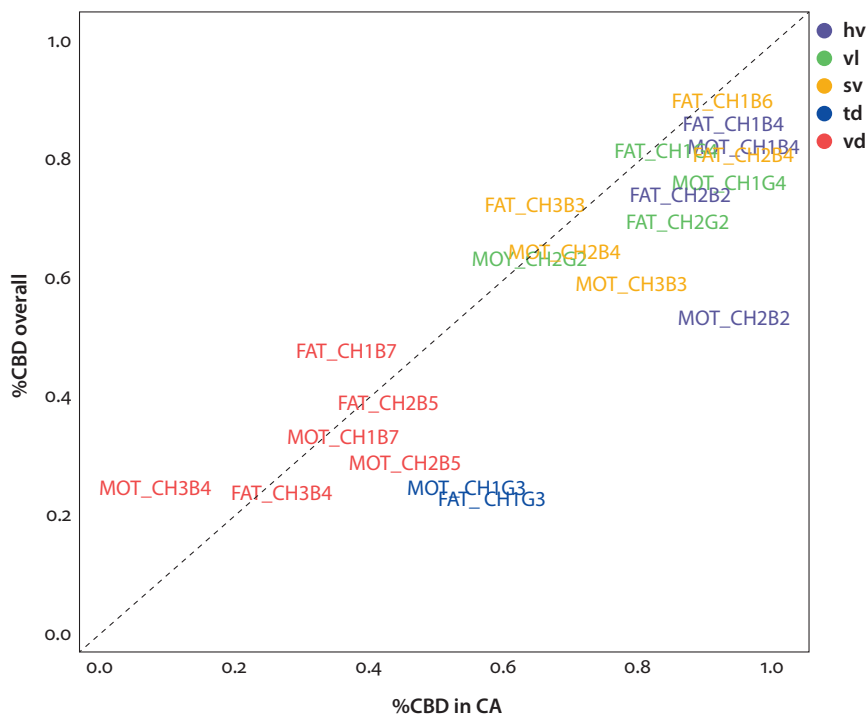


Figure 1. Relationship between percentage of CBD-pronouns in parents’ control acts (x-axis) versus percentage of CBD-pronouns in parents’ overall child-directed speech (y-axis). Each family is plotted in a different color, and each Sp/H-constellation is presented as an observation

the speaker-hearer constellations attested (x-axis), compared to the percentage of CBD-forms found in the database at large for that speaker-hearer constellation – i.e. including all pronouns in all utterances, not merely those in control acts (y-axis). For the numeric details behind this graph, see Appendix B.

Several observations can be made based on this graph. We focus on the three most crucial ones for our current perspective. First, five Sp/H-constellations are not found in the graph, as they come with too few observations to make any reliable claim (i.e. less than 10, see Appendix B). Second, we generally see a high correlation between the use of CBD in control acts and the overall use of CBD in child-directed speech.² Interpreting this correlation is visually facilitated through the dotted diagonal in Figure 1. The closer Sp/H-constellations are to this diagonal, the closer the CBD-use in control acts is to the CBD-use in overall child-directed speech.

2. “Correlation” is used in the descriptive sense: no inferential techniques (such as Spearman or Pearson) were used at this point in the analyses.

Family ‘td’ seems to be somewhat of an exception to the general pattern, as this family shows a higher use of CBD in control acts than in their overall use of CBD, showing a milder correlation between the overall use of CBD and its use in control acts. Third, we see that the parents of ‘hv’ reveal clear (age-based) variation in the amount of CBD in overall child-directed speech (clear vertical variation), but show barely any variation in control acts (no horizontal variation). As mother and father respectively use only five and four SD-forms in their control acts, we have decided to discard this family from further analyses. As will be highlighted in the conclusion to this paper, further research is of course needed to verify why we find these differences between ‘hv’ ’s overall CBD-use and their near-exclusive use of CBD in control acts. Finally, the remaining four families can be divided in two groups, with families ‘vd’ and ‘td’ as low users of CBD in control acts on the one hand and families ‘vl’ and ‘sv’ as high users of CBD in control acts on the other hand. An interesting question is then whether the choice for either variety in control acts is triggered by the same underlying factors in these families. To verify this, we have identified six potentially relevant predictor variables.

2.3 Predictor variables

We find a total of 452 pronouns of address in the control acts of the four families under scrutiny, with 273 CBD-forms and 179 SD-forms. Following previous research on variation in child-directed speech (Chevrot et al. 2000), a first obvious variable to include when trying to explain the attested variation between the SD- and CBD-forms is the speaker/hearer-constellation. This variable allows us to verify whether the age or gender of the addressed child has an effect on the choice of variety, and whether this effect varies between mother and father, or between different families. Appendix B can be consulted for an overview of the Sp/H-constellations attested in our database.

As Van De Mieroop et al. (2016) discussed, these effects of the age of the child can be mediated by the discursive frame of the utterance, with the vernacular being tied to relational speech and the standard connected to more transactional contexts. As control acts are typically rather transactional in nature, we do not work with Van De Mieroop et al. (2016)’s binary distinction but instead define four topics connected to the control acts in our database: (1) personal hygiene and safety, (2) eating and drinking, (3) table manners, and (4) the remaining category “other” (see Examples i–iv respectively; pronouns marked in bold).

- (i) Nu moeten wij **jouw** handje en **jouw** gezichtje een beetje wassen.
 (“now we have to wash your hands and your face a bit”)
- (ii) Dan doede [: doet **ge**] de patatjes een beetje weg vant [: van het] groen.
 (“then you remove the potatoes away a bit from under the green stuff”)

- (iii) **Gij** moet mooi op **u(w)** stoeltje gaan zitten he.
("you have to sit nicely on your chair")
- (iv) **Zeg zeg zeg zeg zeg** wa zijde [: **zijt ge**] daar nu weer aant [: aan het] doen?
("well well well well well what are you doing there now")

A next parameter is linguistic in nature and contrasts subjective/nominal and possessive forms of the pronouns (see Table 2). The hypothesis for this parameter is tied to its association with our fourth variable, the class of control act. As was discussed in the introduction, control acts can be expressed by means of a wide variety of syntactic forms, which can typically be positioned on a cline from more to less coercive. For our database, we adopt a bottom-up classification: we started off by analyzing the attested control acts to arrive at the best-fitting classification for our control acts. Roughly listed from more to less direct, the following six classes of control acts were defined: (1) infinitives, imperatives and utterances which do not contain a verb (Example v); (2) cases where a second person singular nominal pronoun is combined with *have to* (Example iii); (3) cases where a second person singular nominal pronoun is combined with *can* (Example vi); (4) questions including a second person singular nominal pronoun (Example iv); (5) cases not included in (2)–(4) that have a second person singular nominal pronoun (Example ii); (6) all other cases (Example i).

- (v) Doe maar snel **u(w)** broekje aan.
"Quickly put on your pants maybe"
- (vi) Je mag een lepel gaan halen.
"You can go get a spoon"

Our hypothesis holds that Standard Dutch pronouns will occur more frequently in the less direct forms, given the link mentioned in Section 1 between "the best language" and "the best – or at least softest – type of parenting" ('best' against the Western-European background of democratic parenting based on the mutuality model explained above, see Schaffer 1996; Pečnik 2007). This hypothesis can be transposed to the type of pronoun: we expect more SD in nominal forms than in possessive forms of the pronouns of address, as the latter are clearly associated with control acts expressed through infinitives, imperatives and instances without verb (see Appendix C for support from a multiple correspondence analysis, a technique that visualizes underlying structure in databases).

Next, we coded all control acts for mitigators (which soften the impositional force of the control act) and boosters (which underline its impositional force) (Blum-Kulka 1990: 259). Four levels are defined for the variable. Presented from more to less direct, we find cases with: (i) boosters, but no mitigators (Example iv, "zeg zeg zeg zeg zeg" and "nu weer"); (ii) boosters and mitigators (Example v, respectively "snel" versus "maar" + diminutive); (iii) no boosters, and no mitigators

(Example vi); (iv) mitigators, but no boosters (Example i, “een beetje”).³ Again, the hypothesis is that SD will be connected to the softer cases (i.e. those containing mitigators) and that CBD will be connected to more authoritative cases (i.e. those containing boosters).

Table 3. Overview of predictors with token counts per family

Variable	Level	Abbreviation	Family			
			sv	td	vd	vl
topic	personal hygiene	personal_hygiene	10	20	24	51
	eating & drinking	eat_drink	37	27	37	17
	table manners	table_manners	30	12	44	10
	other topics	other	21	29	55	28
pronoun type (‘pronoun’)	subject forms	subj	62	62	105	59
	object forms	obj	36	26	55	47
class	imperative, infinitive, no verb (e.g. <i>eet uw bord leeg</i>)	IIN	26	21	38	36
	2nd person singular + <i>have to</i> (e.g. <i>je moet; ge moet</i>)	je.moet	31	21	21	21
	2nd person singular + <i>can</i> (e.g. <i>je mag; ge moogt</i>)	je.mag	17	6	35	5
	2nd person singular + question (e.g. <i>wil je?; gaat ge?</i>)	2PS.Q	13	24	19	4
	2nd person singular + other (e.g. <i>je speelt, loopt ge</i>)	2PS.o	10	11	33	31
	all other cases (e.g. <i>mama wil dat je...</i>)	other	1	5	14	9
mitigation/booster (‘mitboost’)	no mitigation or booster	none	47	30	93	48
	mitigation, but no booster	mit	35	33	54	50
	mitigation and booster	mitboost	6	14	3	4
	booster, but no mitigation	boost	10	11	10	4
repetition/priming (‘repprime’)	first occurrence of the control act	norep	58	51	95	74
	repetition, no pronoun prime	repNoP	6	9	5	6
	repetition, CBD prime	repCBDP	26	17	28	23
	repetition, SD prime	repSDP	8	11	32	3

3. When accounts were provided along with the control act, this was also coded as a mitigator because, as Stevanovic and Peräkylä (2012: 311) note, accounts downgrade authority claims. Generally, boosters and mitigators were coded at the lexical level by one of the authors. In case of doubt, the other author was consulted.

A final parameter is meant to capture autocorrelation in our database: it is quite likely that parents are primed in their use of CBD or SD by prior occurrences of pronouns of address in the conversation (see also Van De Mierop et al. 2016). Additionally, we can expect parents to become more direct as they have to repeat their commands. We have combined these two parameters into one variable with four levels, distinguishing between utterances with: (i) a first occurrence of a control act (no repetition, Example vii); (ii) a repetition of a previous control act, without a pronoun prime occurring in the previous control act; (iii) a repetition of a previous control act with a SD pronoun of address in the previous control act (Example viii); (iv) a repetition of a previous control act with a CBD pronoun of address in the previous control act.

- (vii) nie(t) nie(t) tussen uwe plasticine leggen eh Max
“don’t put it between your play dough Max”
- (viii) seg ma(ar) legt de plasticine ‘ns op uw lappeke
“hey but put the play dough on your placemat”

Table 3 summarizes the predictors, their levels and the abbreviations used in the analyses. Additionally, the table provides an overview of the amount of observations per level for each family. Instances of data sparseness can be noted for some predictors. As mentioned above, we also find some clear associations between the predictors (see Appendix C for a multiple correspondence analysis). These matters will have to be taken into account when selecting an appropriate statistical technique for the analysis.

3. Analyses and results

A two-tiered approach is adopted for analyzing the data. In a first step, quantitative inferential analyses are conducted to discover the relative contribution of the predictors (Sp/H-constellation, topic, type of pronoun, type of control act, mitigation/booster and repetition/priming). Based on the output of these analyses, in a next step multimodal discursive analysis are conducted.

3.1 Results of the quantitative analyses

Given the nature of our dataset, we rely on random forests and conditional inferences trees. These inferential techniques are ideal for working with unbalanced sets like ours which portray high degrees of multicollinearity and risks of overfitting (Tagliamonte & Baayen 2012). Random forests can be considered a more robust

alternative to traditional anova's, revealing the relative contribution of individual variables to explaining the attested variation. Conditional inference trees visualize the precise effect of these variables by recursively making the best binary splits in the database (i.e. splits leading to the highest degree of homogeneity; see e.g. Szmrecsanyi et al. 2016 for more details). As such, the trees indicate which levels of a variable need to be separated and which belong together. Complex variables such as Sp/H-constellation can this way be included in the model without *a priori* having to group levels together to ensure a good fit. A further advantage is the fact that complex interactions can be included, even if they are relevant for only some subsets of the database.

Figure 2 presents the output of the random forest we built for our database.⁴ Reading the output is straightforward: the higher the variable importance of the predictor (listed on the x-axis of the dotplot) the bigger its relative contribution in explaining parents' choice between SD and CBD. All instances located on the right-hand side of the red dotted line are statistically relevant predictors, all others do not reach significance. As such, Figure 2 reveals that all predictors but "topic" reach significance in our analysis, and that a notably more outspoken contribution is found for Sp/H-constellation than for the other predictors.

To interpret this strong effect of Sp/H-constellation, we need to turn to Figure 3, which shows the output of the conditional inference tree.⁵ Readability of the output is increased by using shorter abbreviations for SP/H-constellation (i.e. the final two letters of the family code, followed by F for father and M for mother, and a number indicating the position of the child in the row: 1 for CH1, 2 for CH2 etc.).

It is striking to see that, despite the high importance of Sp/H-constellation in explaining the choice for CBD or SD, we find only one binary split for this variable in the entire tree. More specifically, the tree separates families 'sv' and 'vl' from families 'td' and 'vd', which supports the descriptive information discussed for Figure 1. Family 'sv' and 'vl' are in essence CBD-users, where 'td' and 'vd' are baseline SD users. No further distinction is made between mothers and fathers, younger or older children, boys or girls at any point in the tree. If not these macro-social features, what then determines the choice for the marked variety in these two groups of families?

4. Two forests were built to verify stability. The first forest contains 5000 trees (seed 47), the second contains 501 trees (seed 66). Both trees produce highly similar results and have strong predictive value (with a C-value of 0.971). The forest predicts 83% of the cases correctly (as opposed to a baseline of 60%).

5. C-value > 0.82, high predictive power. The tree predicts 77% of the cases correctly (as opposed to a baseline of 60%). Note that the accuracy of the tree is lower than that of the forest; forests in essence produce more robust results as they aggregate over a large set of trees.

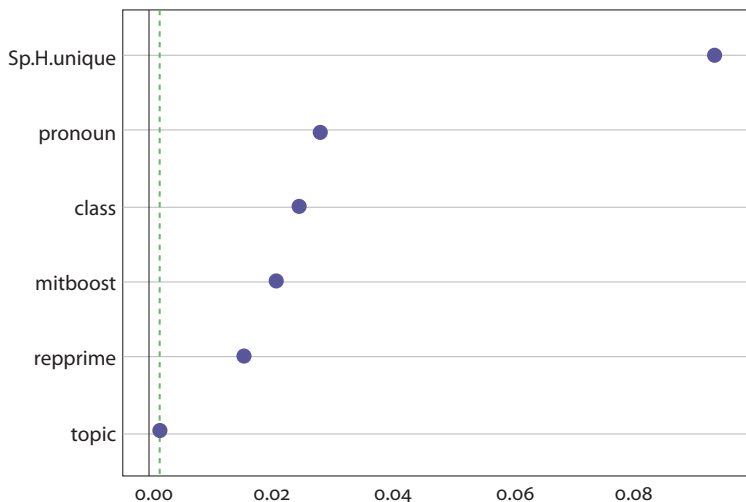


Figure 2. Random forest (Sp.H.unique refers to the specific speaker/hearer-constellation within each family as listed in Appendix B. For other abbreviations, see Table 3)

For families ‘sv’ and ‘vl’ the marked variety is the standard, which seems predominantly tied to softer control acts: 40% of the pronouns contain SD when they are formed (i) through combinations of nominal forms of the pronoun of address and the verb *can* (“je.mag” in the tree), (ii) through questions with nominal forms of the pronoun of address (“je.Q” in the tree), and (iii) through our rest category (“oth” in the tree). In the more authoritative cases of (i) infinitives, imperatives, utterances

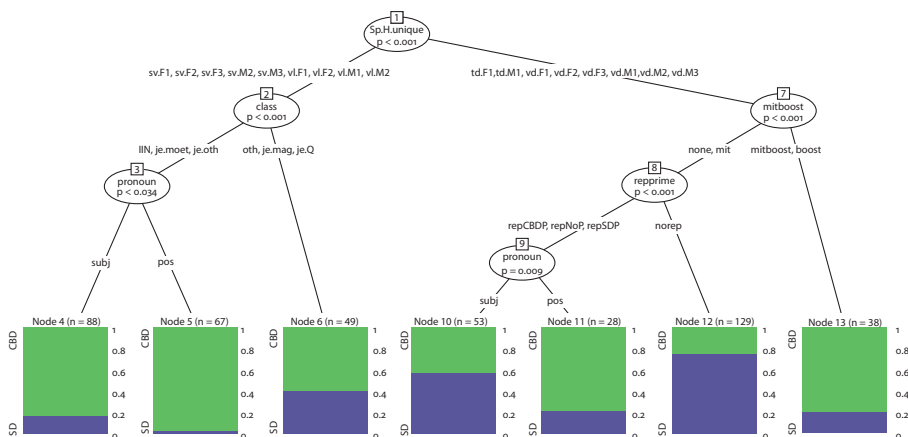


Figure 3. Conditional inference tree (dark grey represents percentage of SD, light grey represents percentage of CBD in a specific branch of the tree) (for abbreviations, see Table 3)

without verbs (“IIN” in the tree), (ii) combinations of nominal forms and the verb *have to* (“je.moet” in the tree), and (iv) other combinations of nominal forms of the pronoun of address (“je.oth” in the tree), the use of SD drops drastically, to less than 20% for subject forms and less than 5% for possessives. Despite the fact that these two families typically use CBD, SD is linked to more democratic control acts. Our central hypothesis “the best language for the best parenting” (‘best’ in the context of current Western-European standards) seems to hold.

The same is true for families ‘td’ and ‘vd’, the two families who generally use quite some SD-pronouns in their control acts. In contrast to what we saw for ‘sv’ and ‘vl’, the class of control acts however does not play a role on this side of the tree, but several of the other variables that can be linked to the directness of the control act instead gain importance. First, we see that the percentage of SD-pronouns is highest for first occurrences of a control act (“norep” in the tree) which do not include boosters, which can be considered quintessentially “soft” directives.

If the control act is repeated, it does not necessarily matter whether a CBD- or SD-prime can be found in the previous control act, which is seen in the fact that no further split is made between “repCBDP”, “repSDP” and “repNoP” in the tree. What does matter, is the distinction between possessives (“pos”) and subject forms (“sub”): CBD-pronouns are specifically tied to possessives in repeated control acts. Based on the association between possessives and imperative/infinitives (see Appendix C), we can (carefully) link this result to our central hypothesis: CBD is linked more with direct control acts, SD more with democratic control acts. This is further underlined by the high percentage of CBD-pronouns in utterances of these two families that contain boosters.

Overall, the trees and the forests reveal that our predictors are well-fit to capture the variation between CBD and SD in our database. Moreover, despite the initial split of the four families in high and low users of CBD, we see that our central hypothesis (“the best language for the best parenting”; ‘best’ in the current Western European tradition of democratic parenting) holds for both groups. Below, we look for further support for this overarching interpretation through multimodal discursive analyses of a number of well-chosen examples of the patterns found in Figure 3.

3.2 Results of the qualitative analyses

Summarizing the results for families ‘vd’ and ‘td’, we observed a noticeable rise in the use of CBD-pronouns in two cases: (1) when there is repetition and the possessive is used; (2) in cases in which boosters occur. We will subsequently analyze a typical example of both cases, which we will then discuss comparatively. We use multimodal discourse analyses, on the one hand zooming in on the sequential and multimodal

features of the interaction as discussed in multimodal conversation analytic studies (see e.g. Mondada 2011), while on the other hand also integrating an analysis of the discursive characteristics of the fragments (see e.g. Holmes, Marra & Vine 2011).

First of all, we zoom in on a case in which a repetition of control acts occurs right after everyone is summoned to the table. While the mother is putting the food on the table, the children are inquiring about today's menu and Child 1 immediately remarks he only wants 'potato balls', which is where the fragment starts.

Fragment 1⁶ – family 'vd' – F03-03:39

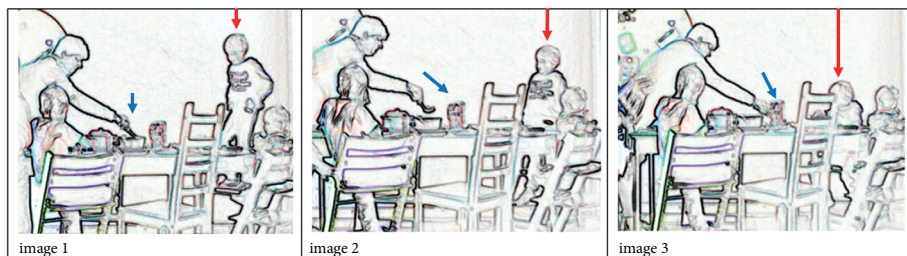
- 1 CH1 *alleen aardappelbolletjes*
only potato balls
- 2 M *fnee nie alleenf aardappelbolletjes he*
fno not onlyf potato balls hey
- 3 M *aardappel%bolletjes*
potato balls
- img %img1
- 4 CH2 *mama da is heet*
mum that is hot
- 5 M *oppassen want das warm he*
be careful because that is hot hey
- 6 M *schuif jij je bord een beetje dichters alsjeblieft*
will you ((SD)) move your ((SD)) plate a little closer please
- img %img2
- 7 CH3 (%) *ik kan nie meer ()*
() i can no more ()
- img %img3
- 8 F *we gaan van alles een beetje proeve e mannen*
we are going to taste a bit of everything hey men
- 9 (.)
- 10 CH3 () *ik heb dat hier ketchup*
() i have that here ketchup
- 11 ([)
- 12 M [eerst nog een boontje
[first still a bean
- 13 CH3 *ketchup ketchup ketchup ketchup ketchup*
ketchup ketchup ketchup ketchup ketchup
- 14 *ik wil nog wa van diets*
i want more of that
- 15 M *goed zo ((ch2)) je hebt dat [goed gesneden*
well done ((ch2)) you ((SD)) have [cut that well
- 16 CH1 [maar nie zo vee:::l
[but not so mu:::ch
- img %img4
- 17 AAAAAAAAAAAAA[AAAAAAAAAAAAH
- 18 M [alles% is nog warm
[everything is still warm
- img %img5

6. The explanation of the transcription conventions can be found in Appendix A.

19	CH1	[<i>nee</i> :::: [NIE ZOVEEL] BOO:NTJES [<i>no</i> :::: [NOT SO MUCH] BEA:NS
20	M	[()]
21	CH3	[()]
→ 22	M	<i>kom uw bord%</i> come your ((CBD)) plate <i>img</i> % <i>img6</i>
23	CH3	NIE ZOVEEL BOO:NTJES NOT SO MUCH BEA:NS
24	F	<i>is da te veel boontjes</i> is that too much beans

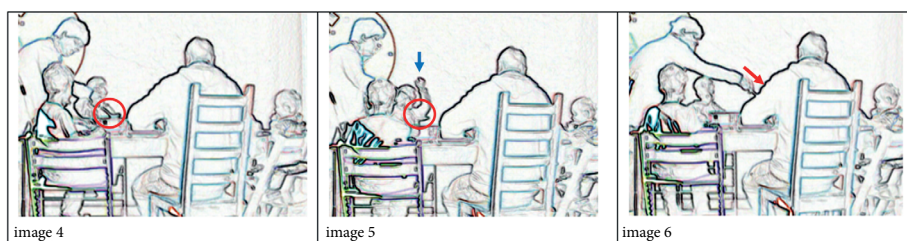
After Child 1 requested to have only one type of food (potato balls, line 1), both parents refuse this request. While the mother replies immediately in the subsequent line (*nee nie(t) alleen aardappelbolletjes he* ‘no, not only potato balls hey’) and downplays her refusal by using a smile voice (Buttny 2001), the father only responds in line 8 with a mitigated instruction to ‘taste a bit of everything’ that is addressed to everyone (*e mannen*, ‘hey men’), thus not pinpointing Child 1.

From line 3 onwards, the mother starts serving out food onto the family members’ dishes, while also warning the children that the food is hot (both in lines 5 and 18). Then, in line 6, she instructs Child 1, who is seated at the far end of the table, to move his plate closer. This control act takes the form of a question directive, is mitigated (‘a little’) and politely formulated (‘please’), and, as such, its impositional force is softened. It is important to note that SD-pronominal forms are used throughout (*jij*, ‘you’, *je*, ‘your’) this directive. One can argue that the control act serves a dual function here, viz. to have the plate moved closer, but also to have the child engage correctly in the dinner activity, as prior to this utterance, Child 1 was standing up in his chair, thus not displaying correct table behavior (see Image 1). The mother’s control act is complied with, as Child 1 immediately sits down (see Image 2) and moves his plate, so that his mother can serve him (see Image 3).



Images 1–3. The red arrows indicate child 1’s movement from standing on his chair to sitting down, the blue arrows indicate the scooping up of the potato balls

Importantly, the food that is distributed onto Child 1's plate are the potato balls, which he requested in line 1 as his sole food item for today's meal. Then, in lines 10–14 as well as 21, Child 3 starts requesting that sauce (viz. ketchup) is added to his plate. Even though he is quite persistent (see e.g. the ketchup-mantra in line 13), his request is ignored by the parents and the mother simply continues serving the children. Yet, in line 12, the item being served changes from potato balls to beans, and while Child 1 remains silent during the serving of Child 2 and 3, he starts his protest in line 16, as at that point the mother is giving him his serving of beans (see Image 4). He then starts wailing (line 17) and shouting that he does not want 'so much beans' (line 19). During these protesting activities, the serving of beans is actually suspended in the air (see the red circle in Image 5), and the mother then utters the control act *kom uw bord* ('come your plate' [i.e. 'bring your plate closer'], line 22). Importantly, she is already moving her spoon at the start of the utterance and by the time it is finished (see the red arrow in Image 6), she has delivered the spoonful of beans to Child 1's plate.⁷ So through the mother's gesturing, it becomes clear that this control act is not presented as contingent upon the child's approval. Furthermore, the utterance has a direct format, as becomes clear through the use of the imperative and the lack of any mitigation. Significantly, this control act is uttered in CBD (*uw*, 'your'). After the control act, the child still continues to voice his protest in a loud voice, but, as the beans are already on his plate, this is largely in vain.



Images 4–6. The red markers indicate the scooping and distributing of the beans, the blue arrow in Image 5 indicates Child 2's waving of the arms

It is important to note that throughout this fragment, the mother has simultaneously engaged in various activities, viz. serving out food on plates, warning the children about the hot food (lines 5 and 18) and complimenting Child 2 on his table manners (line 15). All this time, she used SD-forms, with the control act *kom uw bord* ('come your plate', viz. 'come on, give your plate') in line 22 as the single exception. This formulation is also strikingly different from that of the earlier

7. As the father's seating position is blocking child 1 from view at this point, we cannot make any claims on his non-verbal behavior during this sequence.

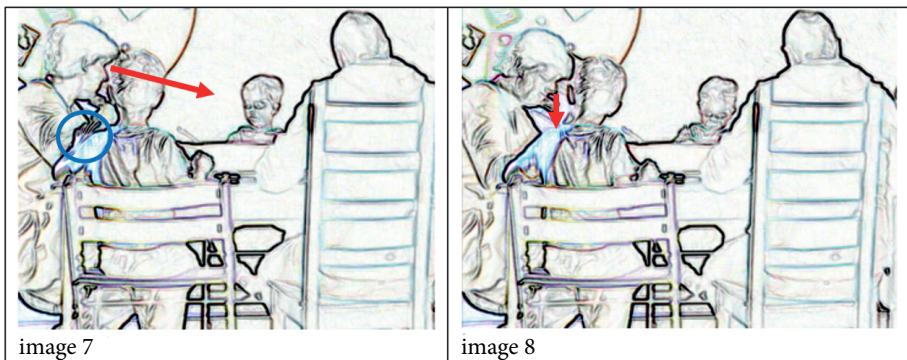
control act, even though it was oriented to the same addressee (viz. Child 1), yet the circumstances have changed. Not only was it clear by line 22 that the beans that were to be administrated to Child 1 were marked as the disliked food item, but this utterance also occurred while Child 1 was protesting loudly and Child 3 was at the same time waving his arms (see the blue arrow in Image 5) and shouting something, possibly continuing his earlier plea for ketchup (line 21). So there is not only a build-up towards the refusal of beans by Child 1 – which already started in line 1 of this fragment – but there is also a sudden surge in noise, movement (of Child 3) and, overall, drama.

Secondly, regarding the use of CBD in co-occurrence with a booster, we focus on another mealtime interaction in this specific family. In this case, it is Child 2 who has particular food-related predilections. Prior to this fragment, his parents have already jointly refused more of one food item (viz. meatballs) on the grounds of the child not having touched another (viz. rice). In this fragment, he is urgently requesting his mother to have a bit more sauce.

Fragment 2 – family ‘vd’ – F04-19:00

- 1 CH3 μ^{+*} ($\% \mu$) *
m μ looks at ch3 μ downward eye-gaze -->
f +looks at ch1 and ch4 -->
ch2 *patting his mother on the arm*
img %img 7
- 2 CH2 *mama::*
mu::m
- 3 M ((nods%))
img %img 8
- 4 CH2 *ma ma ma ma ik wil *da* *nog*()
 but but but but i want that still ()
ch2 *points* *crosses his arms -->>
- 5 # (4.2) + % #
m #puts down her cutlery and takes a spoon of sauce#
f -->+ gaze to m -->>
img %img 9
- 6 F #komaan *mama nee* zegt ns \uparrow nee
 come on mum no say \uparrow no for once
m #scoops sauce on ch2's plate-->
- 7 F *tis goe hij gaat da nooit opeten#*
 it's okay he will never finish that
m -->#
- 8 M *voila hup en nu gade stoppen me zeuren*
 voila hup and now you ((CBD)) will stop nagging
- 9 *ik wil u nie meer horen en μ*
 i don't want to hear you ((CBD)) anymore and
m --> μ
- 10 *μ dan gade% verder μ eten*
 then you ((CBD)) will continue eating
m μ eye-gaze to F μ downward eye-gaze -->>
img %img 10

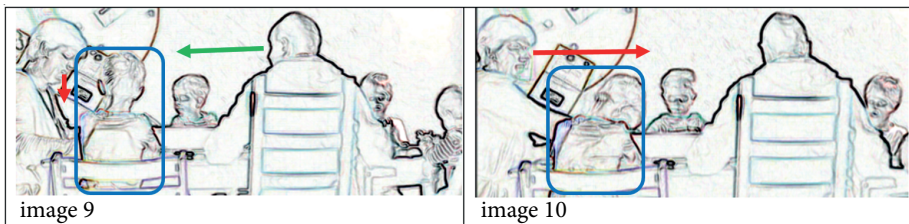
While Child 3 is still talking to his mother, Child 2 is already attempting to attract her attention by patting his mother on her arm (see Image 7). However, after having focused her eye-gaze on Child 3 while he was talking, the mother looks down and does not shift her gaze to Child 2. The latter then explicitly addresses her (line 2) and while she provides a preferred response (through a nod, see line 3), she still does not look at Child 3 (see Image 8). He then requests some more sauce (line 4). Interestingly, he initiates his request by a four times repeated ‘but’ (*ma*, line 4), thus signaling some form of contrast, which, from the preceding context, is oriented to the earlier refusal to obtain more food before having eaten his rice. After his request, he adds something else, but this is unintelligible due to his shift to a moaning voice. He then crosses his arms, which marks his frustration and anger (see Images 9–10).



Images 7–8. The red arrows indicate the mother’s eye-gaze, while the blue circle marks Child 2’s patting gesture

While still not having looked at Child 2 and without saying anything, the mother then puts down her cutlery and starts taking a spoon of the sauce. During that silence, the father shifts his gaze from Child 1 and 4 to the mother’s activities (see Image 9). Soon after his gaze shift, he comments on the mother’s compliance with Child 2’s request for more sauce. His comment clearly has a reproaching tone and it instructs the mother in a boosted and direct way to refuse the request (line 6), after which he adds an account (line 7). Yet, in the meantime, the mother has scooped the sauce onto the child’s plate and then she finally utters her first words of the fragment, which consist of a direct control act in CBD which consists of two parts: the first part is aimed at silencing the child, and this part is boosted (‘voilà’, ‘hup’, ‘now’, line 8) and repeated (line 8–9), while the second part is oriented to furthering the child’s eating activities. Both control acts are highly direct and are not presented as contingent upon approval by the child.

What is particularly interesting in this fragment, is the body language of some of the participants: while Child 2 is marking his frustration by crossing his arms (see Images 9 and 10) and even putting his head on his crossed arms (see Image 10), from the end of line 4 onwards, the mother is mainly looking down throughout this fragment, as such implicitly displaying her irritation with Child 2 and his continuous problematization of the eating activity. There is only one notable exception, viz. when she is uttering the control acts in lines 8–10, she briefly shifts her eye-gaze and focuses it upon a person instead of upon the objects that she is handling. Significantly, this eye-gaze is not oriented to the addressee of the control act, viz. Child 2, but to the father instead, as can be clearly seen in Image 10.



Images 9–10. The red arrows indicate the mother's eye-gaze, the blue rectangle marks Child 2's crossed arms posture and the green arrow indicates the father's eye-gaze

Through this brief shift from averted eye-gaze to gaze focused on a non-addressed participant, it becomes clear that the control act serves a dual function, viz. as not only instructing the child to behave in a better way, but also to retort the father's immediately preceding reproach that instructed her not to comply with the child's request (lines 6 and 7). As such, the mother is demonstrating that even though she yielded to the child's request – which was contradicting the parents' joint refusal to grant the child anything else until it had eaten its rice, preceding this fragment – she is also a strict mother who enforces table manners upon the children. So in fact, the mother is challenged in two ways here, namely by the child who continues to non-verbally mark his bad-temperedness even though his request for sauce is granted, as well as by her partner who displays irritation with the mother's compliance that is inconsistent with a norm that was previously agreed upon.

In sum, the micro-analyses of these two fragments, even though situated in a different node of the regression tree, demonstrate quite some similarities. In particular, there is a shared situation of increased pressure or tension, as was already identified as an important factor in early studies on this topic (Ervin-Tripp 1976: 36). This tension can have various causes, as became clear from the discussion of the two fragments, and it may involve various different participants (such as, e.g. the involvement of the father in Fragment 2), but they all result in an increased

level of irritation and a lesser concern about the child's autonomy in making their own decisions. On the linguistic level, this is reflected in a drop in SD-use, and a turn to CBD.

4. Discussion and conclusion

How can we bring the insights from the quantitative and qualitative analyses together to arrive at a conclusion on the social meaning of Standard Dutch and Colloquial Belgian Dutch pronouns of address in Flemish parents' child-directed control acts? Let us return to our initial hypothesis, for which we drew a link between the hyperstandardized Dutch linguascape with Western European parenting ideals. Hyperstandardization has left Flemish language users with a gap between their vernacular (Colloquial Belgian Dutch) and the official standard (Standard Dutch), and with somewhat of a linguistic inferiority complex: because of the strong propaganda language users embrace the exogenous standard as the one best language. We can presume that they rely on this "best language" in their parenting, reserving it for the "best" way of bringing up their children. As was explained above, this "best parenting" in a Western European context entails democratic, non-authoritative and soft ways of guiding children.

Focusing on pronouns of address (a variable with a high level of awareness) in control acts of the parents in four young Flemish families, we used a mixed methods approach to verify the central hypothesis, viz. that Standard Dutch is more explicitly tied to indirectness and the presentation of the control act as contingent upon the approval of the addressee. Quantitative variationist analyses, relying on regression trees and random forests based on over 400 pronouns coded for six different variables, revealed clear support for the central hypothesis. Both for families that are typically high users of CBD and for families who are largely SD-users, the standard seems reserved for softer control acts and, hence, for "better" parenting, which, according to Western European norms, is more oriented towards safeguarding children's autonomy over their own conduct. Through their linguistic choices, parents thus provided us with a clear window into their language regard (Preston 2013).

No further differentiation based on the age or gender of the addressed child was found in the analyses: the pattern likewise applies to all children in the database and it would thus be interesting to see whether this link between "best language" and "best ('most democratic') parenting" is corroborated further by sociolinguistic interviews or experimental research set-ups. It is also important to note that the fifth family under study, viz. family 'hv', which barely showed variation between SD and CBD, was excluded from our analyses. This generates another interesting open question for our specific database, viz. whether this family is consistent with the

attested pattern, thus entailing that family ‘hv’ ’s parents are simply more oriented towards parental control instead of “best – autonomy oriented – parenting”, or whether they adhere to different norms in the use of CBD and SD. This is clearly a matter for further research.

Another standing question is why these parents do not always display their ‘best’ parenting behavior. Qualitative analyses of two examples located in central nodes of the regression tree revealed a preliminary answer. Sometimes the build-up of tension in a situation leaves parents irritated and annoyed, which prevents them from uttering control acts in the soft and unauthoritative fashion that the Western parenting ideal prescribes. In such cases, parents utter more direct control acts, as such displaying an orientation towards more parental control, and these control acts are typically accompanied by the vernacular. The qualitative analyses have as such identified irritation as mediating factor for CBD use. It would be highly revealing if we were able to include this parameter (or at least a proxy of irritation) in the quantitative analysis to gauge its relative effect compared to the other variables included in our study. Finding a quantifiable operationalization of an intricate phenomenon such as ‘irritation’, which builds up through the course of a conversation, is however far from straightforward and this thus also requires more extensive scrutiny.

A final question is then what children learn from this variation, if anything. Are children able to derive the social meanings that parents implicitly attach to CBD and SD through their choice of pronouns in control acts, and will they distil any meaningful patterns for their own language use? As Schneidman & Woodward (2015: 13) put it: “Children grow up in a complex social world, and receive a vast amount of information from others. A critical question for any theory of learning is how children are able to make sense of this input”. Although there is no simple answer to this question, Samara et al. (2017) convincingly demonstrate how “children’s well-established tendency to regularize does not prevent them from learning sociolinguistically conditioned variation”. A self-evident question for further research is hence to study the way in which children themselves use pronouns of address in directives, if the attested patterns change as children grow older and whether they reflect the models of social meaning seen in their parents.

Hence, our analyses have opened up many new avenues for further research, but for now, it suffices to embrace the – albeit preliminary – insights that we have obtained. First, even if families show different baselines in their use of vernacular and standard, they still seem to attach the same social meanings to the varieties. Second, combining quantitative variationist analysis and multimodal discursive analysis helps us arrive at more comprehensive views on the intricacies of child-oriented control acts, and child-directed speech in general.

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Appendix A. Transcription conventions

The extracts have been transcribed using simplified Jeffersonian transcription conventions (Jefferson, 2004) and many of the explanations below are based on Antaki (2002). In terms of multimodal transcription, the conventions developed by Mondada (2016) were used and drawn upon in this explanation.

Example from transcript	Explanation
(.)	Just noticeable pause
(4.3)	Timed pause
↑ <i>nee</i>	Noticeable pitch rise
<u><i>nee</i></u> , <i>NIE ZOVEEL</i>	Underlined sounds are pronounced louder, capitals louder still
<i>£nee nie alleen£</i>	Words between £-signs are pronounced with a smile voice
<i>mama::</i>	Colons show that the speaker has stretched the preceding sound
()	Unclear talk
((nods)), ((CBD)), ((ch2))	Description of a brief non-verbal action, an indication of whether a pronominal form is either CBD or SD or a reference to an anonymized name
19 CHI [<u><i>nee:::</i></u> [<i>NIE</i> <i>ZOVEEL</i>]	Square bracket “[” aligned across adjacent lines denotes the start of overlapping talk, “]”-bracket shows where the overlap stops
20 M [()]	
10 M μ <i>dan gade verder</i> μ m μ <i>eye-gaze to F</i> μ	Gestures and descriptions of embodied actions are put in the subsequent line and are delimited between two identical symbols, in this case μ, which are also used in the turn at talk, as such showing the embodied action’s exact position. The lowercase letter at the start of the line with the embodied actions (here: m) indicates whose actions are described in this line (in this case m refers to the mother).
6 F # <i>komaan mama nee zegt</i> <i>ns ↑nee</i> m # <i>scoops sauce on</i> <i>ch2’s plate--></i>	--> indicates that the action described continues across subsequent lines until the same symbol (in this case #) is reached
7 F <i>tis goe hij gaat da</i> <i>nooit opeten#</i> m --># m <i>downward eye-gaze -->></i>	-->> indicates that the action described continues after the excerpt’s end
3 M ((<i>nods%</i>)) img %img 8	The exact moment at which a screen shot (img) has been taken is indicated with the symbol % showing its position within the turn at talk
→ 8 M <i>voila hup en nu gade</i>	Analyst’s signal of a significant line

Appendix B. Overview of collected data

Table X. Overview of data per Sp/H-constellation

Family	Speaker	Hearer	Overall (subj/pos)			Control acts (subj/pos)		
			CBD pron	SD pron	% CBD	CBD pron	SD pron	% CBD
hv	mother	CH1.B4	151	35	81.20%	40	2	95.20%
		CH2.B2	59	54	52.20%	44	3	93.60%
	father	CH1.B4	87	15	85.30%	33	2	94.30%
		CH2.B2	30	11	73.20%	13	2	86.70%
vl	mother	CH1.G4	118	38	75.60%	27	2	93.10%
		CH2.G2	39	24	61.90%	16	9	64.00%
	father	CH1.G4	54	12	81.80%	32	6	84.20%
		CH2.G2	16	7	69.60%	12	2	85.70%
sv	mother	CH1.B6	25	14	64.10%	too sparse ($n < 10$)		
		CH2.B4	25	15	62.50%	13	6	68.40%
		CH3.B3	24	17	58.50%	11	3	78.60%
	father	CH1.B6	45	6	88.20%	24	2	92.30%
		CH2.B4	38	10	79.20%	21	1	95.50%
		CH3.B3	23	9	71.90%	11	6	64.70%
td	mother	CH1.G3	37	123	23.10%	29	26	52.70%
		CH2.G1	too sparse ($n < 10$)			too sparse ($n < 10$)		
	father	CH1.G3	26	93	21.80%	19	14	57.60%
		CH2.G1	15	22	40.50%	too sparse ($n < 10$)		
vd	mother	CH1.B7	25	53	32.10%	9	16	36.00%
		CH2.B5	29	76	27.60%	13	16	44.80%
		CH3.B4	18	56	24.30%	1	12	7.70%
		CH4.B1	too sparse ($n < 10$)			too sparse ($n < 10$)		
	father	CH1.B7	64	73	46.70%	11	19	36.70%
		CH2.B5	55	89	38.20%	20	28	41.70%
		CH3.B4	13	45	22.40%	4	11	26.70%
		CH4.B1	47	12	79.70%	too sparse ($n < 10$)		

Appendix C. Multiple correspondence analysis

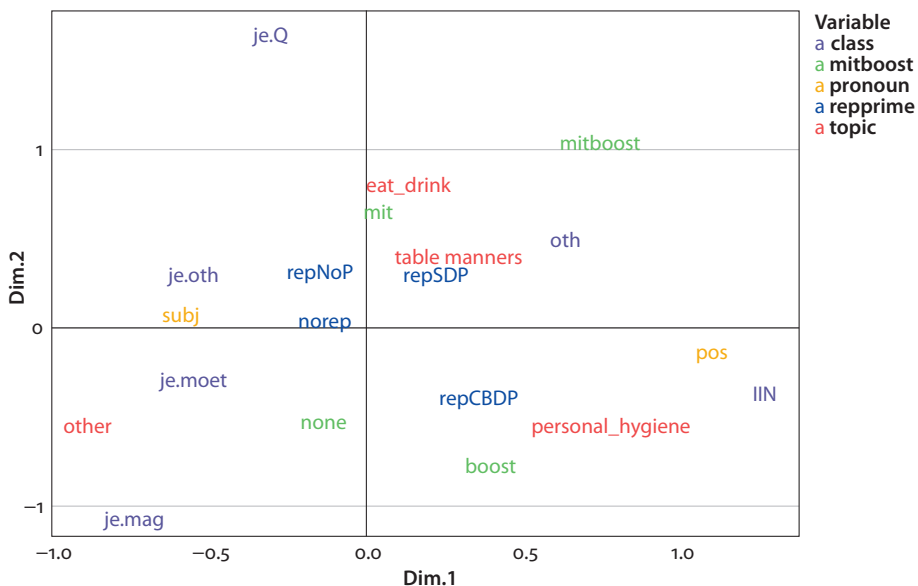


Figure 4. Multiple correspondence analysis for the predictors in the database (class, mitigation/booster, pronoun, repetition/prime, topic). The first dimension explains 12.2% of the attested variation, the second dimension explains 9.5% of the variation. This means that the solution in two dimensions is mediocre and that the degree of multicollinearity in our data is reasonable. At the same time, the graph indicates some clear associations, most notably between type of pronoun and the class of the control act

Testing interface and frequency hypotheses

Bilingual children's acquisition of Spanish subject pronoun expression

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The Interface Hypothesis predicts that syntax-discourse interface features are acquired later than features involving the interface between syntax and other components of grammar. The Frequency Hypothesis predicts that frequent grammatical patterns are acquired earlier than infrequent ones. This study tests these hypotheses by examining Spanish subject pronoun expression in interviews with 28 U.S. bilingual children of Mexican-descent. Binary logistic regression analyses demonstrate that the children's pronoun expression is significantly constrained by switch-reference, a discourse-pragmatic factor, but not tense/mood/aspect, a morphological factor. These results do not support the Interface Hypothesis since the children acquire a discourse-pragmatic constraint before a morphological one. Instead, frequency effects can explain the findings: the more frequent the constraint, the earlier it is acquired.

Keywords: bilingualism, interface hypothesis, frequency effects, bilingual language acquisition, subject pronouns, child language, morphosyntactic variation

Introduction

Which parts of language are the most difficult to acquire and retain? One hypothesis, known as the Interface Hypothesis, is that the syntax-discourse interface is more inherently vulnerable – more difficult to acquire and more easily lost – than the syntax-semantics or syntax-morphology interfaces (Sorace 2011; Sorace and Serratrice 2009; Tsimpli and Sorace 2006). This hypothesis also predicts that divergences between monolingual and bilingual speakers will involve the syntax-discourse interface more than the interface between syntax and other parts of grammar. The Interface Hypothesis is based on the premise that discourse-level

factors often require attention to extralinguistic and/or intersentential cues, which is likely to tax working memory more heavily than paying attention to more internal, intrasentential linguistic cues.

Frequency effects also play a major role in determining which structures are learned first during childhood. In general, frequent structures tend to be learned earlier than infrequent ones, and grammatical patterns tend to emerge first with high-frequency linguistic sequences (e.g., Ambridge, Kidd, Rowland, and Theakson 2015; Tomasello 2003). With respect to constraints on linguistic variation in particular, Shin (2016) proposes that more frequent constraints may be acquired earlier than less frequent ones. This Frequency Hypothesis yields predictions that compete with the Interface Hypothesis when discourse constraints on morphosyntactic variation are more frequent than morphological or semantic constraints. In such a case the Frequency Hypothesis predicts that the discourse constraints will be acquired first, whereas the Interface Hypothesis predicts they will be acquired last.

The current study tests the Interface and Frequency hypotheses by examining subject pronoun expression in Spanish, as in *yo voy ~ voy* 'I go', in sociolinguistic interviews conducted with 28 bilingual children of Mexican-descent residing in the U.S. The children's ages ranged from six to 17 years old. A total of 3,319 tokens were analyzed to investigate the influence of three predictor variables that have routinely been shown to constrain pronoun use: A discourse-pragmatics variable known as switch-reference, a morphological variable related to tense/mood/aspect (TMA), and grammatical person. Among adults, pronouns are more likely to occur (1) when the referent of two consecutive grammatical subjects is different rather than the same, (2) with verbs conjugated in the imperfect tense rather than other TMA forms, and (3) when the referent of the subject is singular (Carvalho, Orozco and Shin 2015; Otheguy and Zentella 2012). The Interface hypothesis predicts that the bilingual children's pronouns will be constrained by grammatical person and TMA (both morphological constraints), but switch-reference, which is a discourse constraint, may exhibit a weaker effect than what is typically found among monolingual children. In contrast, the Frequency hypothesis predicts that the children will acquire sensitivity to switch-reference earlier than to TMA because switch-reference contexts are more frequent than imperfect verbs. Such a finding would support the view that frequency effects play an important role in the acquisition of constraints on morphosyntactic variation (Shin 2016).

Discourse and morphological constraints on Spanish subject pronoun expression

Example (1) illustrates the alternation of pronoun expression and omission in discourse. Here Susana,¹ a 10-year-old girl in Montana, is talking about two soap operas. The instances where a pronoun could have occurred but did not are signaled by the symbol \emptyset in the original Spanish discourse and by parentheses in the English translation.

- (1) Susana: ... “Llena de amor” y “Teresa”. *Esa se trata de como que la señora quiere a dos señores y ella escoge al que \emptyset no quiere tanto y \emptyset se casa con él nada más por el dinero. Pues \emptyset nos vinimos para acá pa’ Montana y \emptyset ya no podemos ver más.*
- Eva: ¿La de llena de amor?
- Susana: *Se trata de que ella estaba gorda y \emptyset quería enflacar ... ella hacía como ... \emptyset decía que \emptyset estaba gorda...*
- Eva: ¿Y qué pasó, ¿qué consiguió hacer cuando enflacó?
- Susana: *Como ella pudo, pudo hacer muchas cosa se pudo casar con el hombre que ella quería.* [Mont501]
- Susana: ... “Llena de amor” y “Teresa”. That one is about how the woman loves two men and she picks the one that (she) doesn’t love so much and (she) marries him only for money. Well (we) came here to Montana and (we) can’t see any more.
- Eva: ¿La de llena de amor?
- Susana: It’s about she was fat and (she) wanted to get thinner ... she did like... (she) said that (she) was fat...
- Eva: And what happened? What was (she) able to do when she got thinner?
- Susana: Like she could, could do many things. (She) was able to marry the man that she wanted.

All underlined contexts in Example (1) above are sites of variation where the speaker could have included or omitted the subject pronoun. For example, Susana says *ella escoge, ella estaba, ella hacía, ella pudo, and ella quería*, ‘she chooses, she was, she did, she could, she wanted’, but she could have produced these verbs without a subject pronoun. In contrast, she says *no quiere, se casa, quería enflacar, decía, estaba gorda, se pudo casar* ‘doesn’t love, marries, wanted to get thinner, said, was fat, was able to marry’ without expressing subject pronouns, but these verbs could

1. Numbers at the end of the example refer to the number given to the participant. Participants have been given pseudonyms.

have appeared with *ella* ‘she’. Likewise, *vinimos, no podemos* ‘we came, we can’t’ could have appeared with *nosotros* ‘we’, but did not.

Over 50 variationist studies have shown that constraints on subject pronoun expression usage are quite consistent across communities of adult Spanish speakers (e.g. Carvalho, Orozco, and Shin 2015; Otheguy and Zentella 2012; Torres Cacoullós and Travis 2018). One of the most important predictors is the discourse-pragmatics factor known as switch-reference. Pronouns are expressed more often when there is a switch in subject reference across two consecutive clauses than when the reference is maintained. Example (2) below, produced by a 16-year-old boy in Montana, illustrates this effect.

- (2) Gabriel: ...*mi mamá me dijo que me echara sal en los zapatos y sí trabajó.*
 Eva: *Sí con sal en los zapatos. ¿Y cómo le hacías para echarle?*
 Gabriel: *Ella me le echaba sal y Ø me dijo que no me pusiera los calcetines.*
 (Mont1002)
 Gabriel: ...my mom told me to put salt in the shoes and yes it worked.
 Eva: Yes with salt in the shoes. And how did you do it to put it in?
 Gabriel: She put salt in for me and (she) told me not to put on socks.

In Example (2) Eva, the interviewer asks Gabriel *¿cómo le hacías?* ‘how did you do it?’ The subject is second person singular and refers to Gabriel. Gabriel’s answer represents a switch in subject reference from himself to his mother, and in this switch-reference context, the subject pronoun *ella* is expressed: *Ella me le echaba sal* ‘She put salt in for me’. Then Gabriel keeps talking about his mother and says *y me dijo que..* ‘and (she) told me’. In this same-reference context he omits the pronoun *ella*. Research on adult Spanish consistently shows that pronouns are expressed more often in switch-reference than in same-reference contexts (for an overview, see Carvalho, Orozco and Shin 2015).

Another predictor of subject pronoun expression is tense/mood/aspect morphology or ‘TMA’. Specifically, verbs in the imperfect tense (imperfective past) favor pronoun expression, while verbs in the preterit (perfective past) favor pronoun omission (Abreu 2009; Bentivoglio 1987: 45; Flores-Ferrán 2002; Hurtado 2005; Lastra and Martín Butragueño 2015; Michnowicz 2015; Orozco 2015; Otheguy and Zentella 2012; Shin 2014; Shin and Van Buren 2016; among others). Although the TMA effect may be related to ambiguity in the verb endings (1sg and 3sg share the same verb form in the imperfect, but are distinct in the preterit), I assume that the relationship between TMA categories and subject pronoun expression is routinized. As such, the TMA effect is best categorized as a morphological constraint.

Spanish subject pronoun is also known to be constrained by grammatical person. The broadest generalization is that singular pronouns are expressed significantly more often than plural pronouns (e.g., Carvalho et al. 2015; Otheguy and

Zentella 2012). Varieties of Spanish differ with respect to which of the singular pronouns are most often expressed. Other factors, such as verb class and clause type also impact subject pronoun use. The current study focuses primarily on switch-reference and TMA in order to test the Interface and the Input Frequency Hypotheses.

The Interface Hypothesis and the acquisition of subject pronoun expression

Understanding which parts of language are the most difficult to acquire and easiest to lose is a primary goal for language acquisition scholars. The Interface Hypothesis provides a profitable approach to this general line of inquiry, as it makes clear predictions that can be tested in a wide range of settings. Thus far, the specific prediction that the syntax-discourse interface is more vulnerable than the syntax-semantics or syntax-morphology interfaces has received support in research on second language acquisition (Tsimplici and Sorace 2006, but see Rodríguez-Ordóñez and Sainzmaza-Lecanda 2018), as well as bilingual language acquisition (Serratrice, Sorace, Filiaci, and Baldo 2009; Sorace, Serratrice, Filiaci, and Baldo 2009). In Tsimplici and Sorace's (2006) study, Russian learners of Greek were more accurate in their use of structures related to focusing (e.g. object fronting) than in their use of subject pronouns. Tsimplici and Sorace (2006) maintain that focusing phenomena are representative of the syntax-semantics interface and subject pronoun usage is representative of the syntax-discourse interface. They find that the learners are accurate with focusing but tend to express more subject pronouns than do native speakers of Greek. They conclude that, for L2 learners, the syntax-discourse interface is more problematic than the syntax-semantic interface.

Additional evidence for the Interface Hypothesis comes from two studies of school-age children (ages 6;2 – 10;10), one that focused on the syntax-semantics interface (Serratrice et al. 2009), and one that focused on the syntax-discourse interface (Sorace et al. 2009). Both studies included the same 38 monolingual Italian-speaking children, 59 English-Italian bilingual children, and 31 Spanish-Italian bilingual children. Also included were two adult control groups: 30 monolingual English-speaking adults and 30 monolingual Italian-speaking adults. Serratrice et al. (2009) tested the participants' knowledge of the syntax-semantics interface by asking them to judge Italian sentences with and without the definite article. The sentences occurred with either a specific referent (e.g., 'Here the strawberries are red.') or a generic referent (e.g., 'In general sharks are dangerous.'). Italian monolingual children and adults, as well as Spanish-Italian bilingual children, all categorically accepted plural noun phrases with a definite article in specific and generic contexts (Here the strawberries are red. In general the sharks are dangerous),

and they rejected bare plurals in these same contexts (*Here strawberries are red. *In general sharks are dangerous). The authors interpret these findings as evidence that both child groups, monolingual and bilingual alike, had acquired the distribution of definite articles in Italian, which can be considered a syntax-semantics feature, as it is regulated by specificity of the referent.

Sorace et al. (2009) asked the same participants to judge sentences with expressed or omitted subject pronouns in same- and switch-reference contexts. In contrast to the study on definite articles, none of the bilingual children's judgments of subject pronoun use reached adult-like levels. Based on the results in both studies, the authors conclude that structures involving the syntax-discourse interface, such as subject pronouns, take a longer time to master than structures involving the syntax-semantics interface. The explanation offered by Serratrice and Sorace (2009: 206–207) and Sorace (2011: 14) is that the syntax-discourse interface is inherently more difficult than other interfaces because it requires the integration of language internal and external properties, whereas other interfaces rely on more language internal properties.

Additional evidence that the switch-reference constraint on subject pronoun expression may be acquired late comes from Silva-Corvalán's (2014: 153) study of her two bilingual grandsons in California. Between the ages of 4;0 and 5;11, the younger grandson, Brennan, expressed Spanish subject pronouns at a rate of 68% in same-reference contexts and 69% in switch-reference contexts (Silva-Corvalán 2014: 157). An example of Brennan's pronouns in same-reference contexts is illustrated by the boldface tokens of *él* 'he' in (3).

- (3) *Sabes que cuando yo dije: “para atrás” y no es parte de mi familia, él, dijo él “para atrás” y él empuja para atrás, tan, tan atrás porque él tiene esos [antenas].*

... when I said “back” and is not part of my family, he, he said “back” and he pushes back, so, so much back because he has those [antennas].

Brennan, age 4;19 (Silva-Corvalán 2014: 158–159)

Similar to Silva-Corvalán, Montrul and Sánchez-Walker (2015) found a weaker impact of switch-reference among child bilinguals in the U.S. as compared to monolingual children in Mexico.

Shin and Van Buren (2016) also studied U.S. bilingual children's subject pronoun expression. The authors selected children, ages six to eight years old, from Shin's Corpus of Spanish in Washington/Montana. They compared the children's pronoun use to that of monolingual Spanish-speaking adults from their same community. They found that switch-reference, grammatical person, TMA, as well as semantic class of the verb and clause type all significantly impacted the adults' pronoun expression. In contrast, only switch-reference and grammatical person were significant for the children. Shin and Van Buren argue that the children

were in the process of developing their grammar of subject pronoun expression. Furthermore, they note that there is no evidence of any delay in their development, as their pronoun patterns were on par with monolingual children in Mexico (Shin 2016). The authors explain the lack of any bilingual effects by pointing out that the children hailed from farmworker communities that have tight-knit social networks, a continued influx of immigrants from Mexico, and many monolingual Spanish speakers (Shin and Van Buren 2016; Van Buren 2017; Villa, Shin and Nagata 2014). Indeed, it is likely that children in these farmworker communities experience a higher amount of exposure to Spanish than, for example, Silva-Corvalán's grandchildren. Nevertheless, they also experience an increasing amount of exposure to English after they start school. Thus, one question that remains is whether children from these same communities will perhaps demonstrate bilingual effects as they grow older and, if so, whether such effects will lend support to the Interface Hypothesis.

The Frequency Hypothesis and the acquisition of subject pronoun expression

Frequency effects have traditionally been central to usage-based explanations of various linguistic phenomena, including language variation and change (e.g. Brown and Raymond 2012; Bybee 2002, 2015; Erker and Guy 2012; File-Muriel and Brown 2011) and language acquisition (e.g. Aguado-Orea and Pine, 2015; Ambridge 2010; Ambridge, Kidd, Rowland, and Theakston 2015; Pine and Lieven 1997; Tomasello 2003). Frequency effects have also been highlighted in some generative approaches to language acquisition as well (Yang 2003, 2016). The most straightforward frequency effect in language acquisition is that frequent forms tend to be acquired before others. Frequency effects are also evident in the development of grammatical patterns. For example, in a sentence imitation study examining acquisition of complex sentences, Kidd, Lieven, and Tomasello (2010) found that 4- and 6-year-old monolingual English-speaking children were more likely to repeat complex sentences verbatim if the main verb was a high frequency verb like *say* or *know*, as in *John says he likes chocolate*, than a low frequency verb like *claim* or *believe*, as in *John claims he likes chocolate*. Furthermore, children sometimes substituted lower frequency verbs like *believe* with *think*, which is the most common verb used in complex sentences in English. For example, when asked to repeat sentences like *John believes the teacher is nice*, they produced *John thinks the teacher is nice*. These results suggest that children's acquisition of complex sentence structure follows a piecemeal trajectory, emerging with high frequency verbs first and then later generalizing to lower frequency verbs.

Another type of frequency effect has to do with how often a form appears in a particular context (e.g. Bybee 2002; Brown and Raymond 2012). For example, Bybee (2002, 2015) found a higher rate of /t, d/ deletion in word-final English consonant clusters not only for high-frequency words like *and* and *just*, but also for word types that tend to occur before consonants, which is a context that favors /t, d/ deletion for phonological reasons. In other words, the frequency effect here was not just how often a word occurred, but also how often a word type occurred in a context that conditioned the consonant deletion process. The interaction between frequency effects and other factors has also been found in studies of child language acquisition. For example, Naigles and Hoff-Ginsberg (1998) found that both overall frequency in the input as well as frequency of occurrence in final-utterance position predict the order in which children learned verbs.

There is some evidence that the frequency of linguistic contexts plays a role in children's acquisition of morphosyntactic variation and of subject pronoun expression in particular. In Shin's (2016) study of 154 monolingual Spanish-speaking children in Mexico, ages 6 to 16, first-person singular (1sg) and switch-reference contexts favored pronoun expression among children of all age groups. In contrast, imperfect verbs significantly favored pronoun expression among children ages 10 and older, but not among 6/7- and 8/9-year-olds. These findings can be explained by the frequency of the conditioning contexts: 1sg and switch-reference contexts are more frequent than imperfect verbs in Spanish discourse in general. Furthermore, the results suggest that frequency trumps any difficulty associated with discourse-pragmatics, since in this case the discourse-pragmatic factor switch-reference is acquired earlier than the morphological factor TMA.

This study: Subject pronoun expression among school-age children in the U.S.

The current study tests the Interface and Frequency Hypotheses by examining subject pronoun expression in sociolinguistic interviews conducted with 28 bilingual children in the U.S. The data come from Shin's Corpus of Spanish in Washington/Montana. Shin and Van Buren's (2016) study included 6/7/8-year-old children from this same corpus and found that they were similar to monolingual children. Nevertheless, since the full range of constraints on subject pronoun expression takes a long time to develop (Shin 2016), it is possible that divergences between monolinguals and bilinguals will be more evident among older children. Thus, the current study includes children between the ages of six and 17 years old. These children are immersed in Spanish-speaking environments in the home. Yet, English predominates in school. Consider Example (4), which comes from an interview with a nine-year-old girl who lives in Washington State.

- (4) Eva: *¿Tus papás hablan inglés, entienden un poco de inglés?*
 Juana: *Sí.*
 Eva: *¿Pero con ustedes siempre hablan en español?*
 Juana: *Yo y mi hermano hablamos en inglés y dicen “no, mira, no hablen en inglés. Es que no ven que quiero entenderles lo que dicen”.*
 Eva: *¿Y entonces le cambian al español?*
 Juana: *Sí, a veces cuando hablo yo en inglés dice mi hermano, no hables en inglés.*
 Eva: *Y con tus compañeras de la escuela ¿qué hablas, qué idioma?*
 Juana: *Los dos. Yo tengo amigas, casi todas mis amigas hablan en inglés y en español.*
 Eva: *Entonces le pueden cambiar de uno al otro. Y en la escuela ¿qué idioma hablas?*
 Juana: *Inglés.*
 Eva: *¿Las maestras no hablan español?*
 Juana: *Mi maestra de tercer grado sí, nomás esa.*
 Eva: *¿Pero les habla español para explicarles las cosas?*
 Juana: *No, nomás en inglés. Nomás a los que en el primer día como decía “¿Quién no saben inglés?” Nadien puso su mano pa’riba. (Mont404)*
 Eva: *Your parents speak English? They understand a little English?*
 Juana: *Yes.*
 Eva: *But with you all they always speak Spanish?*
 Juana: *My brother and I speak in English and they say “look, don’t speak in English. Don’t you see that I want to understand what you say”.*
 Eva: *And so you switch to Spanish?*
 Juana: *Yes, and sometimes when I speak in English my brother says don’t speak in English.*
 Eva: *And with your schoolmates what do you speak, what language?*
 Juana: *Both. I have friends, almost all of my friends speak in English and in Spanish.*
 Eva: *So you can switch from one to the other. And in the school what language do you speak?*
 Juana: *English.*
 Eva: *The teachers don’t speak Spanish?*
 Juana: *My third grade teacher yes, only that one.*
 Eva: *But she spoke to you all in Spanish to explain things?*
 Juana: *No, only in English. Only to those who on the first day like she said “Who doesn’t speak English?” Nobody raised their hand.*

Example (4) illustrates the typical language acquisition scenario that faces these bilingual children. Spanish abounds in the home, although English seeps in quickly, as is evident from the fact that siblings speak to each other in English. At school,

English is clearly the dominant language. Most of the teachers speak only English. The last part of Juana's excerpt is poignant: the one teacher who supposedly could speak some Spanish only used it on the first day to find out if any of the children could not speak English, and "nobody raised their hand", that is, all the children could speak English by the third grade. It is clear, then, that even children who are mostly immersed in Spanish before they start school experience an increasing amount of exposure to English once they begin school. Given this scenario, it is possible that older school-age children will diverge from monolingual children in their grammatical patterns. Therefore, this study asks the following research question:

1. Do school-age bilingual children show evidence of divergence from monolingual children with respect to constraints on subject pronoun expression, and, if so, do they diverge in their sensitivity to the discourse-pragmatic factor (switch-reference), as predicted by the Interface Hypothesis and/or in their sensitivity to the morphological factor (imperfect), as predicted by the Frequency Hypothesis?

As a secondary question the study also explores overall subject pronoun rates. An examination of pronoun rates is motivated by studies that find that with increased exposure to English, bilinguals produce higher rates of pronoun expression (e.g. Otheguy and Zentella 2012). In addition, proponents of the Interface Hypothesis have argued that bilinguals tend to overuse subject pronouns as a simplification strategy that lightens the processing load associated with phenomena that involve both morphosyntax and discourse-pragmatics (Sorace 2011).

Participants

Shin's Corpus of Spanish in Montana/Washington includes sociolinguistic interviews conducted with families who travel to Montana in the summer to pick cherries (Shin and Van Buren 2016; Van Buren 2017; Villa et al. 2014). The 28 bilingual children selected for this study were all born in the United States.² Most live in Washington the rest of the year, although three live in California. In order to compare the bilingual children in this study with the monolingual children discussed in Shin (2016), the children were divided into three age groups: 6/7/8-year-olds ($N = 11$), 9/10/11-year-olds ($N = 12$), and 12 and older or '12+' ($N = 5$).³

2. The corpus also includes three children who were born in Mexico, two of whom speak Mixteco. These children were not included in the current study.

3. Two anonymous reviewers asked why the ages were grouped this way. Shin (2016) divided 154 monolingual children into four age groups: 6/7, 8/9, 10/11, and 12+. The current data set of bilingual children, however, is smaller. Given that logistic regression is sensitive to sample size,

Methods

A research assistant, who is a native speaker of Mexican Spanish,⁴ conducted sociolinguistic interviews with the children. The younger children also narrated a picture book as part of their interview.

All tensed verbs were extracted from the children's transcribed interviews. Following the guidelines in Otheguy and Zentella (2012: 225–248), contexts in which there is almost no variation between pronoun expression and omission were excluded from the data set. For example, subject pronouns almost never occur in adult Spanish (i) in subject-headed relative clauses, as in *Vi a la chica que (?ella) está al lado de la puerta* 'I saw the girl that (?she) was next to the door'; (ii) to refer to inanimate entities; and (iii) with verbs that refer to weather conditions, as in *hace calor* 'it is hot'. None of the children produced pronouns in these contexts. A context requiring pronoun expression is *ser* 'to be' followed by a pronoun and without a predicate noun or adjective as in *Soy yo* 'It is I'. There was one example of *soy yo* and one of *¿eres tú?* 'Is it you?'; these two tokens were excluded. Also excluded were imperative verbs, as these rarely occur with subject pronouns. The children produced 17 imperative verbs (all with informal second person singular morphology, as in *quédate, mira, apaga* 'stay, look, turn off'). None of the imperatives occurred with an expressed subject pronoun. Finally, subject pronouns *usted, ustedes, and uno* 'you-sg-formal, you-pl-formal' and 'one' were excluded because there were too few tokens of these. The data extraction process yielded a total of 3,319 tokens (6/7/8: 1,261 tokens, 9/10/11: 1,324 tokens, 12+: 734 tokens).

Each token was coded for the dependent variable (expressed or omitted subject pronoun) and the following predictor variables:

1. Switch-reference. Tokens were coded for whether they referred to the same subject of the previous clause (same-reference) or a different reference (switch-reference). Example (2) above illustrates both contexts.
2. Tense-mood-aspect ('TMA'). Each verb was coded as either present indicative (e.g. *bailo, caminas*, 'I dance', 'you walk'), preterit indicative (e.g. *bailé, caminaste*, 'I danced', 'you walked'), or imperfect indicative (e.g. *bailaba, caminabas* 'I used to dance', 'you used to walk'). 94 percent (3,107/3,319) of all tokens appeared in these three verb tenses. Previous research shows that it is

smaller data sets present a greater risk of Type II errors. Grouping the children into three larger groups helps to alleviate any possible concern that any null results are an artifact of sample size. The results obtained in the current study do in fact hold when the children are grouped into four groups.

4. The author thanks Eva Robles Nagata for the data collection.

the imperfect indicative tense in particular that most strongly favors pronoun expression (e.g. Shin 2014). All other verbs ($N = 212$) were included in one category called ‘other’. More specifically, this ‘other’ category included subjunctives ($N = 96$), futures ($N = 72$), conditionals ($N = 2$), and perfective compound forms ($N = 42$).

3. Person/number of the subject (‘person’). Each token was coded as referring to first person singular *yo* ‘I’, second person singular *tú* ‘you’, third person singular *él* or *ella* ‘he’ or ‘she’, first person plural *nosotros* or *nosotras* ‘we’, or third person plural *ellos* or *ellas* ‘they’. As mentioned above, *usted* ‘you-formal’, *ustedes* ‘you-plural’, and *uno* ‘one’ were not included in the study.

Mixed effects binary logistic regression analyses were performed in R (R Development Core Team 2009). In addition to the three predictor variables, Participant was included as a random variable to ensure that the results are generalizable to the group. Constraints that have been shown to favor pronoun omission were chosen as reference levels; these were: same-reference, preterit, and *ellos/ellas*. No interactions were included in the final models for two reasons. First and foremost, there were no significant interactions for any fixed effects for age groups 6/7/8 and 12+. Second, for the 9/10/11-year-olds, only one interaction was significant: switch-reference by ‘other verbs’ decreased the likelihood of pronoun expression ($p = .03$). This result, which is difficult to interpret,⁵ did not change the results for the main effects, and thus is not germane to the current study.

Results

Tables 1–3 present the results for the binary logistic regressions measuring the impact of switch-reference, TMA, and person on subject pronoun expression among bilingual 6/7/8-year-olds, 9/10/11-year-olds, and 12+-year-olds. RL stands for reference level. Significance values are indicated by asterisks: *** = $p < .0001$, ** = $p < .001$, and * = $p < .01$. The application value in all models was subject pronoun expression. As such, positive z values associated with significant p values indicate that a constraint favors pronoun expression; negative z values indicate that a constraint favors pronoun omission.

5. This result is difficult to interpret because switch-reference is a strong predictor of pronoun expression as a main effect and ‘other verbs’ is not significant as a main effect. In addition, the ‘other verb’ category is not fine-grained enough to offer an interpretation. Further, this study is primarily focused on acquiring constraints that favor pronoun expression rather than those that favor omission because learning to express subject pronouns is the challenge that faces Spanish-speaking children (Grinstead 2004).

Table 1. Mixed effects regression, subject pronoun expression, ages 6/7/8 ($N = 11$)

	N tokens	Estimate	Std. Error	z value	p value
(Intercept)		-3.07	.31	-9.87	< 2e-16***
Switch-Reference (RL: Same-reference, $N = 630$)					
Switch	631	1.00	.18	5.62	1.95e-.08**
TMA (RL: Preterit, $N = 404$)					
Other	49	-.10	.48	-.20	.84
Imperfect	199	.34	.25	1.38	.16
Present	609	.17	.20	.82	.41
Person (RL: <i>ellos/ellas</i> , $N = 196$)					
1sg	364	.91	.28	3.23	.001**
3sg	444	.80	.28	2.84	.005**
2sg	70	-.06	.48	-.13	.89
1pl	187	-.92	.44	-2.08	.04*

†Variables included in regression: Fixed = Person, Reference, TMA; Random = Participant

Table 2. Mixed effects regression, subject pronoun expression, ages 9/10/11 ($N = 12$)

	N tokens	Estimate	Std. Error	z value	p value
(Intercept)		-2.73	.33	-8.27	< 2e-16***
Switch-Reference (RL: Same-reference, $N = 706$)					
Switch	618	.55	.16	3.55	.0004***
TMA (RL: Preterit, $N = 348$)					
Other	106	-.21	.34	-.62	.53
Imperfect	206	.37	.25	1.48	.14
Present	664	.26	.20	1.34	.18
Person (RL: <i>ellos/ellas</i> , $N = 182$)					
1sg	480	1.07	.27	3.93	8.52e-05***
3sg	427	.83	.28	2.93	.003**
2sg	67	-.20	.47	-.42	.67
1pl	168	-1.00	.46	-2.17	.0004***

†Variables included in regression: Fixed = Person, Reference, TMA; Random = Participant

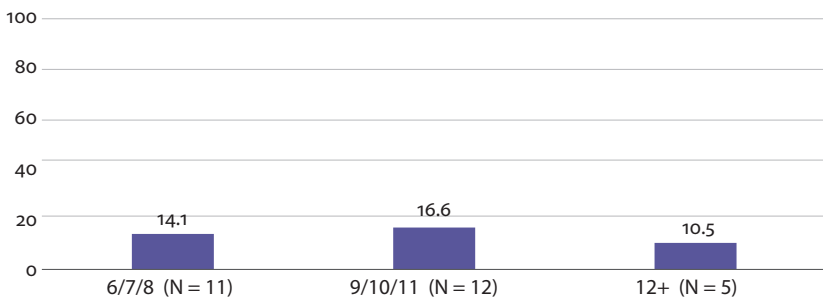
Table 3. Mixed effects regression, subject pronoun expression, ages 12+ ($N = 5$)

	N tokens	Estimate	Std. Error	z value	p value
(Intercept)		-3.03	.58	-5.26	***
Switch-Reference (RL: Same-reference, $N = 365$)					
Switch	369	.72	.26	2.7	.006**
TMA (RL: Preterit, $N = 142$)					
Other	57	.32	.50	.64	.52
Imperfect	133	-.02	.41	-.05	.96
Present	402	-.55	.35	-1.56	.12
Person (RL: <i>ellos/ellas</i> , $N = 119$)					
1sg	297	1.00	.38	2.62	.008**
3sg	151	-.31	.47	-.66	.51
2sg	43	-1.19	1.07	-1.11	.27
1pl	124	-2.23	1.06	-2.16	.03*

†Variables included in regression: Fixed = Person, Reference, TMA; Random = Participant

The results in Tables 1–3 show a grammatical pattern that is almost entirely stable across age groups: switch-reference and 1sg contexts significantly favor pronoun expression; 1pl contexts significantly favor pronoun omission. No TMA factors significantly constrain the children’s pronoun use. The only difference between the age groups is that for the younger groups, 3sg favors pronoun expression, but this context is not significant for the 12+ group.

A secondary question explored in this study is whether bilingualism and/or contact with English results in higher rates of subject pronouns overall, which could reflect a simplification strategy (Sorace 2011). Cross-tabulations show that bilingual children’s subject pronoun rate was 14.3%. Dividing the children into age groups demonstrates that pronoun rates do not increase with age in this data sample; instead, the 12+-year-olds produced the lowest rate (Figure 1).

**Figure 1.** Pronoun rates, bilingual children in the U.S., by age groups

It is worth noting that the 12+-year-olds' rate is the same as the rate Shin (2016) found for 12+-year-old monolingual children in Mexico. This indicates that the older bilingual children in this study do not diverge from monolingual children in terms of their overall pronoun rates.

In order to further explore possible developmental change, a Pearson correlation test was performed investigating the relationship between age in months and pronoun rates (both continuous variables). The lack of a significant correlation between age and pronoun rate [$r(26) = -.22, p = .26$] is illustrated in Figure 2.

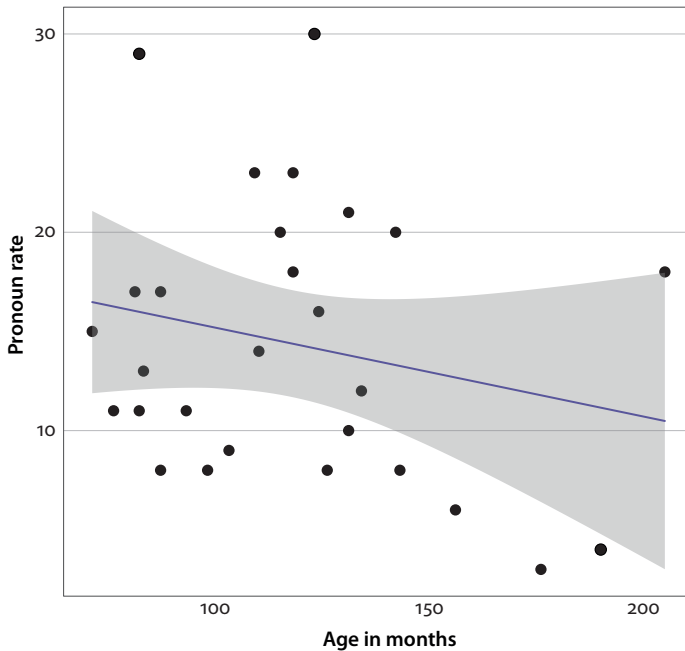


Figure 2. Pronoun rate by age expressed in months, 28 bilingual children

In summary, with respect to overall pronoun expression rates, there is no evidence of change with age among the bilingual children included in the current study.

Discussion

The goal of this study was to investigate whether school-age bilingual children differ from monolingual children in their subject pronoun use and, if so, whether the differences support the Interface Hypothesis or the Frequency Hypothesis. In order to compare the bilingual children with monolingual children, this discussion

draws on Shin's (2016) study of 154 monolingual children in Mexico, ages 6 to 16 years old. The bilingual children's pronoun use demonstrated the effects of switch-reference and grammatical person, but not TMA. In contrast, monolingual children in Mexico show evidence of a developmental trajectory whereby more factors, including TMA, constrain pronoun use as children grow older. In particular, imperfect verbs favored pronoun expression among children ages 10 and older. Together, these findings suggest that whereas monolingual children develop sensitivity to this TMA effect overtime, bilingual children are either delayed in their acquisition of this effect or they never acquire it.⁶

Recall that the Interface Hypothesis predicts that monolingual and bilingual children's grammars will diverge especially when morphosyntactic structures are constrained by discourse-pragmatics and less so or not at all when these structures are constrained by morphology or semantics. Since subject pronoun expression is constrained by both discourse-pragmatic and morphological factors, it offers an ideal way to test the Interface Hypothesis. In this study, the bilingual children's subject pronoun use was constrained by the discourse-pragmatic factor, but not TMA, a morphological constraint.⁷ These results contradict the Interface Hypothesis, and instead support a frequency-based explanation: switch-reference contexts are more frequent than imperfect verbs are. For example, in the current study, switch-reference contexts comprised almost half the data set (49%, 1,618/3,319), whereas imperfect verbs comprised only 16% (538/3,319). Moreover, expressed subject pronouns are relatively infrequent in general. The adults in Shin's Corpus of Spanish in Washington/Montana expressed pronouns at a rate of 22% (Shin and Van Buren 2016). In other words, most of the time adults omit subject pronouns. The scarcity of expressed subject pronouns translates into limited opportunities for children to observe the distribution of expressed subjects in the input, and this is especially true for expressed pronouns with imperfect verbs. Even though imperfect verbs favor pronoun expression among the adults in the farmworker community (Shin and Van Buren 2016), it is likely that the infrequency of pronouns in general,

6. It is important to note that this does not imply a deficit oriented view of bilingual grammars. Bilinguals of course may introduce other complexities into the grammar.

7. An anonymous reviewer rightly points out that Person could also be considered a morphological constraint, especially since the most marked differences in pronoun expression are between the singular grammatical persons and the plural ones. This is further evidence that the development of constraints on morphosyntactic variation is not guided by the type of interface (e.g. discourse versus morphology). A frequency effect could also be invoked for the early learning of the Person constraint, as there are more opportunities to observe which grammatical persons occur with expressed subjects and which rarely do.

coupled with the infrequency of imperfect verbs as a conditioning context, make this constraint particularly difficult to detect and learn.

Although it is by now clear that frequency effects play an important role in determining which structures are learned first, how frequency should be implemented in a model of language acquisition has yet to be resolved. One complication is that not every token experienced is retained in memory as an 'exemplar', which can be defined as a detailed perceptual memory made up of tokens that are perceived to be the same (Pierrehumbert 2001: 141). Some memories degrade, and certain experiences are more likely to be committed to memory than others (Pierrehumbert 2001, 2006). For example, Foulkes and Hay (2015: 306) write that "only *important* experiences are committed to memory (Pierrehumbert 2006: 525). Thus, highly frequent items such as function words are unlikely to be memorized as often as less frequent but highly informative content words." In summary, while there is no doubt that any model of language acquisition should be able to account for token frequency effects, which are undeniably influential in language development (Ambridge 2019; Ambridge et al. 2015), the relationship between token frequency and which tokens are retained in linguistic representation remains an open question.

The study also examined overall pronoun rates, in particular because increased exposure to English and/or bilingualism results in higher rates of pronoun expression in Spanish in some communities (e.g. Otheguy and Zentella 2012). The general profile of the children in the current study, who were all born in the U.S., suggests that exposure to and use of English increases with age. The results, however, showed no increase in pronoun expression with age. Furthermore, the bilingual 12+-year-olds' rate was identical to the rate Shin (2016) found for 12+-year-old monolingual children in Mexico. At the same time, Shin (2016) found that pronoun rates increased with age among monolingual children. It is thus possible that the lack of an increase in pronoun rates with age is the result of relatively high pronoun rates among the younger children in this study. If this is the case, then elevated pronoun rates during the younger years could be indicative of a bilingual effect that perhaps dissipates as children grow older. On the other hand, Shin and Van Buren (2016) found no significant difference between 6–8-year-olds monolingual children's pronoun rates and the rates found among Washington-born 6–8-year-olds, all of whom were also included in the current study. In summary, the current study finds a bilingual effect with respect to acquisition of constraints on variation, but there is no clear ramification for pronoun rates in general. These results support the view that in this population, bilingualism itself, rather than contact with English in particular, results in changes in the grammar of subject pronoun expression (e.g., Michnowicz 2015, but also see Otheguy and Zentella 2012 and Shin and Montes-Alcalá 2014).

Conclusion

This study tested the Interface and Frequency Hypotheses by examining older bilingual children's subject pronoun use. Results showed that, like monolingual children, the bilingual children were sensitive to switch-reference, a discourse variable. In contrast, the bilingual children's pronoun use was not constrained by TMA, a morphological variable. These results do not support the Interface Hypothesis, which predicts that discourse-pragmatic constraints on morphosyntactic variation are more difficult to acquire than morphological constraints. Instead, frequency effects can explain the findings: the more frequent the constraint, the earlier it is acquired. More generally, the study fits with the perspective that grammatical patterns emerge based on experience with language (e.g. Chevrot, Dugua, and Fayol 2009; Tomasello 2003) and extends this usage-based explanation of how children acquire grammar to the acquisition of morphosyntactic variation.

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Acquiring social and linguistic competence

A study on morphological variation in Jakarta Indonesian preschoolers' speech

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The present chapter discusses the acquisition of social and linguistic constraints by Jakarta Indonesian preschoolers. We examine the morphological aspects in two Indonesian varieties, namely Bahasa Indonesia (BI) and Colloquial Jakarta Indonesian (CJI), focusing on the use of transitivity and intransitivity marking verbal prefixes. Data in this study come from two periods of interviews in formal and informal settings with a six-month interval. Participants in this study are children of middle-class families ($N = 63$). We investigate whether they use BI prefixes and CJI prefixes appropriately in terms of situations and morphological rules. Findings in this study indicate that these children acquire the social and grammatical constraints at the same time in the informal situation.

Keywords: constraints, morphological variation, preschoolers, Indonesian, Jakarta

1. Introduction

When children are dealing with language in interaction, they are not only learning how to use the language correctly in terms of grammatical rules but also using it in a socially acceptable and appropriate manner. They have to pay attention to the fact that in different social settings different varieties of the language are used. In other words, children have to learn stylistic abilities, a process that is affirmed by Roberts (2005) as an integral part of language acquisition. An important question that is addressed in this paper is the timing of the acquisition of the socio-stylistic competence.

A pioneering study on the acquisition of Standard English by Labov (1964) suggests that adult-like patterns of variation emerge in adolescence. Yet, succeeding

works have found that stylistic variation can be acquired earlier (see Nardy et al. 2013). Reid (1978), Romaine (1984), Labov (1989), and Chevrot et al. (2000) showed that such competence emerges in pre-adolescence. Other studies by Roberts (1994 and 1997), Foulkes et al. (2001 and 2005), and Smith et al. (2007, 2013) found that even children as young as three years old can show stylistic variation in certain interactions.

There are various answers when it comes to the question of the sequence of the acquisition: are social or linguistic constraints acquired first, or are both acquired simultaneously? Some studies find that the constraints are acquired at the same time, for example in Trinidadian Creole and Standard English (Youssef 1991). On the other hand, studies on *t/d* deletion by Roberts (1994) and on *(-s)* by Smith et al. (2007) found that social and grammatical constraints are not simultaneously acquired. These various findings indicate that “the complex linguistic and social correlates of a particular variable will have a significant effect on what is acquired when” (Smith et al. 2013: 287).

The present chapter will address the aforementioned issue with data from Indonesian-speaking preschoolers who live in Jakarta, the capital of Indonesia. Our focus is on morphological variation in two Indonesian varieties, namely Bahasa Indonesia (hence BI) and Colloquial Jakarta Indonesian (CJI). The question to be addressed is whether children in Jakarta acquire the social and linguistic constraints at the same time. This is part of a study on the acquisition of stylistic variation by Jakarta Indonesian children (Kushartanti 2014). In this chapter, we observe the use of transitive and intransitive marker prefixes in both varieties, especially how children use it appropriately in formal and informal situations. The observed BI prefixes {*meN-*} [mən] and {*ber-*} [bər], appear more frequently in formal situations, and their CJI counterparts, namely the zero, nasal, and {*nge-*} [ŋə] prefixes, show up more frequently in informal situations.

The data source of this study comes from children’s speech utterances, obtained from interviews in different settings and situations which were conducted in two periods with a six-month interval. Sixty-three children were between 3;0 and 4;5 in the first data collection. The children were selected from three private preschools in Jakarta. The children in this study come from middle class families, and they are the second generation of those who acquired Indonesian as their first language.¹

In Section 2, we present a brief overview of the sociolinguistic situation in Jakarta, with a special focus on the functions of BI and CJI. In Section 3, the observed prefixes and their morphological rules are introduced. The children participants and methodology are described in Section 4. A description of children’s

1. Steinhauer (1994) noted that Indonesian has been the first language for many of Indonesians in the last four decades. See also Ananta et al. (2015) for the increasing number of users.

stylistic input is given in Section 5. The general results are presented in Sections 6 (stylistic profile of the children) and 7 (stylistic differences in the use of morphological rules in different situations). Section 8 presents a more detailed analysis and discussion of the acquisition of stylistic variation by Jakarta children. In Section 9, the question about the order of acquisition of social and linguistic constraints is answered. A brief conclusion is presented in Section 10.

2. An overview of Jakarta's sociolinguistic situation and its impact on children

Jakarta is a multicultural city. It is mainly dominated by Javanese migrant ethnic groups who originated from Central and East Java (36.2%), followed by Betawi – the local ethnic group (28.3%), Sundanese who originated from West Java (14.6%), Chinese descendants (6.6%), and Batak, who come from East Sumatra (3.4%) (see Ananta et al. 2015). Other ethnic groups come from all around Indonesia, such as Minangkabau (West Sumatra), Madurese (Madura), Malay (Riau Islands), Buginese (South Sulawesi), etc. There are also foreign descendants such as Arabs and Indians who live in the city, as well as expatriates. Jakarta is the most densely populated city in Indonesia, especially on weekdays, when people from the neighboring areas – Bogor, Depok, Tangerang, Bekasi – commute to work.

Jakarta is also a multilingual city. Many of the ethnic groups in Jakarta, as in other areas in Indonesia, still speak their own language, but mainly they speak Indonesian (for statistical data which based on National Population Census 2010, see Na'im and Syaputra 2011). Some of them also speak a foreign language, especially English. The languages in Jakarta have their respective function in daily life. We can say that, generally, the inhabitants of Jakarta are not monolinguals.

One of the obvious consequences of the demographic situation in Jakarta is inter-ethnic marriage, which has an impact on both the identity formation and language use and language choice. This means that children will be confronted with a variety of languages, especially in families in which parents are working and they handover the parenting to other caregivers, often grandparents (see also Kushartanti 2014; Kushartanti et al. 2015). In other words, children are raised not only by those who speak Indonesian and the language of origin but may also be raised by those who speak other languages. In today's Indonesia, Indonesian is regarded as the first language of younger generations (see Samuel 2005/2008; Sarwono 2014).

Indonesian spoken in Jakarta has at least two varieties, each having its own function: Bahasa Indonesia (BI) spoken in formal and Colloquial Jakarta Indonesian (CJI) in informal situations. BI is acquired and largely used in formal education

and used in most written forms of communication, and for formal (spoken) purposes, such as church ceremonies. It is the language taught as a main subject at schools, from elementary school to high school. Educated people are considered to have proficiency in BI (Tilden 1985; Alwi et al. 2000; Sneddon 2006). In 1988, the Indonesian government institutionalized the grammar of BI as the standard grammar of Indonesia. Meanwhile, CJI is used as the means of informal communication. Due to the use of this variety in films and television serials which are nationally aired, it has gained its current position as a prestigious variety, next to BI. Both BI – the standard, formal variety – and CJI – the informal variety – are used in daily communication, because of their respective functions (Oetomo 1990; Steinhauer 1994; Purwo 1997; Alwi *et al* 2000; Sneddon 2006).

In general, the informal variety of Indonesian is Jakarta children's first language (Wouk 1989 and 1999), which is generally learned at home. Generally, the formal variety is learned by means of formal instruction and a communication tool in class in school. Nowadays it is also introduced earlier. Between family members, both varieties have their own functions. They use CJI in daily conversations in casual situations. BI is used by parents for, mainly, storytelling. Many of them also use BI for showing their anger, admonishing, warning, or explaining something to their children (see Kushartanti *et al* 2010; Kushartanti et al. 2015).

By the time they are enrolled to school, as young as toddlers, children have been exposed to the use of both Indonesian varieties. It is common that adults use BI and CJI on the same occasion but with a different function. Here we present an example, taken from a story-telling session in a playgroup in which a teacher reads a book for the children (Kushartanti 2006; Kushartanti, 2014: 30–31):

1. (pointing at the picture)
Pada suatu hari, sang putri sedang ber-jalan-jalan di hutan.
 on a day Pers.PRT princess PROG ACT.INTR.- walk~DEINT in forest
2. *Dia harus men-cari buah-buahan.*
 3SG must ACT.TR- search fruit~PL-NOUN
 'One day, the princess was strolling in the forest. She must find some fruit'
 (talking to the children)
3. *Tuh, sama siapa dia Ø-jalan-jalan?*
 that with who 3SG ACT.INTR.- walk~DEINT
4. *Oh, sama burung hantu, sama kelinci-nya, sama siapa lagi ya?*
 oh with bird ghost with rabbit-DET with who again yes
 'There, with whom does she stroll? Oh, she walks along with the owl and the rabbit, who else?'
 (continuing the story)

5. *Kemudian, dia me-lepas-kan mantel-nya dan duduk di*
 Then 3SG ACT.TR- take.off-TR coat-POSS and sit on
se-buah batu.
 ONE-fruit stone
 'And then, she takes off her coat and sits on a rock'
 (talking to the children)
6. *Nah, terus dia duduk ni. Mungkin dia capek ya?*
 EXCL then 3SG sit this maybe 3SG tired yes
7. *Liat, dia lagi duduk di mana?*
 Look 3SG PROG sit on where
 'So, she sits. She may be tired, may not she? Look, where is she sitting?'

In the example above, the teacher used two varieties to distinguish the content of the story (lines 1–2 and line 5, in BI) from what she wants to converse with the children (lines 3–4 and lines 6–7 in CJI). At the same time children learn how to use both formal and informal varieties, by distinguishing the lexical forms, such as *berjalan-jalan* (BI) vs *jalan-jalan* (CJI), *sedang* (BI) vs *lagi* (CJI), or *dengan* (BI) vs *sama* (CJI), etc. As children expand their social life, they learn how to use the appropriate variety in different situations.

Of course, BI and CJI differ in many respects (see Kushartanti 2014: 29–59), such as their phonology, morphology (both derivational and inflectional), to some extent at the syntactical level (Sneddon 2006). However, we will concentrate here on some morpho-syntactic phenomena in the following section, a discussion based on Sneddon (2006) and Wouk (1989).

3. The observed prefixes and the morphological rules

The transitive marker prefix in BI, {*meN-*}, has several allomorphs that are mostly the result of assimilation with the onset of the following stem. They are: (1) /*mem-*/ [məm] (as in *mem-beli* [məm-bəli] 'to buy' or, *mem-fitnah* [məm-fltnah] 'to accuse falsely', *mem-(p)otong* [məm-ɔtɔŋ] 'to cut'); (2) /*men-*/ [mən] (as in *men-dapat* [mən-dapat] 'to get' or *men-(t)ari* [mən-ari] 'to dance'); (3) /*meny-*/ [məŋ] (as in *men-jual* [məŋ-ju^wal] 'to sell', *men-cari* [məŋ-cari] 'to search', *meny-(s)apu* [məŋ-apu] 'to sweep'); (4) /*meng-*/ [məŋ] (as in *meng-(k)unyah* [məŋ-ŋəh] 'to chew', *meng-gigit* [məŋ-gigIt] 'to bite', *meng-ajak* [məŋ-adjak] 'to invite'); (5) /*me-*/ [mə] (as in *me-rokok* [mə-rɔkɔʔ] 'to smoke', *me-lompat* [mə-lɔmpat] 'to jump', *me-warna* [mə-warna] 'to become colored', *me-nyanyi* [mə-ŋaŋi] 'to sing'); and (6) /*menge-*/ [məŋə] (as in *menge-lap* [məŋəlap] 'to wipe').

{*meN-*} and its allomorphs have their counterparts in CJI (see also Sneddon 2006). It may have no overt prefix at all (such as Ø-*potong* [pɔtɔŋ] ‘to cut’ or Ø-*kunyah* [kuŋah] ‘to chew’) or it may come as nasal prefix corresponding with the BI prefix *meN-*, for example, *motong* [mɔtɔŋ] ‘to cut’, [nari] ‘to dance’), /ny-/ [ŋ] (in [ŋapu] ‘to sweep’), or /ng-/ [ŋ] (in [ngunyah] ‘to chew’). The allomorph /nge-/ [ŋə] is often used by young adults for verbs of which the stem is a loan word, such as in *nge-prin* [ŋə-prɪn] ‘to print-out’. The summary of the allomorphs {*meN-*} and its variants in CJI is presented in Appendix 1.

The intransitive marker prefix in BI, {*ber-*}, has an allomorph that is conditioned syntactically (as in *bercerita* [bɛrcɛrita] ‘to tell a story’), /*ber-*/ [bɛr] which has no restriction {connected to / as regards} the category of the stem (but some exception can be viewed in Table 2). Another allomorph is conditioned phonologically, namely /*be-*/ [bɛ] which precedes any stem whose first closed syllable contains the phonemes /-ər-/ (such as in [bɛ-kərja] ‘to work’) and any stem whose onset is /r/ (in [bɛ-rambUt] ‘to have hair’). Another allomorph is /*bel-*/ [bɛl] which precedes only with the stem *ajar* (in [bɛlədjar] ‘to study’) that is also shared with CJI.

The allomorphs of the intransitive markers in CJI are more diverse, as they are also conditioned by the category of the stem (Wouk 1989). First, the occurrence of {*ber-*} may be possible. There can be no overt prefix in a given word, yet it corresponds with another in BI whose prefix is {*ber-*} (for example, *bercerita* [bɛrcɛrita] ~ Ø-*cerita* [cɛrita]). There can also be no overt prefix, as the aforementioned one, but the stem occurs with suffix {-*an*} (*duaan* [du^waʔan] ‘in private’). The occurrence of nasal prefix that also corresponds with {*ber-*} is another possibility.

In CJI, besides /*bel-*/ which is shared with BI, {*ber-*} has two other allomorphs: (1) /*be-*/ [bɛ], which precedes stems whose onsets are consonants (as in *bedua* [bɛdu^wa] ‘both of ~’); and (2) /*br-*/ which precedes stems whose onsets are vowels (as in *brangkat* [brʌŋkat] ‘to leave’). The prefix {*ber-*} is sometimes retained in some denominals (as in *ber-sarung* [bɛr-sarUŋ] ‘wearing sarong’) and denumerals (as in *ber-satu* [bɛr-satu] ‘to unite’) as well as in the bound verbal stem in *ber-kibar* [bɛr-kibar] ‘flutter’ (see also Kushartanti 2014: 169–171). The summary of the allomorphs {*ber-*} and its variants in CJI is presented in Appendix 2.

4. Method

Sixty-three children, between 3;0 and 4;5 in the first data collection, participated in this study. The children were selected from three private preschools – one Catholic, one Islamic, and one non-denominational – located in the Jakarta. All of the children in this study come from middle class families, and they are the second generation of the first language speakers of Indonesian. The teachers allowed us to

interact with the children in all activities, which gave us the opportunity to observe the children and select the candidates to be involved in the study. We selected children that were capable to communicate with others, talkative, and cooperative. The children were grouped into three cohorts. The number of children in each cohort split up by gender is presented in Table 1. The table also provides information on the age of the children in the first and the second periods of data collection.

Table 1. Children in this study (split up by gender and cohort)

Cohort	Age		Gender		Total
	1st period of data collection	2nd period of data collection	Boy	Girl	
1	3;0 – 3;5	3;6 – 3;11	6	7	13
2	3;6 – 3;11	4;0 – 4;5	12	9	21
3	4;0 – 4;5	4;6 – 4;11	13	16	29
	Total		31	32	63

Obtaining children's speech data

We conducted interviews at school in two periods with a six-month interval. Children were individually interviewed in two different sessions, conditioned by setting and style: formal- and informal-conditioned situations. The distinction between the conditions was not only reflected in the language use by the interviewers, but also by the behavior of the interviewers, their age, and the location. The fact that the interviews were held during school hours makes the whole context formal, in a sense, as BI is the 'standard' at school. This is the main reason for extra attention to distinguish the two situations.

Each respective session was conducted by a respective female interviewer who used the variety that represented the style. The two interviewers spoke and behaved differently towards the children. In the formal-conditioned interview, the interviewer consistently used BI. She also spoke BI during her presence at school. She was in her early 40's and behaved as a mother to the children – as most teachers at these schools do. She conducted the interview in the classroom. In the informal-conditioned interview, the interviewer consistently used CJI all the time. She was in her early 20's and posed as a big sister to the children. She conducted the interview in the playground or playing room. Interviewers' attire was the same: they wore semi-formal dresses.

All sessions were conducted in voice- and camera recorder upon children's knowledge. We gave these children some time to get used to the equipment, especially when we approached them. To get more familiar with the interview sessions,

we also let children role-played in front of the camera using pictures that were not used in the real interviews.

In the interview sessions, we used different scenarios which were composed from serial pictures to elicit children's speech production. The pictures were water-colored on A4-sized laminated paper. Attached to each picture was a small white paper containing sentences that should be said by the interviewers. The attaching paper also contained the target words in the elicitation tasks. We also used filler questions exploring the pictures. In the first period, we used Scenarios A and B, and in the second period Scenarios C and D. The scenarios have topics that are familiar to both genders (a story about market, birthday party, and activities during holidays), and both BI and CJI could be used in the interviews. There were nine elicitation items in Scenarios A and B, and eight elicitation items in Scenarios C and D respectively. All elicitation items are presented in Appendix 3.

The main elicitation items in the scenarios are questions that targeted verbs containing the observed prefixes. We asked a child to describe the actions on the pictures as pointed out by the interviewers. Two different versions of questions, having the meaning of 'what is s/he doing' or 'what are they doing', were used in BI and CJI as follows (see also Kushartanti 2014: 78).

BI	CJI
<i>Dia sedang apa?</i>	<i>Dia lagi ng- apa -in?</i>
3SG PROG what	3SG PROG ACT- what -ACT
'what is s/he doing?'	'what is s/he doing?'
<i>Mereka sedang apa?</i>	<i>Mereka lagi ng- apa -in?</i>
3PL PROG what	3PL PROG ACT- what -ACT
'what are they doing?'	'what are they doing?'

Both interviewers and formal-informal settings used the same scenario at the same time point of data collection. All children had the same scenarios, but each cohort was divided into two sub-cohorts. Half of each cohort had Scenario A in the formal setting (in BI), while the other half had it in the informal setting (in CJI). In the second session of the interview, which was conducted with an interval of at least two days, we switched the order of settings and the children all had Scenario B. The tasks and orders of the interviews were the same in the second period of data collection, and now we used Scenarios C and D.² We triggered the children to use BI in the formal settings and CJI in the informal settings. However, their speech was more variable and diverse.

2. We designed and changed the scenarios to avoid "carryover effect" (following Myers et al. 2010) that might influence children's behaviour.

In the interviews, we elicited targeted answers and spontaneous speech, including children's responses to the filler questions. In the data corpus, there are also children's utterances that are repetitions from utterances by the interviewer when the latter posed questions or mentioned something. Nevertheless, these repeated utterances are not part of the data set used in this study. We had elliptical utterances, as was to be expected, for instance sentences only containing a verb.

There are four kinds of verbs the categorization of which is based on the varieties: BI verbs (BIV) as exemplified in (1); CJI verbs (CJIV) as in (2), mixed verbs (at the lexical level, mixed word is the combination of certain BI affixes and CJI words or vice versa) as in (3), and unmarked verbs as in (4):

- (1) *Sedang ber- jalan* or *Ber- jalan*
 PROG ACT.INT- walk ACT.INT- walk
 '(s.o. is) walking' 'walking'
- (2) *Lagi Ø- jalan* or *Ø- jalan*
 PROG ACT.INTR walk ACT.INTR walk
 '(s.o. is) walking' 'walking'
- (3) *Meny- (c)opot- in bunga*
 ACT.TR- pull- -TR flower
 (BI) (CJI) (unmarked)
 '(s.o) is pulling (a) flower'
- (4) *Di-³ ambil*
 PASS- take
 '(it is) taken (by s.o.)³

In the present chapter, BIV and CJIV – with and without the observed prefixes – are used for two aims: (1) to examine children's stylistic profiles and (2) to investigate children's capability in assessing both situations and using morphological rules. For the first aim, we used only BIV and CJIV. The unmarked and mixed verbs were excluded. For the second aim, which is the main goal of our study, we used verbs containing the observed prefixes, including the mixed verbs.

3. *di-* is a passive marker prefix which is found in both BI and CJI structures.

5. Children's stylistic input

5.1 Obtaining information on linguistic input

In order to provide an illustration of children's linguistic input, this study is supported by our observations on their activities at school and the responses on parental questionnaires. We observed their interactions with other people at school (teachers, helpers, and friends) and how they used languages in different settings and situations at school.

Other sources on children's linguistic input are two kinds of parental questionnaires. The first questionnaire, distributed once we selected the children, aimed at getting personal information about the children and their background, including information on activities after school, parents' ethnic group, parents' occupation, main caregiver at home, the languages used at home, and the caregiver's time spent with the child. We also collected information about the use of BI at home. The second questionnaire, distributed to all parents at school (see Kushartanti et al. 2010), contained information on parents' language use and attitude. There are BI, CJI, foreign language, and regional language as the language choices that are used to educate children, teach appropriate language behavior, and talk about children's favorite topics.

5.2 Stylistic input

Based on the questionnaires, we learned that all children in this study were raised by a woman as the main caregiver: mothers, grandmothers, nannies, or female servants. Many of the caregivers were present at school, when taking the children to school or picking them up after school. We observed that these caregivers mainly spoke CJI with the children.

As we observed at school, these children were also more exposed to CJI than to BI when they interacted with teachers, helpers, and friends. The teachers used CJI during playing time and mealtime, whereas the helpers used it when they changed the children's clothes or accompanied them to the toilet. CJI was also used among children when they were chatting. Teachers used BI when they were teaching, leading prayer, and when they issued warnings to children. With their peers, children also used BI when they were role-playing, inside and outside the classroom.

From the first parental questionnaires (filled out by all of the 63 selected children's parents), we found that the majority of the children ($N = 59$ or 94%) were born in Jakarta. The others moved to Jakarta before their first birthday. The caregivers mainly spoke Indonesian to the children (but they did not specifically mention the variety). Information from the second parental questionnaires (of 63 children

who participated, we received 58 returned) revealed that a majority of these children (37 out of 58) come from interethnic marriages. Therefore, as claimed by the parents, many of these children use Indonesian as the language at home, instead of the regional language(s) from both parents. Parents also claimed that these children have BI input – instead of CJI – at the most when the parents educated them, trained appropriate language behavior, and talked about the children’s favorite topics. It is the variety which is claimed to be used in a wide variety of situations. Many of the parents have a positive attitude towards BI,⁴ considering it a language to be learned and used at a very young age (see also Kushartanti et al. 2010).

Based on the results from both observations and the two parental questionnaires, we can conclude that all these children have already been confronted with the two Indonesian varieties (and several other languages). It is confirmed that they were capable of – at least – understanding both BI and CJI. The majority of children were able to answer all the questions in both formal and informal interviews. The finding indicates that they understood both varieties.

6. Assessing children’s stylistic profile

This section discusses an overview of BI and CJI, based on how children used BIV and CJIV in their utterances. We included both kinds of verbs with non-observed affixes, such as *ter-* and *ke-* (both are passive involuntary marker prefixes in BIV and CJIV respectively), *-kan*, *-i* (active transitive marker suffixes in BIV) and *-in* (active transitive marker suffix in CJIV). We excluded the mixed and unmarked verbs, as well as verbs that were repeated from the interviewers’ speech.

It is observed that the ratio distribution of the use of both verbs in children’s utterances was unequal, as illustrated in Figure 1. In both situations, children used much more CJIV than BIV. Nevertheless, there was a tendency that BI was used more frequently in the formal than in the informal situation, as can be BIV seen in Figure 1. The figure presents the mean scores of the individual ratio, in both situations (see also Appendix 4).

4. In our previous study (Kushartanti et al. 2010) we discussed in more detail the use of questionnaires in this setting. We are fully aware of the drawbacks of using questionnaires, getting socially desired answers, asking questions about language choice in the context of education. Bahasa Indonesia represents the norm, advancement and modernization, and people want to affiliate themselves with that. This fact might point in the direction that the respondents formulated their ideal, not so much the practice. This is also in line with Smith et al. (2013) that adults, in the earlier stage of child language acquisition, use formal forms in addressing their children. Moreover, the majority of respondents in this study are female, who in many societies have the tendency of using the prestige norms and overreporting this usage (see for example, Chambers 2003).

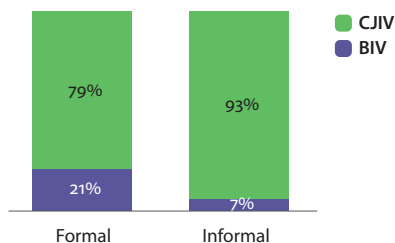


Figure 1. The use of BI and CJI verbs, split up by situation (based on the mean scores of the ratio)

Figure 1 suggests that these children were dominant CJI users. It is important, therefore, to consider the individual stylistic profile of these children. We calculated the difference between individual's scores for CJI in the informal situation and the scores for BI in the formal situation. The formula is as follows:

$$x = ((\text{CJIV}) \text{ informal} - (\text{BIV}) \text{ formal})$$

in which $x =$ the value for the individual's stylistic profile
 CJIV informal = score of individual use of CJI verbs in the informal situation
 BIV formal = score of individual use of BI verbs in the formal situation

This results in five categories: (1) strongly dominant CJI speakers ($+50 \leq x \leq 100$); (2) moderately dominant CJI speakers ($+15 \leq x \leq +50$); (3) balanced CJI-BI speakers ($-15 \leq x \leq +15$); (4) moderately dominant BI speakers ($-15 \leq x \leq -50$); and (5) strongly dominant BI speakers ($-50 \leq x \leq -100$). The number of children in each category, split up by period, is presented in Table 2.

Table 2. Number of children with a specific stylistic profile, split up by period ($N = 63$)

Profile	Period 1	Period 2
Strongly dominant CJI speaker ($+50 \leq x \leq 100$)	48	49
Moderately dominant CJI speaker ($+15 \leq x \leq +50$)	11	9
Balanced CJI-BI speaker* ($-15 \leq x \leq +15$)	4	3
Moderately dominant BI speaker ($-15 \leq x \leq -50$)	0	1
Strongly dominant BI speaker ($-50 \leq x \leq -100$)	0	1

* We observed that these bi-stylistic children had more BI input in many situations outside school, as many parents claimed in parental questionnaires. Changes in stylistic profile over time (except one girl who was still bi-stylistic in the second period; she was very cooperative in both interview settings) were due to personal experience: learning factor (as school), familiarity with the interviewers, and problem with playmates. See also Kushartanti (2014: 144–150) on the profile of the exceptional children.

Table 4 shows that more than 90% of these children are predominantly CJI speakers in both periods (Period 1: 59 out of 63; Period 2: 58 out of 63). It is also shown that there were no BI dominant speakers among the children when we started our study.

7. Applying the morphological rules in different situations

Now we arrive at children's ability to apply BI and CJI morphological rules relating to the prefixes in formal and informal situations. This section will address the question of whether children acquire the social and linguistic competence at the same time. To answer the question, we conducted an analysis in two steps.

The first step was to analyze the distribution of the observed prefixes in order to obtain an illustration on how children employ them in verb formation. There are six variables: the BI variables are (meN) and (ber); the CJI variables are (\emptyset -meN) which corresponds with BI prefix *meN-*, (\emptyset -ber) which corresponds with BI prefix *ber-*, (nasal), and (nge).

The second step was to examine children's capability to assess the given situation and apply the morphological rules at the same time. Thus, we have two factors. The first factor is the child's ability to assess the situation, i.e. whether they used the prefix in appropriate situation: (meN) and (ber) in formal situation; (\emptyset -meN), (\emptyset -ber), (nasal), and (nge) in informal situation. The second factor is the child's mastery of morphological rules, i.e. whether they apply morpho-phonemic and morpho-syntax rules appropriately. We coded the data based on situation and the morphological rules. The former is coded as *sit*, while the latter as *rul*. We also consider the appropriateness of the use when children apply the rule in each given situation. The appropriate use is marked as + and the inappropriate as -. From these criteria, we have a set of data consisting of coded verbs as in the following.

- a. +sit+rul, which means that the use of the prefix in a given verb is appropriate to the situation, and the word formation fits the morphological rule; for example, when a child said *membawa* (*mem-bawa* 'to take') in formal situation, or *dorong* (\emptyset -*dorong* 'to push') in informal situation, the child used the word with the appropriate morphological rules in the appropriate situation;
- b. -sit+rul, which means that the use of the prefix in the given verb is not appropriate to the situation, but the word formation fits the morphological rules in the counterpart situation; for example, when the child said *bawa* (\emptyset -*bawa* 'to take') in the formal situation, or *mendorong* (*men-dorong* 'to push') in the informal situation, the child used an inappropriate word (the wrong variety) but applied a correct morphological rule;

- c. +sit-rul which means that the use of the prefix is appropriate to the situation, but the word formation is inappropriate; for example, when the child said **men-jalan* (**men-jalan*) in the formal situation, the child was actually choosing the prefix that is used in the formal situation but applying an incorrect morphological rule;
- d. -sit-rul which means that both prefix choice and word formation are inappropriate; for example, when the child said **menjalan* (**men-jalan*) in the informal situation, the child applied an ill-formed word formation in the inappropriate situation.

Therefore, we have other four observed variables in both formal and informal situations, namely (+sit+rul), (-sit+rul), (+sit-rul), and (-sit-rul).

8. Results and discussion

Using the observed prefixes, assessing the situation, and applying the rules

Table 3 presents the distribution of the observed prefixes with the number of users, based on situations and periods.

Table 3. Distribution of the observed prefixes (number of users), split up by situations and periods

		Period	Formal	Informal
			n	n
(meN)	BI	1	27	16
		2	42	16
(ber)	BI	1	13	5
		2	22	13
(Ø-meN)	CJI	1	61	61
		2	59	61
(nasal)	CJI	1	54	54
		2	44	50
(nge)	CJI	1	4	9
		2	16	32
(Ø-ber)	CJI	1	50	50
		2	61	62

The table indicates that not all children were familiar with BI prefixes yet. Over time, the number of users of BI was smaller than those who used the corresponding prefixes of CJI. However, the number of users of BI prefixes was always higher

in the formal than in the informal situation, showing that some of these children were already sensitive to the situation. The number of users that were sensitive to the situation increased over time, as well. Meanwhile, many of the children already used the zero prefixes, (\emptyset -meN) and (\emptyset -ber) from the beginning. Some already used (nasal) as well. It also appeared that (nge) was a “new” prefix for these children: only a few children used it at the beginning. The number of (nge) users increased over time but was still low, compared with other prefixes in the same variety.

Figure 2 illustrates the development of each prefix by mean scores of the ratio, from Period 1 to Period 2. It is shown that there were tendencies of the increasing use of the BI prefixes. Yet, the patterns in CJI are different: while the use of (\emptyset -meN) and (nasal) tended to decrease, the opposite pattern appeared for (nge) and (\emptyset -ber). Figure 2 also shows that while the children were learning BI prefixes, they were still in the process of acquiring CJI prefixes. The figure presents the mean scores of individual ratios over time.

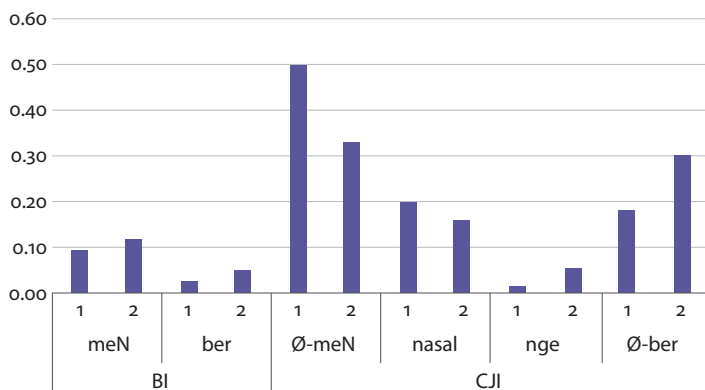


Figure 2. Development of the observed prefixes, split up by periods (mean scores of the ratio; $N = 126$)

It is shown that these children opted more for zero prefixes, (\emptyset -meN) and (\emptyset -ber), than other prefixes. Besides the fact that they were still CJI dominant users, the zero prefix is the simplest form that children could apply for verb formation (see Clark 1993 and 2009, and Dardjowidjojo 2000). For the children, “a word is simple when the elements to be combined require either no changes or minimal changes in form” (Clark, 1993: 109). In terms of transitivity and intransitivity, these children showed that they were more advanced in the former than the latter. As indicated, children used more corresponding transitive marker prefixes – except (nge) – than the intransitive ones. Nevertheless, findings indicate that these children were still in the process of learning – besides the newer variety, they were also improving the preceding one.

A comparison between cohorts, based on the ratio of the prefix usage, is presented in Table 4 (on the mean scores and standard deviations; split up by cohorts and periods). It shows that there was a tendency that, over time, the Cohort 3 tended to use less zero prefixes than the younger ones, while the contradiction happened in the use of (meN) and (nasal). It suggests that the older children already started to learn the more complex verb formation.

Table 4. The use of the observed prefixes, split up by cohorts and periods

		Cohort 1 (N = 26)		Cohort 2 (N = 42)		Cohort 3 (N = 56)	
		M	SD	M	SD	M	SD
1	(meN)	7.25	16.33	8.21	18.96	10.94	16.54
	(ber)	2.47	6.13	1.60	5.18	2.62	6.34
	(Ø-meN)	55.52	21.35	53.22	21.70	44.13	21.81
	(nasal)	16.34	13.83	15.27	11.88	24.11	16.62
	(nge)	0.91	3.21	1.19	4.63	1.93	5.02
	(Ø-ber)	17.51	13.27	20.51	13.64	16.27	10.92
2	(meN)	8.76	12.70	10.66	16.27	14.06	17.59
	(ber)	5.29	10.11	5.97	8.22	3.54	7.45
	(Ø-meN)	36.55	14.21	35.22	18.62	29.60	18.82
	(nasal)	15.11	12.12	14.97	13.00	16.59	12.85
	(nge)	5.61	6.76	4.59	6.25	5.02	31.20
	(Ø-ber)	28.68	11.97	28.60	11.49	6.68	11.23

As suggested by Kerswill (1996), complexity plays an important role in the order of acquisition. While there is no need to change – at least – the initial phoneme when applying (Ø-meN), there are two steps to apply (meN) or (nasal): adding the morpheme and finding a homorganic phoneme that should be attached to the initial phoneme of the stem. It is also indicated that these children were in the process of “making space” for the newer variables in terms of learning morphophonemic rules.

We found that children also “created” their own rules to a certain extent, especially in the corresponding transitivity marker prefixes. While the (Ø-meN) in adult language can be applied to all initial phonemes of the stem, we found that children tend to use (Ø-meN) in voiced consonant initials of the stem only, such as Ø-*bakar* [bakar] ‘to grill’, Ø-*denger* [dəŋər] ‘to listen’, or Ø-*jual* [ju^wal] ‘to sell’. The weak negative correlation between (Ø-meN) and (nasal)⁵ indicates that children saw the two CJI prefixes in complementary distribution, especially in the voiced initial phonemes of the stem. Meanwhile, children tended to treat (Ø-meN) with (nasal) interchangeably for the voiceless consonants or vowel initial of the stem, such as

5. ($r = -.339, p < .001$)

in *cabut* ~ *ny-(c)abut* [ɲabut] ‘to pull’, *potong* [pɔtɔŋ] ~ *m-(p)otong* [mɔtɔŋ] ‘to cut’, or *angkat* [aŋkat] ~ *ng-angkat* [ŋaŋkat] ‘to lift’. It is also found that these children tended to deal with (meN) and (Ø-meN) interchangeably; in that they used them to any voiced initial phoneme of the stem. However, a strong negative correlation between (meN) and (Ø-meN)⁶ indicated that when children used (Ø-meN), they tended not to use (meN) and *vice versa*. The same pattern was found in the weak negative correlation between (meN) and (nasal)⁷ (see also Kushartanti, 2014: 178). Nevertheless, the rules still meet the morphophonemic rules.

Table 5 presents the distribution of word formation with appropriate/inappropriate situation and morphological rules, with the number of users, mean scores of individual ratio and standard deviations, based on situation over time.

Table 5. Distribution words formation with appropriate/inappropriate morphological rules and situations (with number of users [n], mean scores, and standard deviations)

N = 63	Period	Formal			Informal		
		n	M	SD	n	M	SD
(+sit+rul)	1	31	15.23	21.78	63	85.94	14.19
	2	42	22.56	23.09	63	91.15	14.69
(-sit+rul)	1	62	73.71	25.60	14	3.10	6.11
	2	63	75.43	23.45	24	8.42	14.11
(+sit-rul)	1	9	1.88	4.78	0	0.00	0.00
	2	9	2.01	5.19	0	0.00	0.00
(-sit-rul)	1	0	0.00	0.00	3	0.55	2.49
	2	0	0.00	0.00	1	0.23	1.80

Table 7 shows that many of the children were already mastering the morphological rules, as indicated by the mean scores of those who apply *+rul*. The difference between the distributions of both (+sit+rul) and (-sit+rul) might indicate that they were less able to select the correct variety in formal situations. This will be discussed in more detail in the next two sections.

Table 7 also shows that only a few children “failed” to apply the morpho-syntax rules. There are nine children using (+sit-rul) in the formal situation in both periods. These children uttered verbs such as **men-jalan* or **ber-petik*. Even though it is indicated that these children were aware of the situation, they used syntactically ill-formed words. However, they showed that actually they had already acquired the morpho-phonemic rule: in **men-jalan* the child found a homorganic phoneme

6. ($r = -.585, p < .001$)

7. ($r = -.153, p < .05$)

that should be attached to the initial phoneme of the stem, while in **ber-petik* s/he used a consonant which can appropriately be attached to the prefix *ber-* (see Appendix 2). The slightly increasing use of such word formation indicates that these children were still learning to apply BI morphological rules in the formal situation. It is also found that only very few children “failed” to assess a given situation and to apply the proper morphological rules in the informal situation (*-sit-rul*). These children uttered similar words such as **men-jalan*. Nevertheless, the number of users was also very low.

In the following subsections, we will focus on the use of two variables (*+sit+rul*) and (*-sit+rul*), which are used by the majority of the children. The next subsection also discusses how children assessed both formal and informal situations through the use of prefixes that fit in morphophonemic rules.

The use of (*+sit+rul*) in both situations over time

It is indicated that children were already capable of assessing the situation and applying morphological rules in informal situation. They already started to use the rules in the first period and the use increased in the second period. On the other hand, the use of the variable (*+sit+rul*) in the formal situation was still limited, in both periods. It means that only a few children used BI prefixes in the formal situation. Besides, it is found that some children still did not use it over time. The finding indicates that these children were still “struggling” to learn the formality. Nevertheless, the increasing value of the mean scores in the second period indicates that these children already learned to use it over time. The children who used the variable showed that they already mastered both the rules and its socio-stylistic usage.

To confirm the finding, we conducted Repeated Measures General Linear Models (GLM) analysis to (*+sit+rul*) variable ($N = 252$). We have situation and period as within-subject factors and cohort and gender as between-subject factors. The result indicates that situation has a significant effect on (*+sit+rul*).⁸ The use of (*+sit+rul*) is more frequent in the informal situation ($M = 88.55$, $SD = 14.42$), than in the formal situation ($M = 18.90$, $SD = 22.66$), i.e. children are more capable of assessing informal situation using an appropriate morphological rule. Period has also a significant effect.⁹ The use of the variable increased over time, from the first period ($M = 50.56$, $SD = 39.89$) to the second period ($M = 59.62$, $SD = 39.52$). This indicates that the capability to apply the word formation rules appropriate to the situation increased over time. The finding also suggests that the development of stylistic variation was still in progress.

8. $F(1,57) = 476.171$, $p = .000$

9. $F(1,57) = 9.956$, $p = .003$

The use of (-sit+rul) in both situations over time

The production of verbs with a prefix that is inappropriate to the situation (-sit+rul) is high in the formal situation. In other words, in the formal situation these children used CJI prefixes instead of BI ones. The mean scores in both the first period and the second period are high in the formal situation. There is also a tendency that the mean scores increased over time. On the other hand, only a few children “failed”, i.e. using BI prefixes in the informal situation.

A Repeated Measures General Linear Models (GLM) analysis is also conducted on the (-sit+rul) variable. As with the previous analysis, we have situation and period as within-subject factors and cohort and gender as between-subject factors. There is a significant effect of situation,¹⁰ children used prefixes that were inappropriate to the situation but fit the morphological rules in the counterpart situation more frequently in the formal situation ($M = 74.57$, $SD = 24.47$) than in the informal situation ($M = 5.76$, $SD = 11.15$). There is an interaction between period, cohort, and gender,¹¹ as it is found that girls of Cohort 2 decreased the use of (-sit+rul) from Period 1 ($M = 44.09$, $SD = 44.51$) in Period 2 ($M = 38.00$, $SD = 39.21$). Nevertheless, it is a weak effect.¹²

9. When do children acquire the social and linguistic constraints?

In terms of timing, our findings suggest that children in our study have acquired both social and linguistic (especially morphophonemic) constraints of CJI, i.e. systematically using the variety in informal situation. It should be noted that it is the dominant variety for all children (except one in the 2nd period). It is also the variety children were exposed and familiar with, even at school.

Findings from Labov (1989) indicated that linguistic constraints on dialect variation take a prominent place in the acquisition process. From all observed prefixes it appeared that all children mastered the morphophonemic rules in both BI and CJI. Note that, the rules Jakarta children were applying are phonologically conditioned, indicating that the phonological constraints of Indonesian are acquired first by these children. The finding is in line with Roberts (1997) and Smith

10. $F(1,57) = 388.291$, $p = .000$

11. ($p = .043$)

12. In the second period, a girl from Cohort 2 – who was among those who had high score in BI – was in a bad mood when we interviewed her. She reluctantly answered our questions in the formal situation and used the CJI instead of BI. This situation had an impact of the overall analysis.

et al. (2009) stating that preschoolers were ahead in phonological constraints (see also Roberts 2016).

This study deals with children of urban families in Jakarta, the multilingual city. Some of the children – although only a few – were more advanced in that they could also distinguish different situations by applying the morphological rules appropriately. We can say that these children were already bi-stylistic, acquiring social and linguistic constraints in both varieties almost at the same time. This is in line with Lacoste and Green (2016: 4) stating that “...urban children would be more likely to display simultaneous dialect acquisition due to multidialectal and multilingual character of the city. They would encounter more opportunities to become sensitive to standard norms at an earlier age.”

Finding that children were still “struggling” when they were confronted with the formal situation indicates that these children were still learning how to use and speak BI appropriately and have CJI as their first language. It is found that many of them were still not using BI, let alone in the formal situation.

Even though there is no correlation analysis with regard to parents’ and children’s language use, the parents claimed that they used BI in many conditions (including when they were admonishing, forbidding, and showing anger), which may affect the children’s language choice. It is in line with Labov (2001: 417) who maintains that “formal speech variants are associated by children with instruction and punishment, informal speech with intimacy and fun”. Nevertheless, the fact that they could answer the questions in both settings indicated that comprehension of BI and CJI was already set up, but production of BI still needs to be developed.

From parents’ language use and attitude questionnaires, which were mainly filled out by the mothers, it is inferred that BI has a higher social prestige in the eyes of Jakarta parents. Nevertheless, it is found that children were more capable of using CJI than using BI. The finding that in fact children were more exposed to CJI, even at school, shows that the variety has both important social and communicative roles, and positive prestige: it is the language of solidarity. More importantly, the use of CJI is certainly not forbidden at school.

10. Conclusion

Our findings suggest that children in general are competent speakers in informal settings, given that they were already capable of assessing the situation correctly and applying the morphological rules of the informal variety correctly. The finding in the informal variety indicates that children acquire social and linguistic constraints simultaneously. Note that it depends not only on the complexity of the observed variables, but also the social function of the variety in children’s surroundings.

This study shows that not all children have equal competence, especially when it comes to the formal situation and the use of the formal variety. That the system is acquired later is in line with what is suggested by Smith et al. (2007) and Kerswill (1996) stating that not all linguistic (level) variables are acquired at the same time and in the same way.

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Abbreviations

(based on Gil and Tadmor (2007) and Leipzig Glossing Rule www.eva.mpg.de/lingua/resources/glossing-rules.php)

ACT	active	ONE	‘one-’ (with classifier)
BI	Bahasa Indonesia	PASS	passive
BIV	Bahasa Indonesia verb	Pers	person
CJI	Colloquial Jakarta Indonesian	PL	plural
CJIV	Colloquial Jakarta Indonesian verb	POSS	possessive
DEINT	deintensifier	PROG	progressive
DET	determiner	PRT	particle
INTR	intransitive	TR	transitive
EXCL	exclamation	3PL	third plural pronoun
NOUN	noun marker	3SG	third singular pronoun

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Appendix 1. Allomorphs of BI verbal prefix marking transitivity *meN-* and their CJI counterparts

BI			CJI		
Allomorphs	Onset of verbal stem		Allomorphs	Onset of verbal stem	
	Deleted*	Retained		Deleted*	Retained
məm-	p	b, f	m-	p	b
mən-	t	d	n-	t	d
məŋ-	s	c, j	ŋ-	s, c	j
məŋ-	k	g, h, x, all vowels	ŋ-	k, h, x	g, all vowels
mə-		r, l, w, y, m, n, ŋ, ŋ	∅-		all poly-syllabic stems
məŋə-		mono-syllabic stems	ŋə-		b, f, d, g, j, r, l, w, mono-syllabic stems, foreign words

Adapted from Wouk (1989)

* =except for the borrowings

Source: Kushartanti 2014: 169

Appendix 2. Allomorphs of BI verbal prefix marking intransitivity *ber-* and their CJI counterparts

BI			CJI		
	Category of stem	Onset of the stem		Category of stem	Onset of the stem
<i>bə r-</i>	All categories*	All vowels and consonants (except /r-/)	<i>bə r-*</i>	Noun Numeral Verb (bound morphemes)	Vowels and consonants
<i>bə-</i>	All categories*	/r-/, /-ər/	<i>bə -*</i>	Numeral Verb (bound morpheme)	Consonants
<i>bə l-*</i>	Bound morpheme verb <i>ajar</i>	/a-/	<i>bə l-*</i>	Bound morpheme verb <i>ajar</i>	/a/
			<i>br-*</i>	Noun Verb (bound morpheme)	/r/ and vowels
			<i>N-*</i>	Verb Noun	Vowels and consonants
			<i>∅-</i>	Verb (free morpheme) Noun*	Vowels and consonants
			<i>∅-an</i>	Noun*	Vowels and consonants

Adapted from Wouk (1989)

* =under certain conditions

Source: Kushartanti 2014: 173

Appendix 3. Elicitation items in four scenarios (in formal and informal situation)

Item	SCENARIO A		Item	SCENARIO B	
	Formal	Informal (with some possible prefixes)		Formal	Informal (with some possible prefixes)
1. 'to sell'	<i>ber-jual-an</i>	<i>Ø-jual-an</i>	1. 'to celebrate s.o.'s birthday'	<i>ber-ulang tahun</i>	<i>Ø-ulang tahunn</i>
2. 'to buy'	<i>mem-beli</i>	<i>Ø-beli m-beli nge-beli</i>	2. 'to cut'	<i>mem-(p)otong</i>	<i>Ø-potong m-(p)otong</i>
3. 'to shop'	<i>ber-belanja</i>	<i>Ø-belanja</i>	3. 'to push'	<i>men-dorong</i>	<i>Ø-dorong n-dorong nge-dorong</i>
4. 'to chase'	<i>meng-(k)ejar</i>	<i>Ø-kejar ng-(k)ejar</i>	4. 'to hit'	<i>men-(t)abrak</i>	<i>Ø-tabrak n-(t)abrak</i>
5. 'to sweep'	<i>meny-(s)apu</i>	<i>Ø-sapu ny-(s)apu</i>	5. 'to shake hand'	<i>ber-salam-an</i>	<i>Ø-salam-an</i>
6. 'to scold'	<i>me-marah-i</i>	<i>Ø-marah-in</i>	6. 'to wash'	<i>meny-cuci</i>	<i>Ø-cuci ny-(c)uci</i>
7. 'to cry'	<i>men-(t)angis</i>	<i>n-(t)angis</i>	7. 'to wipe'	<i>menge-lap</i>	<i>Ø-lap nge-lap</i>
8. 'to use'	<i>mem-(p)akai</i>	<i>Ø-pake m-(p)ake</i>	8. 'to pick'	<i>mem-(p)etik</i>	<i>Ø-petik m-(p)etik</i>
9. 'to walk'	<i>ber-jalan</i>	<i>Ø-jalan</i>	9. 'to walk'	<i>ber-jalan</i>	<i>Ø-jalan</i>
	SCENARIO C			SCENARIO D	
1. 'to walk'	<i>ber-jalan</i>	<i>Ø-jalan</i>	1. 'to walk'	<i>ber-jalan</i>	<i>Ø-jalan</i>
2. 'to play'	<i>ber-main</i>	<i>Ø-main</i>	2. 'to play'	<i>ber-main</i>	<i>Ø-main</i>
3. 'to fish'	<i>mem-(p)ancing</i>	<i>Ø-pancing m-(p)ancing</i>	3. 'to hear'	<i>men-dengar</i>	<i>Ø-denger n-denger nge-denger</i>
4. 'to grill'	<i>mem-bakar</i>	<i>Ø-bakar m-bakar nge-bakar</i>	4. 'to cut'	<i>mem-(p)otong</i>	<i>Ø-potong m-(p)otong</i>
5. 'to hold'	<i>mem-(p)egang</i>	<i>Ø-pegang m-(p)egang</i>	5. 'to pick'	<i>mem-(p)etik</i>	<i>Ø-petik m-(p)etik</i>
6. 'to run'	<i>ber-lari</i>	<i>Ø-lari</i>	6. 'to run'	<i>ber-lari</i>	<i>Ø-lari</i>
7. 'to cut'	<i>mem-(p)otong</i>	<i>Ø-potong m-(p)otong</i>	7. 'to mop'	<i>menge-pel</i>	<i>Ø-pel nge-pel</i>
8. 'to draw'	<i>meng-gambar</i>	<i>Ø-gambar ng-gambar nge-gambar</i>	8. 'to brush'	<i>meng-gosok</i>	<i>Ø-gosok ng-gosok nge-gosok</i>

Appendix 4. Means of individual ratio on BI and CJI verbs in both situations

	BI		CJI	
	M	SD	M	SD
Formal N = 126	21.41	24.52	78.59	24.52
Informal N = 126	6.65	11.48	93.35	11.48

Children's sociolinguistic preferences

The acquisition of language attitudes within the Austrian dialect-standard continuum

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The Bavarian-speaking part of Austria is often referred to as an instantiation of a dialect-standard continuum with a range of speech forms between (Austrian) Standard German and the respective base dialects. The socio-indexical meaning (i.e. the speaker characteristics associated with certain varieties) of different speech forms has been the object of several studies with adults in Austria. Our aim was to gain an understanding of the acquisition process regarding these socio-indexical values of L1-varieties. In order to do so, we studied the socio-linguistic preferences of Austrian children aged between 3 and 10 years, using adapted 'matched-guise' experiments in which the child had to choose between two doctors speaking different varieties (dialect, standard German). Whereas the younger children do not show consistent preferences, children from grade 2 (age 7/8) onwards prefer the standard-speaking doctor.

Keywords: variation, children, Austria, German, dialect, Bavarian, preferences, language attitudes, matched-guise, acquisition

1. Introduction

One aspect of the multidimensionality of variation is the construction of social meaning by the use of certain varieties of a language. Looking at language attitudes has proven to be useful in making the socio-indexical value of language varieties accessible. A basic definition of attitudes was given by Sarnoff (1970: 279), who described them as "a disposition to react favourably or unfavourably to a class of objects". Attitudes have most frequently been conceptualised as being structured by cognitive, affective, and behavioural components – or at least as being reciprocally associated with cognitive, affective and behavioural phenomena (cf. Albarracín et al. 2005: 3), even though these aspects might not be congruent all the time (Garrett 2010: 23–29).

With regard to language, “linguistic forms, varieties and styles can set off beliefs about a speaker, their group membership, and can lead to assumptions about attributes of those members” (Garrett et al. 2003: 3). These categorisations serve different purposes (e.g. orientation in the social world) and are learned during the process of socialisation (Garrett et al. 2003: 4). The conceptualisation of attitudes as being stable has been up to debate recently after studies demonstrated their variability, volatility and context-dependence (Garrett 2010: 23–30) within adult individuals. As Garrett (2010: 30) points out, this does not mean, however, that “variation [of attitudes; I.K./G.K.] is not normally bounded in some way or that there can be no stable subjective trends at higher levels”.

In order to gain sociolinguistic competence, children must learn to recognise, interpret, and use the “social and symbolic meaning-making possibilities of language”, be it in their L1 or their L2 (van Compernelle and Williams 2012: 237; see also Rodgers 2017). Learning more about the process of acquisition of the social value of language varieties further adds to a differentiated understanding of language variation and language change (Garrett et al. 2003: 11ff.; Maitz 2010: 15f.; Preston 2013). However, data regarding the acquisition of the varieties of German in Austria are scarce, as are data on the acquisition of attitudes regarding these varieties. Our study therefore aims to shed light on the acquisition of language attitudes and preference patterns of Austrian children aged 3 to 10 towards the varieties of German in Austria. We will first outline the sociolinguistic setting in Austria and delineate what is known about the socio-indexical value of the varieties of Austrian German. After summarising results from international studies regarding the acquisition of knowledge and awareness of the socio-indexical value of varieties of an L1, we will discuss our own matched-guise study, which was conducted with Austrian children aged 3 to 10. We will interpret and contextualise our findings within the Austrian sociolinguistic setting and within previous international research, especially with reference to factors possibly influencing children’s attitudes to their language varieties.

2. Sociolinguistic background: German in Austria

2.1 Varieties of German in Austria

The Bavarian-speaking part of Austria is often cited as a prime example of the so-called dialect-standard continuum between the poles of (Austrian) Standard German and the respective base dialect (cf. Ammon 2003; Ender and Kaiser 2009; Kaiser and Ender 2013; Wiesinger 1992). The range between the poles of the continuum is linguistically, but also colloquially referred to as 'Umgangssprache' (Berruto 2010: 230). The term is little specified, but widely used (Barbour 2000: 8; Macha 2006: 151). For better scientific differentiation, a scale of four levels (or strata with fluid transitions) is frequently considered sufficient to describe the sociolinguistic landscape of so-called diagglossic areas (Auer 2005), subdividing the intermediate range into close-to-standard-'Umgangssprache'/regional standards and close-to-dialect-'Umgangssprache'/regiolects (cf. Auer 2005; Barbour and Stephenson 1998: 151; Wiesinger 2014; for further discussion of the continuum-or strata-concepts see Ender and Kaiser 2009).

Bavarian dialects are a group of dialects of the upper German language area (spoken in parts of Germany, in the main part of Austria, in a few smaller parts of Switzerland and in South Tyrol, Italy); they can be grouped into Northern, Central and Southern Bavarian dialects. Bavarian dialects are well described in the literature – they structurally differ from the standard variety on all linguistic levels:¹ On the vocalic level, the predominating features of the Bavarian dialects are the raising of the Middle High German vowels /a/ and /â/ to /o/ and /ɔ/ as in Standard German (SG) ['hazən] ('rabbits') ↔ Central-Bavarian Dialect (CBD) ['hɔ:sn], and the systematic lowering of the Middle High German "ä-Umlaut" to /a/ (SG ['kɛ:zə] ('cheese') ↔ CBD ['ka:s]. In CBD we also find so called "input switches" (Moosmüller 1991; Soukup 2009: 46), where Middle High German diphthongs were maintained/changed and not monophthongised as in the standard variety SG [li:b] ('nice', 'kind') ↔ CBD [lɪɐ̯b] (Soukup 2009: 46; Wiesinger 1983: 836ff.). Regarding consonants, important characteristics of Central-Bavarian dialects are the vocalisation of the liquid /l/, i.e. *Bild* SG [bilt] ('picture') ↔ CBD [by:ɖ or bi:ɖ], [fi:l] ('much') → [fy: or fi:] as well as the lenition of the fortis (/t/, /p/, /k/), the neutralisation of lenis/fortis plosives in the initial sound (except for /g/ and /k/) and weakening of plosives in medial position. The differences between (Austrian) Standard German and dialect are exemplified using one of the sentences of the "doctors" of our study (see section "Materials and procedure" below) in the following:

1. Our study was conducted in the Austrian provinces of Upper Austria and Salzburg, where Central Bavarian dialects are spoken. Throughout the paper, we use the term "dialect" for the respective (Central-Bavarian) dialect in our study.

Austrian Standard German: [dax̥f ɪç mi:ɕ daɪnən baʊχ aɪnma:l anʃaʊn]
 Central-Bavarian Dialect: [dɛɕf i mɛ daɪn baʊχ amɔɕ ʔ:ʃaʊ]

Morphological/syntactic characteristics of the Bavarian dialects are to be found e.g. regarding pronouns (plural of the personal pronoun in the 2nd person) or in the loss of the past tense (König, Elspaß and Möller 2015; Wiesinger 1983). Many lexical variants occur in all everyday areas, such as for agricultural and culinary topics, greetings and many more.

2.2 Patterns of use

Many speakers of German in Austria can gradually vary their language on the vertical dimension; certain rules of co-occurrence can be assumed (and described) in order to model the structure of the dialect-standard continuum (Auer 2012). Overall, much shifting, code-switching and code-mixing can be observed in the areas of the dialect-standard continuum (Auer 2012: 15; Schmidt and Herrgen 2011: 52). The choice of the eventual speech form in each situation is – within the constraints of the individual repertoire – mainly influenced by social and situational factors such as formality of situation and type of interlocutor (Schmidt and Herrgen 2011: 392; Wiesinger 2014). In interaction, processes of accommodation (of upward and/or downward convergence or divergence) can be observed (Niedzielski and Giles 1996; Kaiser and Ender 2013 for Austria) as well as the use of language varieties as a means of ‘speaker’ or ‘audience design’ (cf. Kaiser 2006; Soukup 2009, 2013).

As to the actual quantitative use of the varieties, different studies have shown that dialect and ‘Umgangssprache’ are used frequently in the Bavarian speaking part of Austria. Specifically, 79% of all speakers described themselves as dialect speakers in Steinegger’s study (1998) and 50% report dialect, 79% ‘Umgangssprache’ and only 5% standard (High German) as their everyday language (Steinegger 1998; Wiesinger 2014). Ender and Kaiser’s (2009) survey e.g. with self-reports of frequent and highly frequent use of dialect (75%) and ‘Umgangssprache’ (59%) with colleagues from the same dialect area, showed similar results. The nature and frequency of speech forms in use have been found to correlate with the (in-)formality of the situation and with geographical factors (65% usage of ‘Umgangssprache’ in urban areas) (Wiesinger 2014: 9). Nevertheless, especially in the province of Upper Austria, where part of our survey was conducted, dialect seems to be comparatively little bound to social status (Soukup 2009: 40). A clear shift towards ‘Umgangssprache’ and ‘Hochdeutsch’ is reported especially when speaking with people from other (German or non-German speaking) countries (Ender and Kaiser 2009: 286), even though in conversations with authorities and in teaching settings

a shift towards the standard variety is generally expected (Bundesministerium für Bildung 2012; Charlotte-Bühler-Institut 2009; Wiesinger 2014), but may not always be carried out. In many cases, multiple varieties are used by teachers in different school contexts, depending on a complex interplay of factors such as personal preferences, competences, subject taught and situation (e.g., ex-cathedra teaching vs. one-on-one conversations) (de Cillia 2016; Mannsberger 2015).

In child-directed speech, 'Umgangssprache' and dialect (but hardly any 'standard language') are reportedly used to similar extents (Ender and Kaiser 2009: 288). Austrian caregivers have been shown to expose children to a certain (and variable) degree of language variation from a very early age on (Kasberger and Gaisbauer 2020), similarly to other sociolinguistic contexts (cf. e.g. Roberts 2013).

Many pre- and primary school children can be said to be bidialectal and to be at least partly able to switch between (near-)standard and dialect forms of speaking (Kaiser 2020; Kaiser and Kasberger 2020). From a developmental perspective, discrimination abilities in children in Austria (age 3 to 10) have been shown to emerge around age 5 (simple perceptual matching) and seem to be developed on an abstract categorical level around age 8/9 (Kaiser and Kasberger 2018).

2.3 The socio-indexical meaning of Austrian German varieties

Having outlined the sociolinguistic landscape and language use in Austria, we will now consider what is known about folk concepts and language attitudes of Austrians towards the varieties of (Austrian) German.

From the "outside", (standard) German is sometimes judged to sound harsh (Preston 2013: 158), but how is it judged from the "inside"?

While dialect is used with high frequency and in some areas even with little social stratification, ambivalence and "linguistic insecurity concerning both [...] standard and dialect usage" are common (Soukup 2009: 42). Confirming earlier studies (Moosmüller 1991; Steinegger 1998), Soukup's language attitude experiment ($n = 242$) showed that "the dialect speakers were perceived as more natural, honest, emotional, relaxed, and likeable than their standard speaking peers, as well as having a better sense of humor", but they were also judged to be more aggressive (Soukup 2009: 169). On the other hand, speakers using standard language are typically perceived as "more polite, intelligent, educated, gentle, serious, and refined, but also sounding more arrogant" (Soukup 2009: 169). Goldgruber's verbal guise study with university students in Vienna und Graz (2011) again confirmed these stereotypes and attitudes towards standard and dialect in Austria. The less favourable rating of the dialect speaking woman in Soukup's study (with otherwise consistent and robust outcomes for dialect speakers in general) suggests a gender

effect regarding dialect use and/or attitudes toward dialect use (Soukup 2009: 169). In Bellamy's (2012) study, which included adolescents as participants, significant differences between "low-prestige guises" and "high-prestige guises" were found regarding clustered traits on the dimensions of competence and social attractiveness, but, interestingly, also on the dimension of appearance. Status-related traits such as education, intelligence, leadership and reliability were found to be significantly more often associated with the standard variety, with the exception of the trait "confidence", which was related to the dialect variety. Regarding the dimension of social attractiveness, many traits such as humour, entertainingness, sociability and character were significantly more often associated with the dialect variety. The inclusion of questions regarding appearance traits showed that standard speaking people were thought to be more attractive and better dressed (Bellamy 2012: 224). We may thus conclude that the varieties of Austrian standard and dialect are strongly and stereotypically conceptualised in adults' and adolescents' minds along the dimensions of competence and social attractiveness, which leads to the question of the developmental trajectory of these attitudes.

3. Acquisition of attitudes towards varieties of an L1 – results from international studies

Children's attitudes towards language varieties do not seem to be an extensively researched field. To the best of our knowledge, they have never been studied in Austria, but we can resort to studies from other (socio)linguistic contexts in order to generate useful research questions for the Austrian context.

Those studies which have worked with the preschool to primary/secondary school age groups suggest an important influence of schooling in the development of attitudes towards varieties in the sense of fostering a favourable attitude towards the standard variety (Cremona and Bates 1977; Day 1980; Giles et al. 1983; Kinzler and DeJesus 2013). In contrast, findings for the preschool group do not yield any significant, consistent preference patterns (Häcki Buhofer et al. 1994; Kinzler and DeJesus 2013) overall. Those studies which examined data with respect to diverse subpopulations, however, hint at the subtle emergence of societal patterns and stereotypes already during the preschool years (Barbu et al. 2013; Day 1980; Rosenthal 1974). For example, Rosenthal (1974) reports that both African-American children of low socio-economic status (= SES) and Caucasian children of high SES, aged 3 to 6 years, clearly ascribed higher socioeconomic status to the standard American English speaker 'Steve' than to the African-American English speaker 'Kenneth', whereas the personal preference for 'Steve' was far more pronounced in the high-SES

subsample. In Day's (1980) study, it is only the youngest, low-SES subsample which exhibits a preference for Hawaiian Creole English as opposed to standard American English. The importance of socioeconomic background is also highlighted by Barbu et al.'s (2013) results, which show an earlier emergence of preference for standard forms in the high-SES group as compared to the low-SES subsample.

This growing awareness and adoption of the standard variety's higher prestige – in short, of adult evaluation patterns – is markedly enhanced during the first years of schooling as studies in different language areas have shown, i.e. in Italy (Cremona and Bates 1977), in Wales (Giles et al. 1983), the Northern and Southern U.S.A. (Kinzler and DeJesus 2013) and Hawaii (Day 1980). In most cases, this means internalising the favourable evaluation of the standard variety in terms of the perceived competence of its speakers and its negative evaluation in terms of social attractiveness – and vice versa for the nonstandard variety. Note, however, that different adult patterns of evaluation lead to different patterns in children's language preferences: In German-speaking Switzerland, the preference for the standard language at the beginning of school is very short-lived and is soon replaced by a preference for the dialect, which is in accordance with Swiss adults' language attitudes (Häcki Buhofer et al. 1994).

Children seem to adopt – gradually but consistently – the language attitudes surrounding them, and school seems to be instrumental in that process, which is not to say that attitude development is finished and stagnates from adolescence on (cf. also de Vogelaer and Toye 2017). Adolescents' attitudes seem to have been covered by research even less than children's attitudes, however.

Apart from age and region, hardly any sociodemographic variables have been taken into account in the studies on children's language attitudes. The potential relevance of the children's socioeconomic background has been sketched above. Another variable might in fact correlate with children's sociolinguistic attitudes: gender. Gender is known and frequently discussed as a significant factor in predicting sociolinguistic variation (perhaps beginning most prominently with Labov, 1966, and Trudgill, 1972; more recently see e.g. Barbu, Martin and Chevrot 2014 or Brouwer 2011). Even though the patterns are complex and the underlying causes are even more so, the pattern frequently described is that of men using more non-standard or local speech than women in the same social class and of women typically being those embracing linguistic change towards the higher-prestige standard or supra-local language forms (cf. Labov's Principle I in Labov 1990; Brouwer 2011; Cheshire 2002: 426ff; Romaine 2003).

In language attitude research in children, the gender variable has explicitly been considered by Cremona and Bates (1977) and Rosenthal (1974). Whereas Cremona and Bates (1977: 229–230) do not find differences between boys and

girls with regard to evaluation judgements, they do observe differences in the frequency of use of nonstandard forms, with boys using more than girls. Rosenthal (1974: 60–61) does not find statistically significant differences between girls' and boys' language attitudes but an interesting interaction between the gender variable and socioeconomic status. On the one hand, high-SES females favoured the standard speaker more strongly than did high-SES males. In the low-SES group, however, the situation was reversed, with more girls choosing the African-American English speaker than boys. Rosenthal interprets this as a general tendency by girls to prefer "their own variety" (1974: 61), i.e. to identify "with [their] own race" (1974: 60).

Importantly for language attitude studies, the gender variable might also play a role in a different way: Maegaard (2005) showed that the use of non-standard speech is judged differently by Danish adolescents and young adults depending on whether the speaker is male or female. While interpretations seem to be different for different varieties, apparently a girl's use of non-standard varieties is less attractive and accepted than a boy's, a pattern which has been corroborated by Soukup with Austrian adults (2009: 169; cf. also Brouwer's study of males and females from Amsterdam 2011).

4. Austrian children's attitudinal preferences in a 'matched-guise' task

In our empirical study we aim to target the following research questions:

- Do children at the age of 3 to 10 years already show attitudinal preferences regarding the varieties of Austrian standard and dialect?
- If they do, at what age do they develop patterns of attitudinal preference?
- What socio-demographic and/or input factors (i.e., nature and frequency of input in the different varieties) can be shown to relate to these attitudinal preference patterns? Specifically, is there a difference in preference patterns between the genders and between groups with different socio-economic status (SES)? And does parental language input correlate with children's attitudinal preferences?

4.1 Participants

Data were collected in different kindergartens and primary schools in the provinces of Salzburg and Upper Austria in rural and urban areas, which were chosen because they may be largely considered prototypical of Austrian sociolinguistic settings (except for Vienna), but also for practical reasons (see Figure 1).

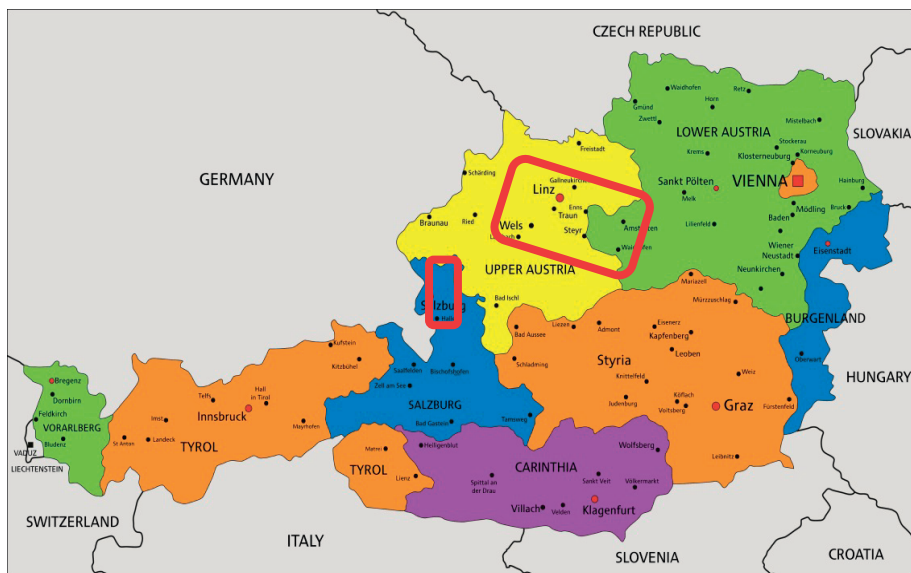


Figure 1. Areas of data collection

In the quantitative analyses presented in the following sections, only the children with L1 German (mono- and simultaneous bilinguals) were included; we excluded children with German as L2 (i.e. sequential bilinguals, children coming from a different family language background).² We analysed data from 205 children between the ages of 3;4 and 11;6 (mean age = 90 months, range: 40–138), 18 of whom were from bilingual families speaking German and another language. In terms of language variation at home, most of the children came from families where dialect and/or a form of ‘Umgangssprache’ were spoken (according to parental reports). Table 1 lists the sociodemographic details of our sample.

2. These children were excluded from the present analyses because of obvious fundamental differences to the L1-children in terms of input (little or no German input at home) and stage in the acquisition of German (some of the kindergarten children had only just begun acquiring German). Furthermore, this sub-group of children was very heterogeneous regarding German proficiency, age of acquisition and L1. An analysis of these children's attitudes would be interesting as well but would require a thorough individual analysis considering each child's specific circumstances and would therefore address different research questions.

Table 1. Numbers (and percentage) of participants per age group by sociodemographic group

Age group					Main variety at home*				Mono-lingual	Bi-lingual
	Male	Female	Rural	Urban	Dialect	Um-gangs-sprache	Standard German	Various		
kinder-garten (<i>n</i> = 69)	32 (46.4)	37 (53.6)	37 (53.6)	32 (46.4)	23 (33.8)	29 (42.6)	3 (4.4)	13 (19.1)	55 (79.7)	14 (20.3)
school (<i>n</i> = 136)	60 (44.1)	76 (55.9)	100 (73.5)	36 (26.5)	39 (29.1)	66 (49.3)	13 (9.7)	16 (11.9)	132 (97.1)	4 (2.9)
Total (<i>n</i> = 205)	92 (44.9)	113 (55.1)	137 (66.8)	68 (33.2)	62 (30.7)	95 (47)	16 (7.9)	29 (14.4)	187 (91.2)	18 (8.8)

* Data missing from 3 children. The main variety of German spoken in the home was determined by aggregating the reported frequencies of use of each variety (dialect, 'Umgangssprache', standard German) for each parent (or other caretaker) and the child's siblings in the parental questionnaire. It was then coded into one of four categories representing the most frequently used variety in the home: dialect, 'Umgangssprache', standard German and – in cases of equal proportions of several different varieties – 'various'.

4.2 Materials and procedure

Prior to the experiment being conducted, consent forms were sent home to parents along with an extensive language background questionnaire. Only those children whose parents had signed and returned the consent forms participated in the study.

The questionnaire included questions on the parents' language background, their level of education and it collected extensive information on the language input (in terms of standard, dialect, 'Umgangssprache' and other languages the child gets both at home and outside the home (based on parents' reports). The study was conducted during kindergarten/school hours and the children were taken individually into separate rooms to complete the experiments.

In order to ascertain children's preferences regarding the most clearly defined language varieties in Austria, local base dialect (i.e. the respective Central Bavarian Dialect on the dialectal pole of the continuum) vs. Austrian standard German, we used an adapted 'matched-guise' task (Lambert et al. 1960; cf. Soukup 2009 and Bellamy 2012). The classic 'matched-guise' technique uses audio stimuli in different varieties or languages, combined with Likert-scales with antonymically associated adjectives which are supposed to describe the purported speakers of the audio stimuli. The hearer is then asked to judge the purported speakers on these scales. This original design was adapted as to make it more child-friendly. The children were asked to choose between two male and two female doctors, respectively, who spoke different language varieties. Children were asked to imagine

that they were ill (school children) or that the puppet Lotta was ill (kindergarten children) and needed a doctor. They then heard two short passages which had in fact been spoken by the same bi-dialectal speaker. One of the passages was spoken in the local dialect and the other in Austrian standard German. Both samples covered the same content, i.e. the doctors greeted the child, introduced him-/herself, explained why they had to wait and asked if he/she could now examine the doll or the child. The audio-stimuli were accompanied by sketches of a male or female doctor (see Figure 2) in a PowerPoint presentation in order to give children some visual support in focussing their attention. Positions and colours of the drawings were pseudo-randomised as was the order of language samples heard. Afterwards each child was asked which of the two doctors should attend to him/her/the puppet.

Since we collected data in different areas, different sets of recordings were used, one from the Salzburg region and one from the central Upper Austrian region. The transcript below (dialect version in literary transcription) illustrates the Salzburg version of the male doctor's speech sample.

Austrian Standard German:

Grüß dich. Ich bin der Dr. Maier. Jetzt habt ihr ein bisschen warten müssen, gell. Aber ein kleines Mädchen war noch vor euch dran. Aber jetzt seid ihr an der Reihe. Darf ich mir den Bauch von deiner Puppe einmal anschauen?

Base dialect (Salzburg region)

Grias di! I bin da Herr Dr. Tasch. Iatz hobt snu a biss lwoatn miasn, gö, wei a kloas Diandl bei mia woa. Owa iatz sads es dro. Deaf i amoi den Bauch vo deina Puppm oschau?

English Translation:

Hello! I am Dr. Maier/Tasch. You have had to wait a bit, I know. A little girl was with me before. But now it is your turn. May I have a look at your dolly's belly?

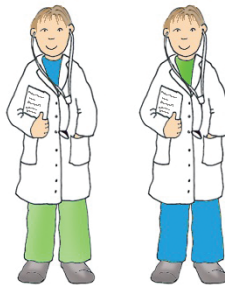


Figure 2. Drawings of the male doctors shown in PowerPoint presentation

The dialect version contained many of the typical (Central-)Bavarian dialect features such as a-raising as in [hɔ̃ʔts] ‚habt (ihr) – you have‘, l-vocalisation [amœ] ‚einmal – once‘ or the typical s-ending in 2nd person plural verbs [hɔ̃ʔts] ‚habt ihr – you have‘ [sats] ‚seid ihr – you are‘ as well as dialect articles and pronouns (Wiesinger 1983: 836ff.; Scheutz 2009: 21ff.; Zehetner 1985).

The children pointed at their doctor of preference and their choice was noted on paper by the experimenter. If children could not decide spontaneously on their preferred doctor, they were not pushed to choose and their answer was categorised as ‘none’. In addition, video recordings were made to check for accuracy of the written records afterwards.

4.3 Results: Overall attitudinal preferences

Children did the preference task twice, once choosing between two female doctors and once choosing between two male doctors. In a first analysis, we integrate these two questions.

Figure 3 visualises the percentages of children per age group who chose the dialect speaker in both trials, the standard speaker in both trials or who switched preferences between male and female doctor (‘mixed’) (for numbers see Table A.1 in the Appendix).

Overall, the majority of children exhibit mixed preferences (42%) or a preference for the standard speakers (36%). Only 22% opt for the dialect speaker in both cases. Given that the a-priori probabilities are 50% for mixed answers, and 25% for preferences for dialect or standard speakers, respectively, we can test this hypothesised distribution against the observed frequencies. A one-sample chi-square test confirms that the observed frequencies significantly deviate from the hypothesised frequencies ($\chi^2(2) = 12.424, p = .002$).

Figures 4 and 5 illustrate the percentages per age group (for numbers see Tables A.2 and A.3 in the Appendix) separately for choice of male and of female doctor.

Importantly, the general picture is corroborated by the separate analyses of the choice of male and female doctors. Half of the children (50%) opt for the standard-speaking female doctor and even 59% of the children choose the standard-speaking male doctor. Disregarding those (few) children, who do not choose either doctor, there seems to be a preference for the standard speakers with regard to both the male and the female doctor. The overall preference for the standard-speaking male doctor is statistically significant (one-sample binomial test for standard vs. dialect speaking doctor: $p = .004$). The age trajectory will be discussed in detail in Section 4.4.1.

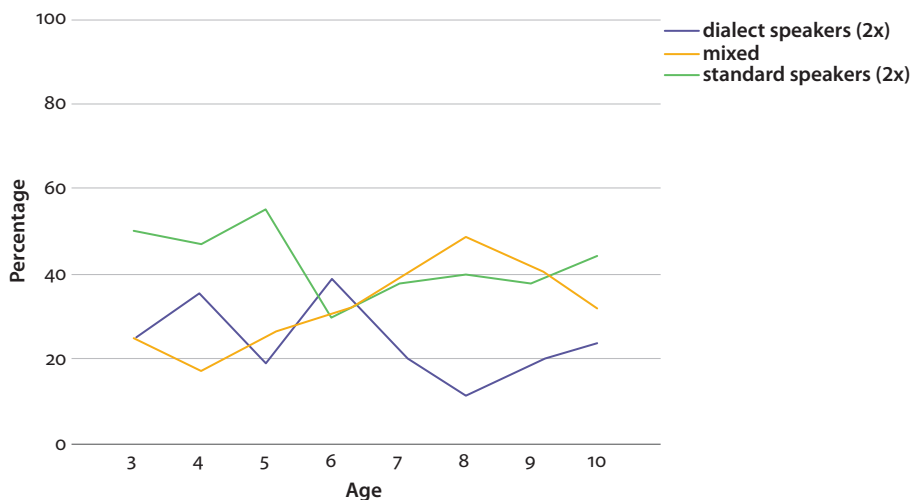


Figure 3. Percentage of children choosing the dialect speakers, standard speakers, and switching preferences between male and female doctors³

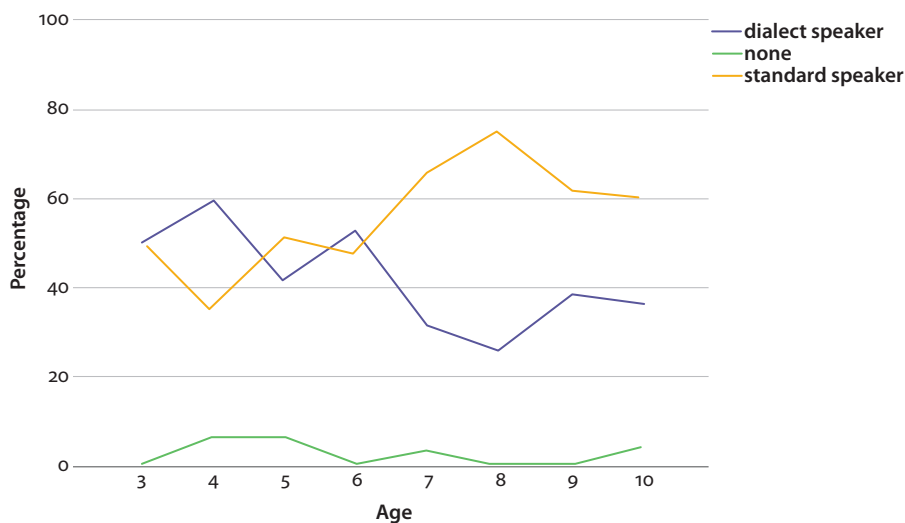


Figure 4. Preferences regarding male doctor (n per age group: see footnote 3)

3. 3-year-olds: $n = 8$; 4-year-olds: $n = 17$; 5-year-olds: $n = 31$; 6-year-olds: $n = 23$; 7-year-olds: $n = 32$; 8-year-olds: $n = 43$; 9-year-olds: $n = 26$; 10-year-olds (including 2 11-year-olds): $n = 25$.

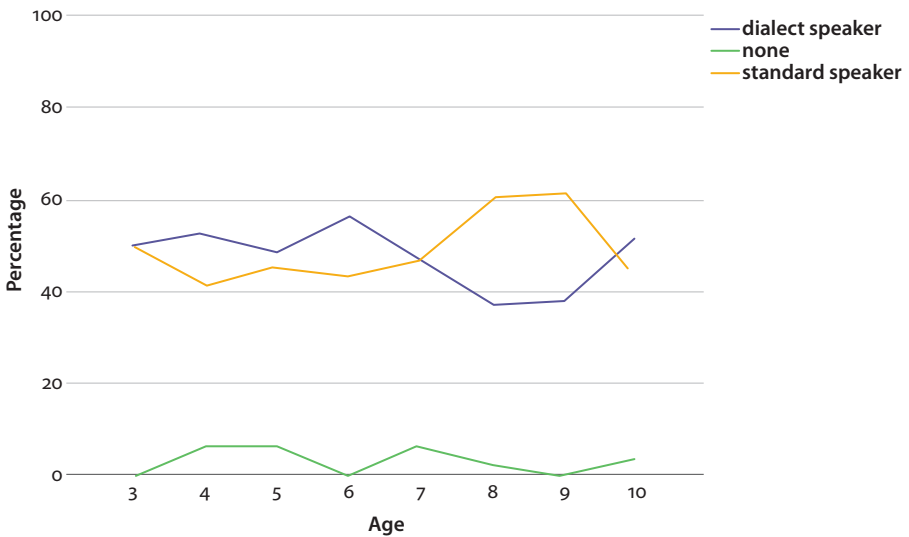


Figure 5. Preferences regarding female doctor (n per age group: see footnote 3)

4.4 Predictors of attitudinal preferences

In an attempt to determine influential hearer variables guiding children's preferences for a language variety, variables which have been found to be potentially relevant on theoretical grounds were scrutinised by way of binary logistic regression models⁴ including age (continuous variable in months), socio-economic status (SES indexed by maternal education; ordinal variable with three levels), gender, location of the kindergarten (country/city) and main variety spoken by the parent whose sex matched the respective doctor (four categories) as predictors. Information about age, gender, maternal education and parental language use had been collected in an extensive parental questionnaire. In keeping with most of the literature on child development and language acquisition (cf. Hoff 2006; Ensminger and Fothergill 2003), we used maternal education as a proxy to socioeconomic status.⁵ Children's

4. 'None' answers were coded as 'missing'.

5. This is not to say that other family members or caregivers do not play a role in the child's language development. Past research has shown very clear correlations of maternal education (as an index of socioeconomic status) and language development, however (Hoff 2006), which is plausible considering that even today it is most frequently the mothers who take on primary caretaker responsibilities. The latter is true of our sample as well and the importance of this variable has already been shown for this sample with regard to the development of discrimination abilities (Kaiser and Kasberger 2018). In our sample, there is a clear correlation between

choices for the dialect and standard speaker were then analysed according to three ordinaly structured SES/maternal education groups: 'low' level comprising mothers without a secondary school leaving qualification (i.e., apprenticeship or only obligatory schooling), 'medium' level comprising mothers with a secondary school leaving qualification, and 'high' level comprising mothers with a university or college degree. The main variety of German spoken by each parent was determined by aggregating the reported frequencies of use in the parental questionnaire. Parents had been asked to indicate the frequency of use from 0 (never) to 4 (very often) for each of the varieties of dialect, 'Umgangssprache' and standard German for each parent (or other caretaker). The variety that reached the highest overall frequencies was identified as the 'main variety'. If two (or three) varieties reached the same frequencies, the fourth category was applicable, i.e., 'various'.

Since children's communicative interactions become more diverse with age, we hypothesised that parental influence might lose importance as children grow older. We therefore included interaction terms between age and socio-economic status (SES) and between age and parental language use. Separate models were calculated for choice of female and choice of male doctor, respectively. All predictors were checked for collinearity before being entered into the model.

Within the initial model for choice of female doctor (outcome reference category = preference for dialect speaker), which includes all predictors, only maternal education (SES), age and the interaction between maternal education and age contribute significantly to model fit. Gender, location, and maternal language use did not prove to be significant predictors of children's attitudinal preferences regarding the female doctor.

The initial model including all predictors was then reduced by excluding statistically redundant variables and comparing the model fit with the initial model (see Table 2 for the initial model and Table 3 for the final model). A comparison of models shows that the model including age, maternal education and the interaction between age and maternal education offers the most parsimonious fit of the data and that the removal of all other predictors does not significantly deteriorate model fit ($\chi^2(8) = 9.249, p = .322$).

the mother's and the father's level of education; still it is only maternal education which shows a significant correlation with discrimination abilities (Kaiser and Kasberger 2018) and with preferences as described here. Similarly, in sociolinguistics it has been noted that it is the female-led changes that seem to be adopted by children more easily than the male-led changes (Labov 1990; Roberts 1997).

Table 2. Coefficients of the initial model predicting which female doctor a child preferred

	B	SE B	p	Odds ratio	95% CI for odds ratio	
					Lower	Upper
Age	.095	.032	.003	1.099	1.032	1.172
City/country ^a	.538	.416	.196	1.713	.758	3.873
Gender ^b	-.288	.326	.376	.750	.396	1.419
Main Variety Mother ^c			.306			
Dialect	3.635	2.306	.115	37.896	.413	3479.497
Umgangssprache	2.411	2.155	.263	11.147	.163	761.732
Standard German	6.399	4.253	.132	601.038	.144	2504221.728
Maternal Education	4.125	1.116	.000	61.850	6.946	550.747
Age by Main Variety Mother ^d			.311			
Age by Main Var. Dialect	-.043	.025	.089	.958	.911	1.007
Age by Main Var. Ugs.	-.026	.024	.275	.974	.930	1.021
Age by Main Var. Standard G.	-.053	.041	.196	.948	.875	1.028
Age by Maternal Education	-.039	.012	.001	.962	.940	.984
Constant	-9.630	2.883	.001	.000		

Note:

$R^2 = .17$ (Cox-Snell), 0.22 (Nagelkerke); Model $\chi^2(11) = 34.148$, $p < .001$ (compared against intercept-only model)

a. Reference category: city.

b. Reference category: female.

c. Reference category: various.

d. Reference category: various.

Table 3. Coefficients of the final model predicting which female doctor a child preferred

	B	SE B	p	Odds ratio	95% CI for odds ratio	
					Lower	Upper
Age	.059	.017	.001	1.061	1.025	1.098
Maternal Education	3.692	.957	.000	40.128	6.148	261.919
Age by Maternal Education	-.034	.010	.000	.967	.949	.985
Constant	-6.211	1.615	.000	.002		

Note:

$R^2 = .12$ (Cox-Snell), 0.16 (Nagelkerke); Model $\chi^2(3) = 24.90$, $p < .001$ (compared against intercept-only model)

For the male doctor, only age was a significant predictor. Reducing the initial model (outcome reference category = preference for dialect speaker) with all predictors to a model including only age and the intercept (see Tables 4 and 5), does not significantly deteriorate model fit ($\chi^2(10) = 13.754$, $p = .185$).

We will scrutinise each predictor in more detail in the following sections.

Table 4. Coefficients of the initial model predicting which male doctor a child preferred

	B	SE B	p	Odds ratio	95% CI for Odds Ratio	
					Lower	Upper
Age	.089	.036	.013	1.093	1.019	1.172
City/Country ^e	-.417	.404	.302	.659	.299	1.454
Gender ^f	-.595	.328	.070	.552	.290	1.049
Main Variety Father ^g			.052			
Dialect	4.956	2.799	.077	141.998	.589	34258.615
Umgangssprache	6.637	2.733	.015	762.855	3.596	161852.641
Standard German	2.267	3.577	.526	9.648	.009	10692.031
Maternal Education	.522	.836	.533	1.685	.327	8.668
Age by Main Var. F ^h			.076			
Age by Main Var. Dialect	-.053	.033	.105	.949	.890	1.011
Age by Main Var. Ugs.	-.071	.032	.024	.931	.875	.991
Age by Main Var. Standard G.	-.026	.041	.528	.974	.899	1.056
Age by Maternal Education	-.008	.009	.420	.993	.975	1.011
Constant	-6.739	2.989	.024	.001		

Note:

$R^2 = .106$ (Cox-Snell), 0.144 (Nagelkerke); Model $\chi^2(11) = 20.891$, $p = .035$ (compared against intercept-only model)

e. Reference category = city.

f. Reference category = female.

g. Reference category = various.

h. Reference category = various.

Table 5. Coefficients of the final model predicting which male doctor a child preferred

	B	SE B	Sig.	Odds ratio	95% CI for odds ratio	
					Lower	Upper
Age	.017	.007	.009	1.017	1.004	1.031
Constant	-1.060	.596	.075	.346		

Note:

$R^2 = .037$ (Cox-Snell), 0.051 (Nagelkerke); Model $\chi^2(1) = 7.137$, $p = .008$ (compared against intercept-only model)

4.4.1 Age

Age is the only predictor which comes out as significant in both regression models, regarding the choice of female and the choice of male doctor. We could see in the descriptive data that during the first two years of primary school (i.e. from ages 6 to 8), a clear preference for the standard variety seems to emerge while preferences in the younger children were not as clear, at least when looking at them collectively.

For the choice of male doctor, age alone was a significant predictor. As children grow older, the odds of them choosing the standard-speaking male doctor

against the dialect-speaking one rise slightly, but significantly (odds ratio = 1.017 for a one-month increase in age). The preference for the standard speaker reaches statistical significance in the eight-year-old group (one-sample binomial test for standard vs. dialect speaking doctor: $p = .002$; see also Figure 4).

For the choice of female doctor, however, the relationship between age and attitudinal preference is moderated by maternal education/SES, which is reflected by the significant interaction between these two predictors in the logistic regression. We will therefore discuss these two variables together in the next section.

4.4.2 *Socio-economic status (SES)*

Looking at socioeconomic status (as defined above), we found that the variable did not significantly predict the choice of male doctor in our regression models, it did, however, predict the choice of female doctor in interaction with age (see Table A.4 in the Appendix for a crosstabulation of SES and choice of male and female doctors). By plotting the predicted probabilities for each age group by each SES/maternal education group (see Figure 6), we can see that the correlation between SES/maternal education and choice of female doctor is almost exclusively due to the younger children, i.e. the kindergarten children.

In this subgroup, children from high-SES backgrounds (i.e., with mothers with a high level of education) are much more likely to choose the standard speaker than those coming from medium- or low-SES households. The different SES groups' preferences seem to approximate each other as children grow older, and as children progress in primary school, SES groups no longer differ substantially. When we

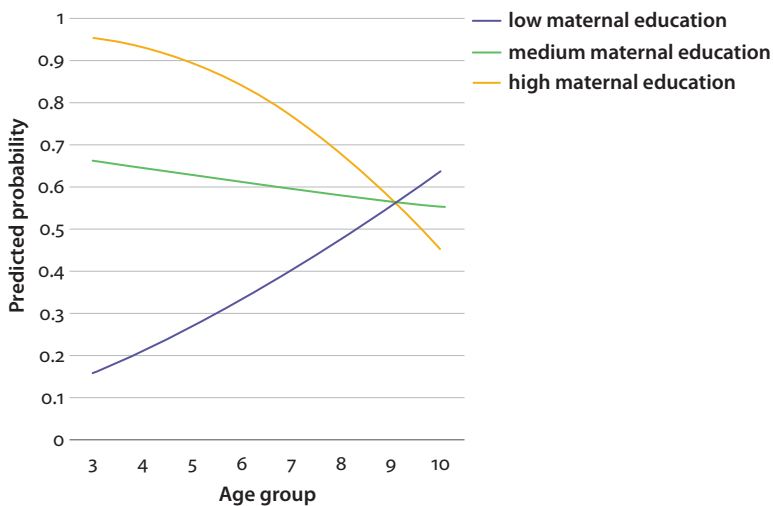


Figure 6. Predicted probabilities of preference for the female standard speaker

split up our sample in two subsamples, the kindergarten and the school children, the association of high(er) maternal education with a preference for the standard speaking female doctor only remains significant for the younger subgroup ($\chi^2(2) = 17.847; p < .001$; Cramer's $V = .524$).

To sum up, there is a significant association between SES/maternal education and preference of language variety for the choice of female doctor in the younger children but SES does not seem to play a role in the choice of male doctor and in the older (= school) children.

4.4.3 Parental language input

In the endeavour to account for the relation between SES/maternal education and (the younger) children's preferences, another potentially relevant factor had to be considered: language use by the parents.⁶

Parental language use and SES (maternal education) are significantly correlated in our data⁷ in that high-SES families tend to use less dialect and more standard language than low-SES families. However, parental input did not per se predict children's preferences in our regression models. Descriptively, though, there is some association between the primary language variety spoken by the mother (according to self-report) and the child's attitudinal preference regarding the female doctor. A similar analysis for the association between choice of male doctor and the father's main language variety did not point into the same direction, as Table 6 shows.

Table 6. Choice of male and female doctor by father's main variety/mother's main variety

		Choice of male doctor (percentage)				Choice of female doctor (percentage)	
		Dialect speaker	Standard speaker			Dialect speaker	Standard speaker
father's main language variety	dialect ($n = 65$)	38.5	61.5	mother's main language variety	dialect ($n = 61$)	55.7	44.3
	'Umgangssprache' ($n = 92$)	35.9	64.1		'Umgangssprache' ($n = 97$)	45.4	54.6
	standard German ($n = 16$)	37.5	62.5		standard German ($n = 18$)	22.2	77.8
	various ($n = 18$)	55.6	44.4		various ($n = 19$)	52.6	47.4

6. Of course, the older the children get, the more diverse become the communicative interactions in which they engage, and the more diverse becomes the input they receive, with parental input losing influence and peer input gaining importance. Unfortunately, we were not able to fully consider the social networks the children are in, which would definitely yield further interesting insights (although the variables of gender and location capture some of this).

7. $\chi^2(6) = 26.047, p < .001$, Cramer's $V = .257$.

The association between the mother's language and the preferred choice of female doctor again seems to be especially pronounced in the kindergarten children (see Figure 7) – corresponding to the observed predictive power of maternal education for the choice of female doctor in this subgroup. Notably, in this subgroup, all three children with standard-speaking mothers prefer the standard-speaking (female) doctor.

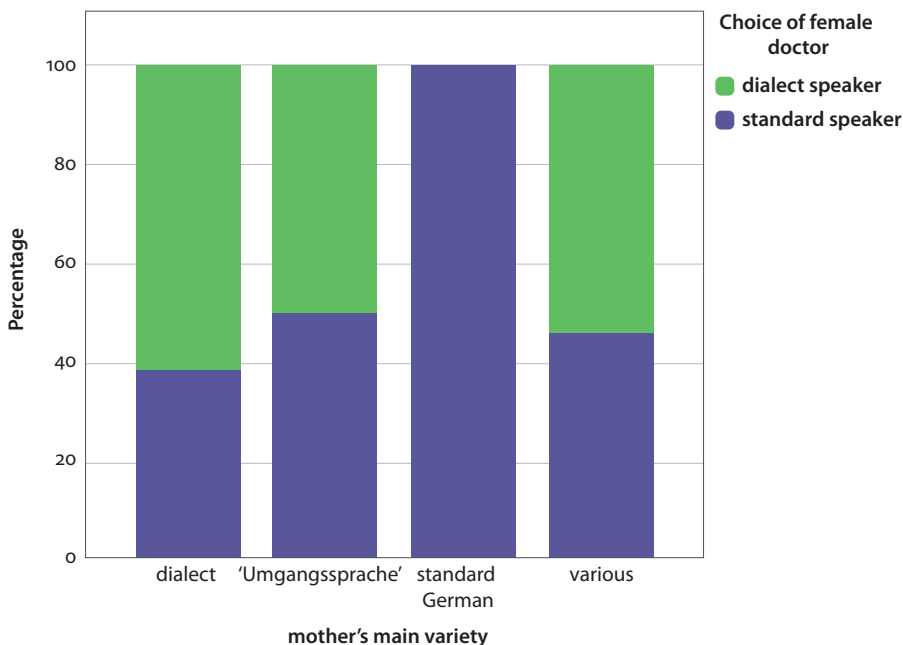


Figure 7. Kindergarten children's choice of female doctor by mother's main variety⁸

It has to be added that both maternal education and parental language use are correlated with the diatopic variable (rural or urban kindergarten/school). There is a larger proportion of children with highly-educated mothers in our urban sub-sample and parents tend to use less dialect and more 'Umgangssprache' and standard German in the cities. The diatopic variable as such, however, did not significantly predict children's attitudinal preference for one of the varieties in our regression models.

4.4.4 Participants' gender

In our data, participants' gender does not significantly predict their preferences with regard to language variety. We can observe a slightly stronger tendency in both cases for girls to prefer the standard speaker, however, as illustrated by Figures 8 and 9.

8. dialect: $n = 21$; 'Umgangssprache': $n = 32$; standard German: $n = 3$; various: $n = 9$.

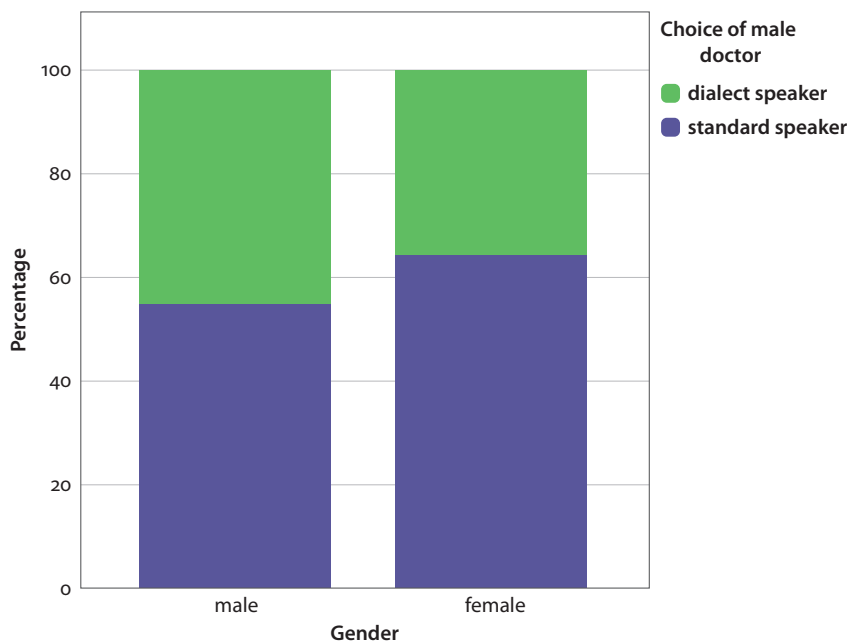


Figure 8. Male and female participants' choice of male doctor

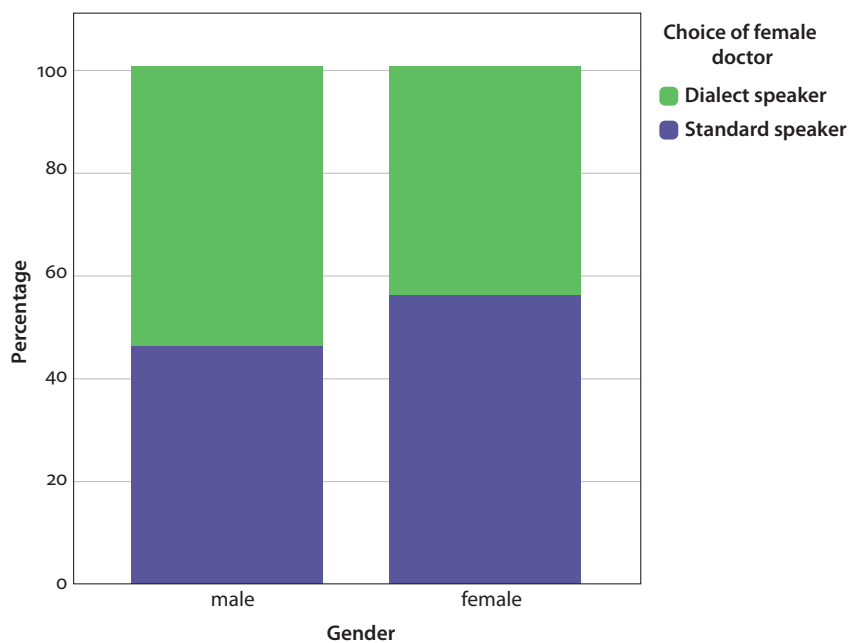


Figure 9. Male and female participants' choice of female doctor

Both in their choice of male and of female doctor, girls are slightly more inclined to go for the standard speaker than are boys. This tendency was equally present in the younger and the older subgroups for both doctors, but, as mentioned above, must be interpreted with caution since it could not be confirmed by our regression models.

5. Summary and discussion

The objective of our paper was to present the results of our investigation into the sociolinguistic preference patterns of Austrian children (aged 3 to 10) regarding the standard and dialect variety of Austrian German. As the acquisition of language attitudes has – so far – not been researched in Austria, we expect that the findings of this investigation may be considered a valuable contribution to the understanding of language variation and language varieties in the German-speaking world and perhaps even beyond.

Growing up and living in Austria means growing up in and being exposed to a linguistic space that – apart from other languages and registers – resounds with many varieties of Austrian German, oscillating between the poles of standard and dialect, showing fluid transitions and quick shifts and switches on the part of their speakers.

Studies that explore the socio-indexical value of the varieties of Austrian German have shown that dialect gets significantly higher ratings on the dimension of social attractiveness, with some cutbacks with regard to ‘refinement’. The Austrian standard variety, in contrast, is favoured on the dimension of competence and regarded as being related to higher socioeconomic status.

In our own study of 205 children aged 3 to 10, we sought to discover the age trajectory of the development of language attitudes regarding the varieties of standard and dialect in Austria. The collected ‘matched-guise’ data was supplemented by a background questionnaire, tests of discrimination abilities and interviews. Our participants were tested with a matched guise audio test (supported by PowerPoint sketches of doctors), which was designed in a child-friendly way, using the guises of two doctors speaking in different varieties. The child was asked to opt for one doctor in each trial.

Consistent with findings from international studies (Kinzler and DeJesus 2013; Cremona and Bates 1977; Day 1980; Giles, Harrison, Creber, Smith and Freeman 1983), the overall outcome shows the development of a preference pattern in the first two years of primary school with a clear tendency in favour of the standard variety between ages 7 and 9. The relevance of the age variable was corroborated in a logistic regression analysis. In addition, we tested for the predictive power of

different variables that have been shown to covary with language attitudes in other studies, i.e., gender and SES as well as sociolinguistic context (varieties spoken by the parents and urban/rural setting).

Regarding the factor of SES we found that an interaction between maternal education and age can significantly predict the preference for the female doctor. Notably, in the age group of 3 to 6 (kindergarten) the link between maternal education and preference for the standard speaking female doctor is strongest. No correlation with maternal education was shown for the group of the schoolchildren and/or with regard to the male doctor.

The main variety spoken by the same-sex parent did not significantly predict the choice of variety by the children in our tasks, but in the group of the younger children (at ages 3 to 6), the role model of the mothers may exert a certain influence on the preferred variety (maybe in the sense of perceptual matching, cf. Kaiser and Kasberger 2018). Since preferences are significantly associated with the mother's level of education, it is not surprising to find a certain association with the mother's main language variety as well, as more highly-educated mothers generally tend to use less dialect and more 'Umgangssprache' or standard German. It is true that those kindergarten-age children whose mothers report speaking mainly dialect tend to show a preference for the dialect speaking female doctor and that the kindergarten-age children of standard-speaking mothers prefer the standard-speaking female doctor (these are only three, though). Yet at the same time, many mothers report using 'Umgangssprache' or various varieties at home and these children do not show any preference in either direction (see Figure 7). The preferences regarding the female doctor observed in the younger age group are much more unambiguously related to maternal education (as a proxy to SES) than to maternal language use, which raises the question what high-SES mothers/families do or say above and beyond their own active use of a certain variety. We can only speculate on this but it seems plausible that (not only, but importantly) parents implicitly and explicitly convey evaluations of language varieties, which children have already absorbed to a certain extent at kindergarten age. Especially more highly-educated mothers and fathers may make explicit metalinguistic remarks about language varieties already to their young children. Our results tie in with the studies by Rosenthal (1974), Day (1980) and Barbu et al. (2013), which documented the importance of socioeconomic background as an influential variable on children's language attitudes and the emergence of evaluative patterns at least in some children before school entry. Furthermore, it has been shown that SES correlates with children's metalinguistic awareness and the pace at which it develops (Warren-Leubecker and Carter 1988) – on top of the well-known relationship between SES and children's language acquisition in general (e.g. most prominently Hart and Risley 1995, for a comprehensive review see Hoff 2006).

Gender did not prove to be a significant predictor of the preference for a certain variety in our regression models. Nonetheless a stronger tendency in our study for females to prefer standard speaking doctors – even though not on a level of statistical significance – was observable. The examination of the gender factor did not corroborate previous results which showed more negative judgements about the use of dialect when the speaker was female, either, as the dialect speaking man in our study was generally rated less favourably than the woman.

While we know that kindergarten children have a notion of the variability and the varieties of their language and that they are to a certain extent competent in using them socio-indexically (i.e. they are known to integrate dialect-standard variation into their play; cf. Katerbow 2013 and Kaiser 2020), distinct preference patterns that go beyond mere familiarity with a variety do not seem to be in place among the majority of kindergarten children. The development of a clear preference pattern seems to set in with literary language acquisition and with growing language awareness. On school entry, the home seems to be gradually superseded by school as the most influential source of language attitudes – an interpretation which is backed up by the fact that the mother's level of education/SES are no longer relevant for school children's attitudes as opposed to kindergarten children's preference patterns regarding the female doctor. At least the first few years of schooling – with all the encompassing factors such as instruction, teacher input and more intense interaction with peers – seem to have a 'mainstreaming' effect on children's language attitudes. This shows in a growing majority of children preferring the standard variety (i.e. the correlation with age) and in the absence of correlations with sociodemographic and home input variables. Our data thus corroborate the results from previous studies from other sociolinguistic areas, which unanimously point to the importance of the first years of schooling in fostering a favourable attitude towards the standard language (Cremona and Bates 1977; Day 1980; Giles et al. 1983; Kinzler and DeJesus 2013).

At the end of primary school (around age 10), we see a certain (but not significant) levelling-off of the preference for the standard variety, which may point towards a newly-enhanced status of the dialect. We know that dialect use in Austria as in many other speech communities is linked to social attractiveness (Soukup 2009; Bellamy 2012). The levelling-off of the preference for the standard language at about 10 years of age may foreshadow a developmental change in attitudes which has been observed in Switzerland at an earlier age (Häcki Buhofer et al. 1994) and which may be attributed to the still-growing influence of the peer group and again – paradoxically – to school. According to Sieber and Sitta (1994) school is a major factor in forming language attitudes, not only because of written language acquisition, but also because of the conveyance of teachers' attitudes and ultimately also

because of the association of the standard language with (ex-cathedra) instruction and testing and its negative consequences.

As mentioned above, our study also encompassed an investigation into our participants' discrimination abilities (using an A-B-X-design, see Kaiser and Kasberger 2018) as well as into language attitudes and language awareness by means of guided interviews. Taking a synoptic perspective, we may firstly state that the age trajectories of all three parts of the study somewhat mirror each other – maybe not surprisingly: We found that discrimination abilities emerge on an above-chance level from age 5 on (on the level of perceptual matching of identical sentences) and appear to be nearly fully developed at the age of 8/9 (on the level of abstract category formation when matching different sentences spoken in the same variety) (Kaiser and Kasberger 2018). Influencing factors on the level of statistical significance are the mother's educational background (SES), language variation at home and the sociolinguistic setting (city/country). Also, language awareness – measured e.g. by the metalinguistic ability to denominate the varieties after being presented with them in the discrimination task – increases significantly after school entry, and at ages 9 to 10 the varieties of 'Hochdeutsch' (standard German) and dialect were almost unerringly identified and named correctly by our participants (Kasberger and Kaiser 2019).

For methodological reasons, the attitudinal dimensions of competence and social attractiveness could not be separated in the present study. In order to get the full picture of the progress and variability of the development of preference patterns and language attitudes, we consider it a desideratum to firstly expand the sample into adolescence, and to secondly extend the test set-up to the dimensions of valence (social attractiveness) and potency (competence) of the semantic space of children's language attitudes. The present study is but one first step towards a better understanding of the transmission and development of socio-indexical evaluation patterns regarding the varieties of German in Austria across the lifespan and in different sociolinguistic settings.

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Appendix

Table A.1 Children's choices in the two trials

		Dialect speakers	Mixed	Standard speakers	Total
Age group	3 n	2	4	2	8
	% within age group	25.0%	50.0%	25.0%	100.0%
4	n	6	8	3	17
	% within age group	35.3%	47.1%	17.6%	100.0%
5	n	6	17	8	31
	% within age group	19.4%	54.8%	25.8%	100.0%
6	n	9	7	7	23
	% within age group	39.1%	30.4%	30.4%	100.0%
7	n	7	12	13	32
	% within age group	21.9%	37.5%	40.6%	100.0%
8	n	5	17	21	43
	% within age group	11.6%	39.5%	48.8%	100.0%
9	n	5	10	11	26
	% within age group	19.2%	38.5%	42.3%	100.0%
10	n	6	11	8	25
	% within age group	24.0%	44.0%	32.0%	100.0%
Total	n	46	86	73	205
	%	22,4%	42.0%	35.6%	100.0%

Table A.2 Choice of female doctor

			Dialect speaker	None	Standard speaker	Total
Age groups	3	n	4	0	4	8
		% within age group	50.0%	0.0%	50.0%	100.0%
	4	n	9	1	7	17
		% within age group	52.9%	5.9%	41.2%	100.0%
	5	n	15	2	14	31
		% within age group	48.4%	6.5%	45.2%	100.0%
	6	n	13	0	10	23
		% within age group	56.5%	0.0%	43.5%	100.0%
	7	n	15	2	15	32
		% within age group	46.9%	6.3%	46.9%	100.0%
	8	n	16	1	26	43
		% within age group	37.2%	2.3%	60.5%	100.0%
	9	n	10	0	16	26
		% within age group	38.5%	0.0%	61.5%	100.0%
	10	n	13	1	11	25
		% within age group	52.0%	4.0%	44.0%	100.0%
Total	n		95	7	103	205
	%		46,3%	3,4%	50,2%	100,0%

Table A.3 Choice of male doctor

			Dialect speaker	None	Standard speaker	Total
Age groups	3	n	4	0	4	8
		% within age group	50.0%	0.0%	50.0%	100.0%
	4	n	10	1	6	17
		% within age group	58.8%	5.9%	35.3%	100.0%
	5	n	13	2	16	31
		% within age group	41.9%	6.5%	51.6%	100.0%
	6	n	12	0	11	23
		% within age group	52.2%	0.0%	47.8%	100.0%
	7	n	10	1	21	32
		% within age group	31.3%	3.1%	65.6%	100.0%
	8	n	11	0	32	43
		% within age group	25.6%	0.0%	74.4%	100.0%
	9	n	10	0	16	26
		% within age group	38.5%	0.0%	61.5%	100.0%
	10	n	9	1	15	25
		% within age group	36.0%	4.0%	60.0%	100.0%
Total	n		79	5	121	205
	%		38,5%	2,4%	59,0%	100,0%

Table A.4 Choice of male and female doctors by SES (maternal education)

		Choice of male doctor (percentage)		Choice of female doctor (percentage)	
		Dialect speaker	Standard speaker	Dialect speaker	Standard speaker
SES (maternal education)	low ($n = 96$)	37.5	62.5	58.5	41.5
	medium ($n = 43$)	44.2	55.8	44.2	55.8
	high ($n = 56$)	39.3	60.7	33.9	66.1

Variation in stress in the Jamaican classroom

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This article investigates how Jamaican schoolchildren aged 7 respond to their teachers' production of stress. Based on a larger sociolinguistic study (Lacoste 2012), the data concerns particularly the production of a Standard Jamaican English (SJE) speech pattern that was observed in the classroom setting, i.e. phonetic exaggeration of the three stress correlates: duration, pitch and loudness in word-final syllables. Statistical results show a recurrent use of high levels of the stress correlates including lengthening of vowels in word-final syllables in the children's speech. The lengthening of vowels in word-final position may be aimed at facilitating the children's learning of the standard English variety.

Keywords: word-final vowel lengthening, pitch and loudness, Standard Jamaican English, L2 learning, rural Jamaica

1. Introduction

To this date, there has been little research on variation in the speech of Jamaican children (see however a recent study by Coy and Watson 2020). This article examines variation in the speech of seven-year-old children who are exposed to Standard Jamaican English (SJE) as a second language variety in a Grade 2 classroom in central Jamaica. Jamaican Creole (JC), as the everyday first language of most Jamaicans, is an English-based Creole which emerged as a result of contact between various African languages and European languages including especially past regional dialects of British English in the context of the Atlantic slave trade. JC is not to be confounded with Jamaican English (JE) (Devonish and Harry 2008, *inter alia*) despite what is known as the (Post)Creole continuum (DeCamp 1971; Rickford 1987; Patrick 1999). The latter is a theoretical construct that refers to the graduated nature and absence of sharply defined varieties or lects coexisting along this continuum, i.e. the basilect, the most Creole form, at one extreme, and the acrolect, the most (standard) English form, at the other, with intermediate varieties in the mesolectal range which exhibits both Creole and acrolectal English linguistic features. Bearing

this in mind, children in this study may be regarded as ESL learners. In Jamaica, *Phonics*, which pertains to the teaching of the sounds of SJE, focuses on the learning of ‘whole-word pronunciations’. This consists in teaching lexical and sound shapes of words simultaneously (Ministry of Education and Culture 1999, 2001).

This article addresses the following questions: To what extent is word-final vowel lengthening produced in the Grade 2 classroom in those whole-word pronunciations mentioned above, and how does children’s use of pitch and loudness correlate with vowel lengthening in word-final position? What effects do certain tasks, which the children were invited to perform, have on word-final vowel lengthening (tasks reflecting different speech styles in the Labovian sense)? This paper begins with a discussion of conceptual issues related to stress in standard varieties of English and JC especially. Then, I discuss how word-final vowels were selected for the database in relation to stress, including the procedures employed for measuring duration, pitch and loudness. One of the main results showed that increased vowel duration in word-final position was found to be used by teachers to support the teaching and learning of SJE whole-word pronunciations.¹

2. Phonostylistic variation in children’s speech

2.1 Vowel length and word-level prominence in English and Jamaican

Stress assignment and the segmental system of a language are closely related (Ladefoged 2003, 2005). In English varieties which are stress-timed systems, a stressed syllable occurs concomitantly with an increase in duration, pitch and loudness. JC prosody was first described as non-stress-based (Lawton 1963, 1968); Akers (1981) claims that stress is not a particularity of the language. These early works support the claim that JC is a predominantly syllable-timed system where vowel reduction is infrequent, though not completely absent. More recent work shows that JC falls into the category of stress-accent languages (Gooden 2003, 2014), in which “lexical contrasts result from differences in the alignment of the F0 contour with the stressed syllables of words” (2003: 279). Gooden’s data also suggests that JC does not have lexical tone. Her findings on prominence in JC therefore have compromised the claim that the language has a tonal system, as in Lawton (1963), for instance. Some research on SJE shows that the variety displays features of a syllable-timed system, that is, vowel reduction is not very regular and each syllable of a word bears similar prominence (Shields 1987). Shields argues

1. This article is based on Lacoste (2012).

that the rhythmic similarity has consequences for the overall segmental system in SJE. Assigning similar prominence to each syllable may result in changes in vowel quality as well as more similar vowel durations in both stressed and unstressed positions. In this article, the data shows that vowel lengthening in the children's speech was produced in unstressed word-final positions too. A good example of this phenomenon occurs in the word *tunnel*, typically realised with almost the same pitch level across both syllables, while the vowel in the second syllable was produced with extreme duration.

Considering the relationship between prominence and segmental production, Devonish (2002) proposes that "a prominent unit is one which has a feature possessed by no other unit within its immediate vicinity" and that "prominent syllables tend to be more phonetically complex than non-prominent ones" (2002: 1). Prominent syllables may then be produced with longer duration, among other phonetic properties. Generally, a durational continuum exists for English vowels "governed by several factors including stress, position in the utterance, vowel height, and adjacent phonological environments" (Veatch 1991). Devonish (2002) studied prominence patterns in Guyanese Creole, reporting that the mean length of 61 prominent syllables was 242 msec, while 37 non-prominent syllables had a mean length of 125 msec. In Guyanese Creole, this shows a clear difference in duration between syllables that are prominent and those that are not. However, stressed syllables contain longer vowel duration than the vowels located in unstressed syllables. As for vowel duration in both JC and JE, Wassink (2006) reveals that the ratios of segmental durations that she calculated for long vs. short vowels do not seem to be considerably different between the two varieties on the surface (the ratio for JC vowels was 1.7:1, while 1.6:1 was found for JE). Bearing this mind, a stress assignment of primary stressed and secondary stressed versus unstressed syllables in many English varieties may not be similar to the one observed in this study. As an illustration of this, one finds the classroom lengthened open-mid back vowel /ʌ/ in *-ion* ending words, which is often produced in a syllable that would usually be assigned to a stressed position in other varieties of English, although not phonetically lengthened. Children's stress patterns in SJE do not seem to be influenced by other standard varieties of English, like British or American English, and they are not a target in the classroom. The use of unstressed syllables together with phonetically reduced vowels, characteristic of the stress system of many standard varieties of English, is not assumed for Jamaican children's stress placement, even though their teachers' shares some degree of similarity with it. Importantly, there is no suggestion in this article that unstressed or reduced vowels in the children's data do not occur at all, but they surface very inconsistently.

With respect to intensity (the acoustic counterpart to loudness), Lacoste (2012) reports that extremely high intensity in teacher speech tends to occur while realising targeted words in phonetic drilling tasks. Exaggerated intensity may be used to assist children with their learning of planned whole-word pronunciations, which the children replicate variably while performing different tasks. Teachers' exaggerated intensity may also be connected to environmental speech phenomena like the *Lombard Reflex* and/or *Child-Directed Speech* (CDS). The Lombard Reflex refers to (language) external pressures that trigger some degree of variability in producing speech, and is a type of 'perturbation' typically correlated to an amplification of vocal intensity due to background noise (Wassink et al. 2007). Some studies on CDS have shown that when adults (especially mothers) speak with their children, they tend to produce expanded vowel space, exaggerated pitch range and higher fundamental frequency (Wassink et al. 2007: 364, citing Kuhl et al. 1997; Albin and Echols 1996). Other studies report that infants can control pitch, intensity and duration (see DePaolis et al. (2008) for a review of those studies). In the context of the Lombard Reflex, increased vocal intensity may be the result of speakers' effort to overcome background noise. Wassink et al. (2007) compare several types of exaggeration of the acoustic signal in the speech of ten Jamaican mothers, five of whom are JE dominant and the other five JC dominant. The lengthening of several dimensions of the acoustic signal is examined, including spectral and temporal features. The mean duration in the CDS task in their study had the widest range of all speech tasks. The CDS task also exhibited the widest range in pitch values immediately followed by the Lombard Reflex task. As for intensity, the Lombard Reflex tokens were produced as the loudest of all the tasks, according to the authors' expectation. The speech phenomena described in Wassink et al. (2007) and their repercussions on speakers' vocal intensity share some similarities with the data presented here. A fact worthy of mention is that speakers in both studies are all female, two of whom were also mothers at the time of the recordings. Thus, CDS, roles such as mother or teacher, which are gendered, and exaggeration of the acoustic signal in speech production may be closely interrelated. Although the Lombard Reflex is not a focus in this article, it is worth noting that in two of the three schools under study, classrooms were occasionally noisy environments which resulted in the teachers increasing their vocal level. However reciprocal this relation may be, it does not provide a valid answer for the reason why teachers and children would produce greater intensity in word-final syllables where minimal levels would rather be expected. This also concerns the speakers' placement of higher pitch on word-final syllables. It is understood that extremely loud sequences of sounds are more likely to fall on stressed syllables, but the question remains as to why a wide range of intensity should also coincide with word-final positions. The assignment of greater intensity irrespective of syllable position may build upon methodologies

for realising modelled whole-word pronunciations by teachers. Children increased their intensity level in word-final position too, although they were often recorded in quiet settings. There is surely a correlation between external noisy environment and greater intensity, but sporadic noise may not be the only trigger for children's amplified intensity.

2.2 Stylistic variation

Sociolinguistic and stylistic variation has been found to be one important aspect of language development (for recent accounts see e.g., Smith and Durham 2019; De Vogelaer and Katerbow 2017; Lacoste and Green 2016; Chevrot and Foulkes 2013; Nardy et al. 2013; Smith et al. 2013). 'Style' as one aspect of language variation is discussed variably in the literature. In SLA research, stylistic variation emerges in relation to attention to speech and task (Díaz-Campos 2006; Romaine 2003). From early sociolinguistics on, it has been defined typically as the adjustment of certain features of speech to context (Romaine 1984); style-shifting involves the use of phonological and morphosyntactic features in relation to their degree of formality (Schilling 2013; Schilling-Estes 2004; Lim and Guy 2003; Baugh 1979). Style-shifting is also the result of a speaker's adaptation to different audiences (Bell 2001). An account of style-shifting (Schilling-Estes 2004: 376) posits that "style shifts [...] may be quite deliberate and involve the self-conscious use of features of which the speaker and audience are very aware, or they may be unconscious, involving features that people do not even realize they are using". Variation may thus be socially and stylistically motivated or developmental in nature (Labov 1989, 2001; Roberts 1997, 2004; Foulkes et al. 1999; Meade 2001). The sources of variation in second language learning are manifold: for instance, a learner may be exposed to a set of variable patterns as a result of (quantity and quality of) input, in addition to, for Jamaican children in this study, the (Post)Creole continuum on which non clear-cut varieties coexist with their respective sociolinguistic norms.

3. Methods for data analysis

The data involves 24 schoolchildren aged seven (12 girls and 12 boys) and their 3 teachers from three primary schools located in central Jamaica. All teachers were proficient in SJE, although some variation in their phonology between SJE and JC varieties was observed. The children were asked by the fieldworker, i.e. me, to perform different tasks. It was anticipated that a range of tasks would show variation in style and different levels of attention to speech in the Labovian sense. The tasks were standardised testing tasks (while teaching was engaged), reading tasks

(reading from official story books), where formal speech would be expected, picture description tasks and free talk tasks, where casual speech was likely to surface the most (see Section 4.2.4.). During fieldwork, an effort was made to minimise differences in the degree of loudness due to microphone placement. I made sure that all informants had their lavalier microphone located on the collar of their shirt, at about equal distance between their shirt and their chin. When the recordings took place in the classroom, I made sure to choose a quiet corner whenever possible.² The next three sections present details about the methods considered for the analysis of the stress correlates.

3.1 Vowel duration

The word-final vowel dataset amounts to 4245 tokens (2442 tokens for the children, and 1803 tokens for the teachers). The selection of word types for analysis was made based on orthography, which is not a usual approach in socio-linguistic analysis, but is pedagogically relevant. That is, children were exposed to speech patterns in *Phonics* classes where they were taught through orthography rather than speech alone. The dataset was selected on the basis that the vowels in word-final position came first from modelled items in the classroom, for instance words ending in *-er* (*mother, water, together*), in *-ion* (*education, question*), or in *-al* (*capital, numeral*). Regarding stress patterns, a minimum of bi-syllabicity was required so that an analysis of stress pattern between word-final and penultimate syllables was made possible. Regarding word-final syllables, the striking durational attributes displayed by a lengthened vowel may not concern the phonological short:long pairs of vowels insofar as it would be difficult to suggest that an exaggeratedly lengthened vowel such as [a:] has as its phonological counterpart the long monophthong /a:/ in word-final position. It is more likely that its short counterpart [a] undergoes exceptionally additional duration in word-final position. Table 1 lists the lengthened phonetic variants that do not typically appear in a short:long vowel pair framework. The vowels that do fit in a typical short:long pair framework do not figure in this list for the reasons given above, such as [ɔ] versus [ɔ:], for instance.

The lengthened centralised lax vowel [ə:] was produced frequently by both teachers and children. However, some early studies on Jamaican vowel inventories

2. Even though I made sure that there was as little difference as possible in the degree of loudness between the children, there naturally remains some uncertainty as to the exact distance between the microphone and their mouths, or how loud they were talking on an individual level. Understandably enough, field recordings cannot control all settings like in a recording studio, but still offer valid results for the research goals sought in this study.

Table 1. Not-lengthened vs. lengthened vowel pairs observed in classroom SJE

Vowel quality	Not lengthened	Lengthened
High Front Lax	[ɪ]	[i:]
Mid Front Lax	[ɛ]	[ɛ:]
Mid Back Lax	[ʌ]	[ʌ:]
Centralised Lax	[ə]	[e:]

include the long centralised [ɜ:] in JE as a variant of /o/ (Wells 1973), in addition to the fact that its short equivalent /ə/ has not yet been reported in analyses of the Jamaican vowel inventories (Cassidy and LePage 2002; Akers 1981; Meade 2001). It does not figure in Table 1, although it fits well in the not-lengthened: lengthened pair framework in this study.

The acoustic measurements of the three stress correlates were carried out in Praat (Boersma and Weenink 2008; Lacoste 2012).³ With respect to vowel duration, standard segmental measurement procedures were applied (following Myers 2005: 431). An early auditory assessment led to a binary durational contrast between perceived elongation and perceived shortening. In the early stages of coding for vowel duration, two groups surfaced, a lengthened vowel group and a shortened vowel group. A portion of the data (4 children, 323 tokens, 13.3% of the children's data) was then used as a pilot study for more precise durational measurements in Praat, which could either confirm or disconfirm early impressions. Thanks to these measurements, a third group emerged, which led to the creation of three groups: one group of exaggerated length, one group of shortened or reduced vowel duration and a third group in which the vowels visibly were neither lengthened nor shortened (the medium length vowels). Each vowel variant thus belongs to one of the three patterns of duration, i.e. this is where a continuous variable is turned into a discrete one for statistical analysis.⁴ The small pilot study conducted for classroom vowel duration revealed that very few of the centralised vowels were so short that they could barely be heard. The length cut-off points or range of vowel duration in seconds emerged as follows: a minimum of 200 msec and longer for the lengthened

3. This article is part of a larger sociophonological study in which some impressionistic, auditory, methods were used (including for vowel quality). Concerning duration, pitch and loudness, however, an acoustic analysis programme like Praat was deemed appropriate to provide their various raw measurements.

4. The acoustic analysis in this article is not based on continuous variables but on discrete ones, the chief reason being that, at the time of the study, the statistical tool Varbrul allowed more for analyses of discrete and binary variables. The discrete categories naturally contain a set of raw measurements but they are not reported individually, a way of normalizing the data which is not untypical in sociolinguistic work.

vowels, a range of 100 msec to 199 msec for the medium length vowels and a maximum of 99 msec for the more reduced vowels. Vowel lengthening is the dependent variable in statistical terms (see Section 4.2.).

3.2 Pitch

The coding of pitch was carried out for two adjacent syllables per word, i.e., the penultimate and the final syllables. Pitch was measured at vowel midpoint within one syllable, i.e. halfway into the vowel segmental duration, resorting to Praat's 'Get Pitch' option (which shows the mean pitch of the vowel under study on the spectrogram; pitch range used: 100 Hz–500 Hz). The small case study revealed that a high pitch typically exceeded 260 Hz on average. Any pitch below that level was considered low, hence two discrete groups H and L emerged. Between the penultimate and the final syllables, one syllable was then given the higher pitch and the other one the lower pitch. A higher pitch was coded as H while a lower pitch was coded as L.

3.3 Loudness

Loudness (or intensity) is claimed to be the weakest indicator of stress, pitch and duration playing the major parts (Ladefoged 2003). In spite of this, loudness was incorporated in this study as it is assumed to carry linguistic as well as pedagogical meaning for teaching and learning English vowels. Crucially, the claim often made about greater intensity concerns stressed syllables only. The inclusion of loudness in this study is due to the regular observation of exaggerated loudness on word-final syllables where decrease levels would normally be expected. In other words, word-final syllables are not necessarily the lowest in intensity in the data: they can be loud with a low pitch, or loud with a short vowel. The more prominent syllable may also have a higher pitch and a greater duration, though not a greater intensity level. Like for pitch, two syllable boundaries, i.e. penultimate and final syllables, were coded for loudness. The same pilot study as for pitch and duration determined that the loudest vowels usually exceeded 75 dB, therefore this measurement was set as a threshold between high intensity vowels and low intensity vowels, i.e. > 75 dB for high intensity vowels and < 75 dB for low intensity vowels. The two syllable boundaries were assigned the following codes: 1–0, 0–1, 1–1, or 0–0 (1 for above 75 dB and 0 for the lower value). The mean intensity of each syllable was obtained at vowel midpoint with the recourse of the 'Get Intensity' option. In Praat, the standard setting for intensity ranging from 50 to 100 dB was employed to code for the variable.

4. Results

The main results concern the children's data; only brief descriptive frequencies for the teachers' results are provided. Word-final vowel lengthening is at the heart of the analysis and is the dependent variable. Detailed cross-analyses between the three stress correlates are presented for the children's data.

4.1 Teachers

Data on the three teachers' production of vowel duration shows a somewhat even distribution across duration groups, i.e. reduced vowels: 32%, medium length vowels: 43,5% and lengthened vowels: 24,5%. Exaggerated lengthening of some word-final vowels thus occupies a moderately important space in their classroom speech. Note that 72% of lengthened vowels were central, while 13.6% were front, and 14.3% were back vowels. Phonetic vowel lengthening in the teachers' data emerged consistently when the vowels were mid, lax, and central. With respect to pitch on the word-final vowels, more of the lengthened vowels were produced with a higher pitch (57.5%), while 42.4% of the time the teachers' level of pitch was lower. Regarding loudness, the teachers produced 94% of lengthened vowels with a higher intensity, while 6% of the same length vowels were produced with a lower intensity. At the individual level, results showed that teachers displayed great variation in the use of vowel lengthening which they produced especially to drill whole-word pronunciations. Conversely, vowel lengthening was not a recurrent feature of their non-modelled speech performance.

4.2 Children

The statistical results were obtained using Varbrul (Young and Bayley 1996). The improved version of the variable rule, Rbrul (see Johnson 2009), was not available at the time of data analysis. Vowel lengthening is the 'dependent' variable in this study, i.e. the "factor group which encodes the linguistic variable under investigation" (Robinson et al. 2001: 5). Pitch, loudness, and task are the independent variables.

4.2.1 *Vowel lengthening and pitch*

Children's data shows that reduced vowels surfaced only 5.2% of the time, against 41% for lengthened vowels and 53.8% for the medium length vowels.⁵ The pitch

5. It should be noted that owing to an insufficient number of vowel reduction tokens in the children's data, the latter were removed from the main statistical analysis. That is, 128 tokens were excluded from a total of 2442 tokens.

pattern assigned to the word-final syllable shows that it has a significant impact on the production of lengthened vowels. Statistical results reveal that word-final vowels produced with a higher pitch favour vowel lengthening (see Table 2).

Table 2. Results of word-final vowel lengthening by pitch in the children's data

Level of word-final pitch	Word-final vowel lengthening	Extra lengthening (X)		Medium length (M)		X + M	
		%	<i>n</i>	%	<i>n</i>	%	<i>n</i> / <i>N</i>
High (> 260 Hz)	0.631	53.7	535	46.3	462	43.1	997
Low (< 260 Hz)	0.400	35.3	465	64.7	852	56.9	1317
Total	<i>P_i</i> 0.397	43.2	1000	56.8	1314	100	2314

The statistical ranking provides evidence of a close relationship between children's higher pitch assignment and their production of exaggerated vowel lengthening.⁶ Higher pitch favours lengthening at 0.631. Notice also the symmetry between the statistical data and the percentages for lengthened vowels. A higher pitch on word-final vowels, then, is more likely to be produced along with phonetically lengthened vowels. A lower pitch also concurs with the production of vowels with lengthening, though at a much lower rate. What is unusual is pitch placement, especially word-finally, where a falling contour might be expected in other Standard English varieties. Vowel duration is extended when children produce a high degree of pitch on the word-final syllable, which leads to the conclusion that, statistically, there is a concomitant process of high pitch exaggeration and phonetic durational exaggeration taking place in children's realisation of word-final syllables.

The results of the correlation between pitch on the penultimate syllable and vowel lengthening establish a reversed scenario. That is, a higher pitch pattern disfavors word-final exaggerated vowel lengthening while a low pitch favours it, although there is no major difference. While stressed vowels are usually longer than unstressed vowels in Standard English (Ladefoged 2003, 2005), Jamaican children produce a rather unique pattern when reducing the vowel of the next syllable since a high pitch on the penultimate syllable still allows durational exaggeration word-finally, though at a lower rate. Table 3 shows the results of how pitch assigned to the penultimate syllable impacts statistically on word-final lengthening.

Considering the extra lengthening and medium length groups together, it appears that high pitch is frequently used on the penultimate syllable (76.9%), but

6. Log likelihood = -1244.190, 1487 cells, 11 factor groups, total chi-square = 1610.4395. *Chi-square/cell* = 1.08.

Table 3. Results of word-final lengthening by pitch between penultimate and word-final syllables in the children's data

Level of pitch of penultimate syllable	Word-final vowel lengthening	Extra lengthening (X)		Medium length (M)		X + M	
		%	<i>n</i>	%	<i>n</i>	%	<i>n</i> / N
High (> 260 Hz)	0.479	42.3	752	57.7	1027	76.9	1779
Low (< 260 Hz)	0.569	46.4	248	53.6	287	23.1	535
Total	<i>P_i</i> 0.397	43.2	1000	56.8	1314	100	2314

this high percentage does not translate into vowel shortening in the next syllable.⁷ The children show that they are developing a set of vowel duration contrasts and pitch assignments in their classroom vowel system. They appear to have stored in their phonetic repertoire a variable word-final vowel pitch-duration pattern for each of the length groups. That is, they produce a majority of lengthened vowels (53.7%) with a high pitch, and the reduction token data revealed that they also produce most reduced vowels with a low pitch (94.5%, despite the small sample size) and two-thirds of medium length vowels were produced with a low pitch (64.8%). Therefore, the pitch variable may give evidence that exaggeration of durational features in word-final position operates in conjunction with the production of another phonetic phenomenon, pitch in this case, since the absence of extreme durational lengthening generated to a large extent a minimised pitch gesture (< 260 Hz).

4.2.2 *Vowel lengthening and loudness*

Loudness on the penultimate syllable did not present any statistical significance. As shown in Table 4, the results of the word-final loudness factor group indicate that the production of increased intensity tightly correlates with vowel lengthening.

Table 4. Results of word-final vowel lengthening by loudness

Level of word-final loudness	Word-final vowel lengthening	Extra lengthening (X)		Medium length (M)		X + M	
		%	<i>n</i>	%	<i>n</i>	%	<i>n</i> / N
High (> 75 dB)	0.543	47.1	882	52.9	990	80.9	1872
Low (< 75 dB)	0.324	26.7	118	73.3	324	19.1	442
Total	<i>P_i</i> 0.397	43.2	1000	56.8	1314	100	2314

7. Log likelihood = -1244.190, 1487 cells, 11 factor groups, total chi-square = 1610.4395. *Chi-square/cell* = 1.08.

As noted in Table 4, a high degree of loudness statistically favours the production of lengthened vowels at 0.543, while a low level disfavours it, showing a 0.324 result.⁸ This finding shows great similarities with the pitch results since high levels of both processes have been shown to correlate with the use of durational features exceeding 200 msec. Even though a low level of loudness exhibits a lower likelihood of vowel lengthening, it does so almost 27% of the time. The medium vowel length group displays a reversed pattern: low intensity correlates with medium vowel length 73% of the time while high intensity is produced concurrently to medium length vowels 53% of the time only. When lengthened and medium length vowels are combined, high intensity appeared 81% of the time in the children's speech, against 19% for the same vowels produced with low intensity. Loudness on the penultimate syllable did not present any statistical significance in favour of word-final exaggerated lengthening. High intensity showed a probability of 0.504 (45%) while low intensity displayed a 0.487 statistical result (38%).

4.2.3 *Pitch and loudness combined*

In Figure 1, the levels of pitch and loudness for the durational exaggeration group only are displayed ($n = 1000$). Note, however, that the previous statistics for the phonetic factors were calculated across the two length groups X and M.

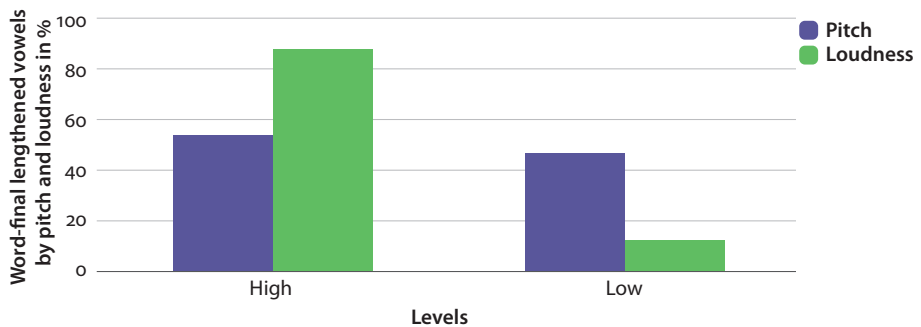


Figure 1. Cross-results of word-final pitch and loudness by vowel lengthening in the children's data

The factor relationship is interesting not only because low levels of both phonetic factors occur less frequently than their high counterparts, but mainly because it shows the range of variation between the levels within a category and across factors.

8. Log likelihood = -1244.190, 1487 cells, 11 factor groups, total chi-square = 1610.4395. *Chi-square/cell* = 1.08.

The range of variation between high and low levels in the pitch category is minimal (53.5%–46.5%), yet the levels for the loudness category indicate a much wider scope of variation since it shows that 88.2% of lengthened vowels were produced with high intensity against 11.8% of the same vowel length that was produced with an intensity lower than 75 dB. Although loudness is widely reported to be only a minor cue for stress, it shows that it takes effect with word-final exaggerated duration at a high frequency level.

With respect to the children's production of loudness levels by school, results showed a uniform use of high loudness levels on word-final syllables, i.e. > 75 dB. One of the schools, mainly due to its extremely small size, offered a quiet learning environment and frequent interaction between the teachers and her students, while noise could sometimes be an impairing factor for learning efficiently in the other two schools. Nevertheless, the quiet learning environment in the smaller school was not instrumental in reducing intensity levels in the children's production of word-final vowels. This therefore indicates that high levels of intensity are not caused by the children's attempt to compensate for a relatively noisy environment. Rather, their amplification of intensity levels shows that it is another manifestation of classroom phonetic features which they are exposed to in a consistent manner. The teachers themselves had recourse to amplified intensity levels while they were teaching. Once again, it may be suggested that it was their attempt to outdo occasional obstructive noise that was external (or internal) to their immediate classroom setting. However, the analysis shows that the three teachers produced comparable levels of high loudness across the schools, and this occurred despite the level of surrounding noise that was sometimes observed in their respective schools. The teachers' result echoes Edwards-Taylor's (2002) study on verbal interaction in Jamaican classrooms where she observed that the teachers' vocal intensity ranged between 74 dB to 76 dB, with their voice "staying closer to the high end most of the time" (2002: 133). For Edwards-Taylor, however, increased intensity levels in SJE modelling have to do with the teachers' attempt to drown out the sporadic noise caused by neighbouring classrooms, which do not have a dividing wall between them. The results in the present study do not deny this explanation, but they show that it is not the sole motivation for explaining increased intensity levels in teachers' modelling.

Moreover, a cross-analysis between word-final high loudness and the task categories shows that the picture description task presents the highest frequency of high loudness tokens. Yet, most children performed this task outside of their classroom. A standardised testing task and a free talk task revealed identical token numbers of high loudness. Still, the children mostly performed a standardised test in the classroom when drilling was engaged, while the free talk task was primarily conducted in the playground, or at least away from classroom drilling interactions. It appears

that they are sensitive to modelled phonetic elements to such an extent that they integrate them into their own phonetic repertoire, which are then solicited for their retrieval irrespective of the contexts of performance in which they are used.

The findings on pitch and loudness elaborate on Shields's (1987) proposal that sameness in prominence or 'equal weight' on each syllable of a word in JE causes important changes in the overall segmental arrangement of the word. An impressionistic analysis of the stress patterns may lead to such an interpretation.⁹ However, a careful acoustic examination determined that several combinations of levels of pitch and loudness on the penultimate and the word-final syllables of a word co-occurred with word-final vowel lengthening. The following set of binary combinations for the penultimate and the word-final syllables (high (H) and low (L) levels for pitch, i.e. > and < 260 Hz, and 1 = high amplitude, 0 = low(er) amplitude for loudness, i.e. > and < 75 dB) was found: HH 11; HL 10; LH 01; LL 00. Despite these combinations, the children's data showed that a word-final vowel was mostly lengthened in the HH, LH, and 11 combinations between penultimate and word-final syllables, as shown in Table 5.

Table 5. Word-final lengthening by pitch and loudness in the children's data

Combinations of levels of pitch	% of word-final lengthened vowels	<i>n</i> of word-final lengthened vowels
HH	38.5	386
LH	36.5	366
HL	15	149
LL	10	99
Combinations of levels of loudness		
11	70	701
01	10	100
10	18	181
00	2	18
Total	100	N = 1000

These findings elaborate on some early observations (Shields 1987) on the auditory effects of sameness of prominence in JE specifically in relation to vowel length despite a basic four-levelled prominence categorisation for the pitch and loudness

9. This is primarily due to the fact that it may be difficult for the listener to differentiate between pitch and loudness levels as well as vowel duration. A challenging auditory interpretation of the stress system in JE is also attributable to the pervasive interplay of an unusual placement of pitch and loudness features in this language variety.

stress correlates in the present study. Gooden (2003) conducted a thorough acoustic analysis of the prosodic system of JC and found that this language variety contains evidence of a stress-accented system. In the children's data, word-final lengthening is tightly correlated with exaggerated pitch and loudness levels. The reported sameness of prominence in Shields (1987) shares similarities with this acoustic combinatorial categorisation since symmetrical levels such as H H and 1 1 most favour the production of word-final lengthened vowels. However, the results in Table 5 show that the children are not categorical in their production of the H H and 1 1 combinations, extending vowel lengthening across all four levels of both pitch and loudness. The frequent use of symmetrical levels of the stress correlates within the penultimate and word-final syllable boundaries may suggest that stress is influenced by a syllable-timed system to some extent. But the children's data also provides evidence of a stress-timed system, which implies a decrease of pitch and loudness levels on the word-final syllable, particularly for the H L and 1 0 levels although they occur at a much lower rate. Because H H and L H levels show close percentages (38.5% and 36.5% respectively), it may not be suggested that seven-year-old schoolchildren in this study rely on a syllable-timed system to construct the classroom stress system (though note the 70% of lengthened vowels produced within the 1 1 combinatorial level).

All the combinations reveal that the children use a variable stress-related system marked by various pitch and loudness levels which function in close correlation with their performance of vowel duration. Statistically, high pitch and high intensity on the word-final syllable contributed to vowel lengthening above 200 msec. Regarding the teachers' production of stress, high pitch and high intensity on the word-final syllable also promoted the production of vowel lengthening. This indicates that children are sensitive to their teachers' stress system and replicate it despite its variability. Teachers' exaggerated intensity levels, increased pitch levels and stretched durational attributes of vowels echo to some extent previous studies on the effects of CDS on speech (Wassink et al. 2007). The teachers' data indeed shows a close correlation between word-final vowel lengthening and a high level of pitch and between vowel lengthening and exaggerated intensity. A similar correlation applies to medium length vowels. Yet, this relationship is only partially reminiscent of CDS since a reversed association with regard to vowel reduction and decreased levels of the stress correlates was also noted. Surely, the level of attention to speech in a classroom is different from a typical CDS context, i.e. in a first language acquisition environment where children do not necessarily pick up their mothers' exaggerated patterns of speech. In a classroom situation, where attention to modelling is high, children are more likely to replicate phonetic enhancement since they are aware that it is part of the drilling exercise.

4.2.4 Word-final vowel lengthening and Task

Task, as one of the independent variables, came up as the most favouring statistical effect on vowel lengthening. Children's speech was recorded while they were performing different tasks such as a standardised testing task, a story reading task, a picture description task, a story re-telling task and while they were talking freely between themselves. A standardised testing task and a reading task were hypothesised to incorporate a good number of lengthened vowels since they are associated with classroom modelled speech. Other contexts of usage such as picture description or free talk were anticipated to include a lower frequency of word-final vowel lengthening, as the children's attention to speech is minimised. Figure 2 displays the statistical ranking of each of the tasks which follow a descending order.

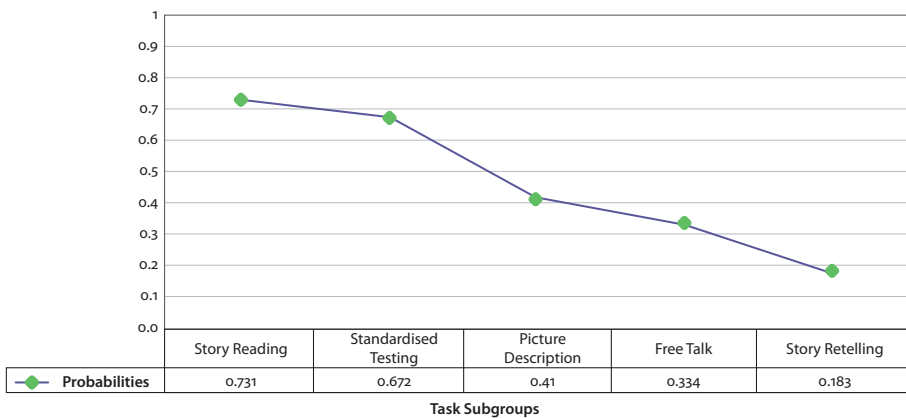


Figure 2. Word-final vowel lengthening by task

The descending pattern provides clear results with respect to the effects of each task on vowel lengthening.¹⁰ The story reading task emerged as the greatest effect showing a probability far above the .5 threshold (0.731). Although standardised testing displays a lower probability than story reading, it also contributes to the children's production of vowel duration exaggeration (0.672). Below the .5 threshold of statistical effect, we find picture description (0.410), free talk (0.334) and story retelling (0.183) tasks. These tasks evidently do not favour the production of lengthened vowels in children's speech. Word-final lengthened vowels were produced most consistently in contexts of usage that require higher levels of attention to classroom speech, i.e. story reading and standardised testing in which important literacy and targeted words appear (this result is reminiscent of the Labovian approach to style).

10. Log likelihood = -1187.157, 1523 cells, 11 factor groups, total chi-square = 1651.8993. *Chi-square/cell* = 1.08 - P_i 0.394.

Contexts of modelled speech therefore involve the use of word-final vowel lengthening more consistently than the other contexts. The lowest probability for story retelling (0.183) is not a surprising result since this task includes stories recited mostly in JC in which word-final lengthened vowels (which mark standardised classroom speech) are unlikely to be produced. Despite the absence of medium length vowels in Figure 2, it is worth mentioning that they were produced more frequently in free talk, picture description and story reading. Since durational exaggeration is not carried over to the less modelled contexts of usage, it may be concluded that exaggeration of word-final vowel duration is distinctive of classroom speech model.

5. Discussion and conclusion

This article has placed an emphasis on inter-speaker variation in word-final vowel duration, as produced in three Grade 2 classrooms in rural Jamaica. The data has provided evidence that Grade 2 children use a variable phonetic system in class, which is affected by prosodic and non-linguistic factors. This finding echoes part of the research on L2 phonology which shows that L2 learners can identify (new) phonetic variants and details of pitch ranges in the input, and include statistical information in their lexical representations. As Flege (1991: 281) argues, “every human being is born with ‘phonetic learning ability’”. Being able to distinguish prominent features in the input from those that are not is crucial in L2 learning. SLA research has shown that when learning a new language (first or second), learners imitate the most frequent and perceptually prominent features of the language the most accurately.

Results for vowel duration in word-final position revealed that the teachers’ speech is marked by a three-levelled vowel length distinction including vowel reduction, medium length and vowel lengthening, while the children showed mainly a two-levelled length distinction, i.e. medium length and exaggerated vowel lengthening. Vowel lengthening beyond 200 msec is not unusual for vowels located in stressed syllables, and/or for phonologically long vowels. Devonish (2002) noted that in Guyanese Creole prominent syllables were 242 msec long (mean) while non-prominent syllables measured 125 msec only. This is also a very common observation in many other varieties of English: “in British and North American varieties of English, both the lengthening of prominent syllables and the shortening of nonprominent ones are at work” (Devonish 2002: 96). In these varieties particularly, where a stressed vowel is lengthened, a conventional stress pattern predicts a reduced vowel in the next unstressed syllable. Unlike this common finding, vowel lengthening and increased levels of pitch and loudness often occur simultaneously in word-final position in the present study.

The children were further shown to be receptive to speech information from their teachers' streams of speech. Children's learning of stress is primarily based upon the replication of classroom lexical entries containing both a lexical and a phonetic element (whole-word pronunciations). The children's segmental and durational discriminability is based on their own responses to perceptual, vocal and acoustic experience (Velleman and Vihman 2007). They focus on phonetic detail embedded in teachers' input. Evidence of this is the children's higher likelihood of lengthening word-final vowels in a standardised testing task while oral drill was engaged, whereas they lengthened the vowels to a much lesser extent in other tasks where their focus on phonetic detail was minimised. Lastly, the low frequency of reduced vowels in the children's speech suggests another point: word-final vowel lengthening appears to be perceptually prominent to the children while vowel reduction proves perceptually less prominent despite an even distribution of duration contrast tokens across the teachers' sample. In other words, variability in the children's production shows that they have recognised that word-final vowel lengthening is an important classroom template while vowel reduction is not.

Additionally, the schwa-like variant, in its lengthened form, surfaced 41.9% of the time in the children's data and was consistently used in modelled contexts, as opposed to variant [a], common in JC, which they produced 26% of the time in contexts of usage that did not require high levels of attention to speech. For the children, variability is crucial in developing language behaviour according to the context of usage. However, it is important to note that word-final syllable/vowel lengthening is not limited to second language learning. Some studies such as Hallé et al. (1991) report that duration patterns are emergent in the vocalizations of infants by 18 months. They argue that, "[...] final lengthening eventually emerges in children's vocalizations when it is present in the adult model [...]" [One] explanation is that final lengthening is potentially universal at a certain developmental stage, but later becomes exaggerated in some languages, inhibited in some others. For those languages where final lengthening is not present in adult speech, like Japanese, children may have to learn to inhibit final lengthening" (1991: 315, quoted in Vihman 1996: 194). Based on this statement, one would be tempted to argue that Jamaican children use exaggerated durational attributes as developmental phenomena which they would abandon at a later stage. The present study demonstrates that they use such attributes in response to their teachers' modelling of stress enhancement, which is, therefore, pedagogically meaningful.

Lastly, not generalising productions across tasks is in fact attested in phonetic variability. In other words, phonetic variability testifies to stylistic variation. Based on the Task results, the children collectively show that they have developed sensitivity to phonetic adaptation to the appropriate context of usage, as illustrated by the way JC and SJE polar varieties of the continuum are used, from free talk to

standardised testing for instance. Absence of generalisation of modelled patterns to other speech contexts, wherein they feel less pressured to produce SJE attentively, indicates that stylistic variation is taking place. The children learn patterns of stylistic variation along with patterns of phonetic variation. The use of stylistic material in the classroom echoes Shields's (1987: 209) observation that "this unmarked code [Classroom English] [...] is most likely to be the result of contextual and stylistic choices". In their delivery of modelled patterns, the children ignore what they perceive as less overemphasised in the input. Since a reduced vowel is less perceptible, it is likely to be disregarded by the learners. This does not necessarily suggest that it will not be learned at all. Related to this, early SLA research shows that learners have to search for different types of prominent features in the input, such as the end of words, the order of words and morphemes as well as underlying semantic relations which they should learn to mark overtly and clearly (Slobin 1973). Variation in stress including phonetic exaggeration in the Jamaican classroom may be one of the important steps towards the children's recognition of SJE as a separate system from JC, their dominant language variety. Put differently, since some words may be confusing to the learners due to many lexical and semantic features shared between SJE and JC, the strategy may be to seek for remarkable sound patterns in order to facilitate the learners' awareness that JC and SJE have their own phonological system. In sum, patterns of phonetic variation including remarkable ones are consistent with the children's learned behaviour based on their attention to their teachers' (variable) input.

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SECTION 2

**Second language acquisition
and dialectal variation in adults**

Second language acquisition and dialectal variation in adults

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This chapter addresses the issue of how the L2 speaker acquires the probabilistic grammar of another language. This implies the related, wider question of whether, as humans, we have some innate knowledge of probabilities and what form such knowledge takes for L2 speakers. The issue is addressed by the description of two studies which provide cross linguistic evidence in relation to one first language group (Polish speakers) and two second languages, (French and Irish English), and which also involve two types of variables, one stable (*ne* deletion in French) and one in-coming (discourse *like* in Irish English). Variationist data from these studies suggest that L2 speakers acquire both universal influenced language elements as well as socially conditioned ones and that they approximate both L1 rates and constraint ordering. The chapter links this account of one approach to research on SLA and sociolinguistics with others represented by the contributions which follow in the second section of the volume. These cover a range of areas in variation and L2 acquisition in adults: the acquisition of the categorical vs the probabilistic, the relationship of language change and L2 acquisition, adult dialect acquisition, sociolinguistic competence and Study Abroad, and L2 acquisition and code switching.

Keywords: sociolinguistics and SLA, variation theory and SLA, *ne* deletion, discourse *like*, French, Irish English, dialect acquisition

The second section of the volume deals with variation and second language acquisition (SLA) and use, as well as second dialect acquisition. This introduction to the section traces the development of research on sociolinguistic variation and SLA from its beginnings in the 1980's to current developments. The contributions to the section are all examples of the state of the art in the research and present a variety of studies relating to the acquisition and use of variation by L2 speakers.

Acquisition and use of variation has been a concern of L2 researchers from the 1980's onwards, underpinned by the question posed by Bickerton (1971): how can the mind learn and use the probabilistic patterns inherent in language? This

question was studied by variationists in relation to the L1, from the early days of the development of variationist linguistics. Sankoff (1980: 77) held that “a paradigm representing competence as containing some probabilistic and non deterministic components is a better approximation to linguistic reality than one that insists on categoriality and determinacy”. In the 1980’s, researchers in SLA and variation began to question whether L2 speakers also acquire variation in the target language, and if so, how this takes place.

In order to answer these questions, early researchers in the area looked to the work of Labov on L1 acquisition and how it related to dialect variation. Labov and his colleagues (Weinreich, Labov, and Herzog 1968) had talked for instance, about the ‘transition problem’, language change and its link with language acquisition. How do children learn to speak not like their parents, so as to be involved in an on-going sound change? Unlike the acquisition of invariant features in a language, the acquisition of variable features, such as *t/d* deletion or *-ing* in English, became the focus. In addition, the acquisition of these features involves the acquisition of features which are not categorical but probabilistic. The L1 speaker has to learn the fine-grained features of frequencies in relation to the use of variants. They have to learn the probabilities in relation to constraints on the choice of variant. The acquisition of these constraints includes a knowledge of how social factors such as age, sex, social class (as well as linguistic factors) affects the use of the variant, and how they themselves should make these choices, given these and other factors. Labov called this ‘probability matching’ after Darwin (Labov 2001: 419). The fundamental question was: how are probabilities learned?

Second language variationist researchers asked similar questions, but, in this case, in relation to L2 speakers. The 1980’s and 1990’s saw a new interest in the social context of L2 acquisition, and some SLA researchers began to bring the models, concepts and methods of variationist sociolinguistics to bear on SLA research (for a accounts of variationist research and SLA, see Geesling forthcoming; Regan 2013a). These sociolinguistic studies of L2 acquisition and use are also psycholinguistic in nature. They investigated the acquisition of new forms, interrogating the alternate use of target and non-target forms; e.g. *I no go* vs *I don’t go*, so often a feature of early acquisition of L2’s (Dickerson 1974; Adamson 1980; Tarone 1988). Such areas involved the acquisition of categorical rules of the target language.

A second wave of research in this area, beginning in the 1990’s, focused not on the categorical rules but on the variable rules of the L2 (for a description of the evolution of this area of the field, see Bayley and Regan 2004). This second wave of studies focused not on the alternation between target and non-target forms but between two target forms; forms which had different social significance; e.g. *I’m gonna go* vs. *I am going to go*. An example of a study of a stable variable *-ing* is

Adamson and Regan (1991). This study examined the use of *in-ing* alternation by Vietnamese and Cambodian speakers living in Philadelphia and Washington DC. Results showed that the L2 speakers had acquired the L1 constraints, by and large. In relation to the constraining factors (Gender, Style, Grammatical category, Following phonological environment) they followed L1 patterns. As regards gender, they reproduced the gender pattern of the L1 speakers; the male speakers produced the non-prestige variant (the apical *-in*) at a higher rate than the prestigious *-ing*, as male native speakers did. The male L2 speakers seemed to be concerned to adopt L1 male norms, even where it demanded more articulatory effort from them, given L1 influence. Subsequently, the research did not remain focused on English L2, as much of SLA research at the time tended to.

There followed, for instance, a number of studies of French L2. Regan (1996) was a longitudinal study of the acquisition of another stable variable in French L2. It investigated the acquisition of *ne* deletion by Irish learners during Study Abroad (which can be characterised as a mixture of naturalistic and formal learning). The participants were interviewed at three points in their acquisition process: before their departure for a year in France, after their return (a year later) from France, and a year after their return to Ireland (having spent that year back in the classroom).

Results showed a striking increase in the acquisition of the stable variant, showing similar constraint ordering to native speakers in relation to social as well as linguistic factors. A Varbrul analysis of *ne* deletion found that, after a year spent in French and contact with French L1 speakers, the probabilities of *ne* deletion increased from a p figure (a probability figure) of .32 to .67. This .67 figure almost matched native speaker rates (Regan 1996). The students deleted at .57 in unmonitored style and .44 in monitored style; like native speakers, they were deleting more in casual, unmonitored style. After a year in France, in fact they deleted more overall in both styles, but less in monitored style. The L2 speaker data showed that linguistic universal factors (phonological, syntactic and morphological) constrained the variation in ways similar to that of native speakers. Contact with native speakers resulted in the acquisition of this stable sociolinguistic variable. The speakers understood that what they had previously learnt in the classroom was not appropriate in all speech situations in France and they accommodated to native speaker norms in relation to *ne* usage in French.¹

For L2 learners, the process of learning the probabilities associated with stable sociolinguistic variables is not entirely unproblematic, as had been increasingly

1. Other studies of non-English L2 that similarly focus on variation include Bayley (1996), Dewaele (2004), Geeslin and Gudmestad (2011), Mougeon et al. (2010), Rehner et al. (2003), Salgado-Robles (2018), and Young (1988).

highlighted since the work of Eckert (1989) in relation to L1 speech. Eckert's research highlighted the importance of ethnographic and identity issues, already present in the early work of Labov and his colleagues. Eckert demonstrated the problematic nature of overly essentialist categories sometimes used in variationist sociolinguistics and the need for nuancing and situating the research. The issue of overly simplistic categories is even more of a problem in the case of variables which are not stable but new or incoming. Their use is not reliably attached to any one category of speaker. The L2 speaker needs to be sensitive to tendencies in linguistic use and also to the identity issues present in L1 speakers' use of the new variable. The issues of identity and choice, already present in the acquisition of stable variables, become crucial in the case of new or incoming ones.

A stable variable, an incoming variable and the L2 speaker

We will now describe recent work e.g. (Regan 2013b, 2016), on the acquisition by L2 speakers of both types of variables by a group of the same L1, Polish. These studies investigate variables in both English and French as acquired by Polish speakers. The variables studied are the acquisition of *ne* deletion in French (a long-standing stable variable) and discourse *like* in Irish English (an incoming variable) by Polish speakers. Participants were from capital cities (Paris and Dublin) and provincial settings in both France and Ireland.

A stable variable: Ne deletion

For the analysis of *ne* deletion by the Polish speakers in France, the following factors were hypothesised to constrain the variation in the speech of the participants: gender, age, length of residence, following phonological segment, preceding phonological segment, structure of verb, clause type, subject, object clitic, and lexicalisation (details of the Varbrul analysis results can be found in Regan 2013b). The analysis showed that the Polish speakers have an 83% deletion rate, which is similar to French L1 rates (Armstrong 2002; Coveney 1998). In addition, the constraint hierarchy is similar to L1 constraint ordering. Specifically for the individual factors also, the general order of constraints within factor groups² is similar to L1 constraint ordering.

2. In Varbrul terminology, roughly meaning factors.

Table. Comparison of Polish speaker variable use of subject type with L1 and other L2 speakers in relation to *ne* deletion

	L1 (French) speakers (Ashby 1981)	L2 speakers (Irish) (Regan 1996)	L2 speakers (Polish) (Regan 2013a)
Noun Phrase	.28	.02	.06
Pronoun	.64	.53	.55
No subject (imperatives)	N/A	N/A	.45

Taking one factor group (subject type) as an example, we can compare L1, previous L2 Year Abroad and current Polish naturalistic results all in relation to the same (stable) variable, but in different contexts of acquisition, formal and naturalistic. Other, more recent studies of variation and L2 speakers have identified similar outcomes. For instance, Schlee, et al. (2011) found, in relation to Polish speakers living in Edinburgh and in London, that many of the factor groups had similar constraint ordering to that of L1 English speakers.

Thus, in general and specifically in relation to one stable variable in French, quantitative results reveal that Polish L2 speakers follow L1 French patterns. The factor groups which affect the variation of *ne* deletion in the speech of native speakers are the same ones which constrain the variation in the speech of the Polish informants, and in addition, the constraint ordering within those factor groups is remarkably similar.

As noted, the same result emerges from several studies in different contexts of acquisition. So it seems that this is not unique to the acquisition of any particular L2 or any particular context of acquisition. L2 speakers seem to behave similarly to L1 speakers in relation to universal constraints, but also, the L2 speakers seem to be able to internalise constraints which are not motivated by universal articulatory processes, but which are present in the input. Another example of this is Howard, Lemée and Regan (2006) who found, in a study of *l* deletion in French by Irish Year Abroad learners, the L2 speakers, like native speakers, deleted *l* more frequently in impersonal *il* than *elle*. In addition, women speakers matched the pattern of *l* deletion of women L1 speakers and males of male L1 speakers (as was the case with male speakers in Adamson and Regan 1991).

An in-coming variable: Discourse ‘like’

Does the L2 speaker acquire and use in-coming variables in the same way as they do stable sociolinguistic variables? The area of variation and second language acquisition has recently been influenced by the social turn in linguistics and especially in second language acquisition research (Block 2007; Pavlenko and Blackledge 2004;

Miller and Kubota 2013; Véronique 2013). As we saw earlier, ethnographic work has been important in much of variation research since its inception in the work of Labov, Sankoff and others. This long ethnographic tradition has also been present in variationist L2 research. Recently there has been an increase in volume of research in this area (Durham 2014; Starr 2016; Geeslin 2014). Ethnographic studies of L2 variation have been perhaps strongest in investigating the wide individual variation so important in the acquisition of in-coming variables.

We now describe a recent example of a variationist study where a qualitative interpretation of the quantitative results aims at a fuller picture of the acquisition of a new variable. Regan and her colleagues studied the acquisition and use of discourse *'like'* by Polish speakers living in Ireland. (e.g., Nestor 2013; Regan, Nestor, and Ni Chasaide 2012; Diskin and Regan 2017). Discourse *'like'* is a frequent feature of L1 Irish English speech. Presumably, like French *ne*, it is in the input to which the Polish participants living in Ireland are exposed and in fact the study shows that use of *'like'* is frequent in the Polish L2 speech also. For the analysis, coding was based on social and linguistic factors. Social factors included gender, age, length of residence, L1 (Polish) vs. L2 (English) use, attitude towards living in Ireland, transnational activity, and self-reported proficiency. Linguistic factors were based on descriptions of clause position in the literature. *'like'* was coded for position in the clause (following Siemund, et al. (2009), in relation to Irish English): clause-medial, clause-initial or clause-final position. *'Like'* in Irish English mainly occurs in clause-marginal position. One of the aims of the analysis was to determine whether the L2 Polish speakers of Irish English would produce similar patterns. As well as examining the rates of usage of *'like'*, the more detailed picture of variation patterns in relation to *'like'* use was investigated (Regan, Nestor, and Ni Chasaide 2012). There is no equivalent to English *'like'* in Polish, so L1 influence was not considered an issue. The effect of frequency of input no doubt played a role. The speakers follow the broad patterns for Irish English.³ There was a large degree of inter speaker variation, as there was also in the case of the French Polish speakers. Of the eight participants, three had a very high occurrence of discourse *'like'* in their speech, while five used few to no tokens of discourse *'like'*. In L1 Irish-English, clause marginal *'like'* is used at 65%, and clause medial at 35%. Polish speakers used 79% clause marginal as opposed to 21% of clause medial. In fact the Polish speakers had an even more exaggerated use of the Irish English pattern than did the L1 Irish English speakers. This overuse has frequently been observed in L2 and multilingual speakers. For instance, Regan (1996) found that the Irish English speakers of L2 French also used *ne* deletion at higher rates than native speakers once they were

3. Siemund collapses initial and final into marginal.

exposed to L1 input. L2 speakers seem to understand that certain variants index certain characteristics of native speaker identity and then use them at a higher rate than L1 speakers.

In relation to the general pattern there were two general groupings: one with a high rate of the local variant (clause marginal) and the other with a high rate of the global variant (clause medial). It was hypothesised that an explanation for these quantitative results might be identity related and thus provided by a qualitative analysis and a focus on the voices of the speakers themselves.

A qualitative perspective: Identity issues and migration

As we have seen, five of the Irish Polish participants; Jacek, Henryka, Gall, Ewelina and Grażyna used few to no tokens of discourse *'like'*. The similarity in the findings for these individuals, on investigation, however, seemed to be the outcome of very different linguistic practices. An exploration of the social factors which may have combined to produce these differences was described in Regan (2016).

As with the French Polish participants, the group results of the Irish Polish speakers indicate that overall the Polish speakers use the same general patterns as L1 Irish English speakers. However, as with the French data, there are important individual responses of migrants to the experience of migration. In contrast to older speakers Henryka and Jacek, we would expect the younger speakers to be big users of *'like'*. Some were, but, contrary to expectations, not all. Gall, Ewelina and Grażyna, in fact, are all low users of *'like'*. Once again, as with the French data, a qualitative approach was used to tease out possible reasons for this somewhat surprising quantitative result.

Contrasting the highest *'like'* user (Karolina) with the lowest (Grażyna), we see an interesting contrast emerging from the cases of these two participants which initially seem very similar. These speakers are both young women; Karolina is 26 years old and Grażyna is 39. They had both been in Ireland for three years at the time of interview and both lived in the same rural area there. Both women came to Ireland for economic reasons, because of the difficulty of making a living in Poland. In both cases, their husbands came to Ireland first and they joined them subsequently. Grażyna has one child and Karolina would like to have children later. In fact, they share many characteristics of transnational lives in the twenty-first century.

Closer investigation of the factors which might possibly influence the very great difference in usage of this particular variable in the speech of the two women, suggested one in particular. On a closer look at the lives of the two women it appears that they might have made different choices in relation to language use. Both were heavily invested in acquiring English, and both had taken English classes; Grażyna

was somewhat less proficient than Karolina, as Karolina had been three years in the US. They were both relatively metalinguistically aware and both commented on how people speak and on differences in speech in English (both) and in Polish (Karolina). However, Grazyna seemed to have opted for a global variety of English. She used very few informal variants in general in her speech and no use at all of *'like'* even when interviewed by a speaker who used it liberally. She contrasted *'good'* English with the sort of English she heard around her in the rural area in which she lived: "they have different accents than people in Dublin or Northern Ireland". She said she and her husband want to speak "very correct English". They watched TV to learn *'correct'* English, especially documentaries which she deemed suitable for learning good English. Grazyna worked daily from a standard British English textbook in order to improve her English. In her interview she notes that they had Polish TV when they first arrived but got rid of it so they would learn more English. She is acutely aware that her teenage son's English is a local variety which is different from her own. She is heavily invested in her son's education and very keen that he learn English. Furthermore, she expresses her pleasure in her son receiving extra English classes in school: "but you know it's em good that he have the possibility to learn more and more because he will need good English in his future". Despite a precarious economy in Ireland at the time of interview "not so good, but em em we don't think about come back to Poland mm the main reason is school of our son". She has some part time work as a receptionist in a dental surgery. So Grazyna is committed to English but not the English of Ireland (and not necessarily Ireland either). Her aim is for her son to acquire a standard global English so that he can move easily about the world and not experience the economic difficulties she and her husband experienced in Poland, "because in Poland I was working and my husband was working and we always were short of money".

Karolina, whom we have seen to have a similar profile to Grazyna in many ways, has a different attitude to English. Where Grazyna is committed to a standard global English, Karolina seems to be committed to a local English, in fact, the English used in the community in the West of Ireland where she was living. This is despite the fact that she had been in the US for some years and exposed presumably to a global version of *'like'* usage. She uses a more vernacular Irish English in general, with phrases such as *'in all fairness'*, and Irish English lexical items, such as *'grand'*. Like Grazyna, she is sensitive to language use, and very aware of it, "but Dubliners are really good. I remember when I went to Dublin the first time I thought you know they have absolutely beautiful English cos they are really clear they pronounce all the words properly" and says she could not understand Cork people at all. Nevertheless she seems to have adopted local community norms with great enthusiasm. She characterises herself as outgoing (for example, in comparison with her husband), and works in a haulage company where she speaks to Irish people

frequently. Like Grazyna, she says she has no interest in returning to Poland, and likes living in Western Europe. She also notes that while there is an initial welcome for people when they first return to Poland (“People love you for a few minutes.”), this rapidly evaporates.

Karolina is very positive about Ireland, likes her employers very much, likes Irish attitudes to work and compares them favourably with what she perceives as apathy or fatalism on the part of Poles in Poland and their tendency to be overwhelmed by minor problems. In her comments, she draws explicit comparisons between the positive attitudes to work she found in the US, on the one hand, and Polish attitudes which she found anything but positive on the other. Her interview also includes some detailed comparisons between the Irish and Polish educational systems. Finding the Irish system preferable, she relates that, in Poland, the children are expected to learn material by rote, and; “they just forget after Matura”;⁴ she remembers “learning by heart all the rivers and coalmines in the world”. She also points out that in contrast, children in Ireland like going to school: “In Ireland, kids like to go to school... in Poland you just don’t like school.”

The principal difference between these two women in their choices in relation to this variable is a different stance taken by each of them in relation to language diversity. While both see English as a valuable commodity in their future prosperity and that of their children, they represent different versions of globalisation. Karolina, while she wishes to be able to travel throughout the world, is also desirous of adapting her speech to local usage, wherever that happens to be (US, for instance, where she spent time in the past or Ireland, where she is at present), and is committed to her current life in Ireland.

Grazyna, on the contrary, while she also has no immediate desire to return to Poland, has a less long-term commitment to staying in Ireland both for herself and her son. She has a more one-dimensional view of English, and perceives language as a commodity which can be transported unchanged from place to place. She prefers to acquire the global standard as opposed to the local version of English available to her.

On the whole the qualitative analysis of the group as a whole indicated that those who used more clause medial *like* were more likely to see themselves as speakers of ‘good’ English, and/or global citizens, rather than Irish ones. Sometimes, they had plans to move on to another country. On the other hand, those who used the Irish English pattern of clause marginal *like* generally identified more with Irish people and the local situation and often intended to stay in Ireland.

4. MATURA is an examination at the end of secondary school in Poland

For these speakers it seems as if the choice of variant was part of a process of identity construction, and identity performance. Other evidence for this is that use of *'like'* seemed to be an indication of how much they were integrating, which is another mode of identity performance. Nestor (2013), in relation to Polish youngsters in Ireland, found a strong correlation between the use of *'like'* and levels of integration. Kobialka (2016) studied the use of the strut vowel in Irish English by Poles living in Ireland, and found that speakers who had jobs which were not commensurate with their qualifications were less likely to use the local variant of the vowel sound. Diskin (2013) who investigated discourse-pragmatic variation in the speech of Polish and Chinese L2 speakers of Irish English found, amongst other results, that these speakers used the discourse pragmatic markers at the same rate as native speakers after a period (three years) of living in Ireland and that those with a positive attitude towards Irish English were more likely to use 'local' Irish English variants, whereas those with a negative attitude were more likely to use 'global' variants. It seems that, in general, individuals choose variants, at least in part, to perform and construct evolving identities. In addition, in relation to in-coming variables, there is even more individual variation, related presumably to the fact that these variants are not reliably attached (as the more stable ones are) to any one category of speaker or speaker characteristics. So we can suggest that the multilingual speaker is presumably alert to trends in L1 speech and their relation to identity issues. The close investigation of issues of identity and choice in variationist SLA studies demands a grounded, ethnographic approach, in addition to a quantitative analysis, especially for new or incoming variables.

The above studies are examples of an important recent trend in variationist SLA studies; the increasing use of grounded, ethnographic, qualitative analysis of language use. For the acquisition of variation by L2/multilingual /adult speakers, it is possible that there are different, perhaps more, factors at play than for L1 speakers. For L2 speakers, not only are there universal factors, as there are for L1 speakers, but there is also L1 influence with any attendant issues of markedness, for example, or hierarchies of difficulty which may be involved, and also use of strategies and identity issues which loom even larger than for L1 speakers.

Current trends in the area of variation and second language acquisition

We have briefly considered the history of variationist studies of L2 acquisition, and provided an account of one approach to current research in this area. The following contributions to this volume are representative of many of the other current and developing trends in the field. These include the powerful developments in soci-olinguistics and processes of language change. Starr and Wang's paper focuses on two prominent Singaporean L2 political figures' productions over several decades.

They take into consideration the sociolinguistic profiles of the speakers as well as the political context in which they live. The issue of the acquisition of sociolinguistic competence in relation to the Study Abroad context is investigated in this volume by Gautier. Yet another current development in SLA and variation is the recent interest in dialect acquisition by L2 speakers. This is represented by Ender and by Siegel, both of whom treat the acquisition of dialects. All of these chapters represent work which push out the boundaries of research in this area to date.

As indicated, two of the studies in this section of the volume focus on L2 speech patterns and Study Abroad experiences. Starr and Wang's chapter presents a study conducted in multilingual Singapore. It focuses on sociolinguistic variation and change through the analysis of a large set of spoken material produced by two Singaporean political figures. This is a valuable contribution in that patterns of language and change have seldom been addressed in L2 studies. Incorporating elements of Singaporean history – including language planning issues – and the representative sociolinguistic patterns in the Singaporean context, Starr and Wang account for the changes observed over the course of several decades. The chapter tackles the challenging issues L2 speakers are constantly confronted with, such as the adherence to a prescriptive norm or the gradual movement towards the community norms.

Gautier's chapter focuses on Study Abroad and the acquisition of sociolinguistic variables in L2 French. She related the production rates of two variables (*ne* and the optional liaison) in French L2 by American and Chinese speakers to the evaluation and awareness of these two variables during a nine-month stay in a study abroad experience in the French Alps. The acquisition of these two sociolinguistic variables seems to be driven by two main factors: the awareness of the sociolinguistic value for the variable *ne* and degree of exposure in the input for the optional liaison.

The issue discussed earlier of the acquisition of the categorical vs. the probabilistic is a focus of Hudson Kam's chapter. She presents an experimental study of variation in morphosyntax in relation to the probabilistic and categorical occurrence of articles with nouns. Her detailed study concludes that learners do not automatically learn speaker-specific probabilities for morphosyntactic phenomena.

Another area which is undergoing exciting developments is the area of dialect acquisition by L2 speakers. Ender investigates variation in dialect and standard language in L2 users of Swiss-German in a region of Switzerland that is characterized by the coexistence of the two codes in everyday speech. L1 speakers treat the two codes as separate language systems and they code switch according to contextual factors or interlocutor. L2 speakers do not code switch in the same way. Some L2 users choose either standard language or dialect, but others frequently mix the two linguistic systems. L2 speakers code switch according to interlocutor as L1 speakers do. Essentially L2 users approach, but do not reach native-like use of dialect and standard, a finding similar to many other studies of L2 acquisition of variation.

Siegel deals with a related but separate domain: the acquisition of another dialect by adults. For L2 learners, unlike L1 speakers, there are acquisitional issues on cognitive as well as social and psychological levels, as Siegal's contribution shows. Elements of dialect acquisition can closely relate to the acquisition of sociolinguistic competence.

Conclusion

The studies presented in this section, both product and process studies, as well as other neurologically focused ones, combined with qualitative ethnographic work, all illuminate aspects of variation in L2 acquisition and use. We began by asking the question whether L2 speakers can acquire variation in another language, and if so, how this takes place. The answer to the first question seems clear from the evidence from an increasingly substantial body of studies on the acquisition of variation by L2/ multilingual speakers. L2 speakers appear not only to be aware of variation in the L2 and they also seem to be able to produce both rates of L1 speaker variants and also L1 speaker constraint ordering. They seem to have a sense of the probabilities in relation to the production of variants. How exactly they do this is harder to encompass, but current work in neurolinguistics involving connectionist models, sociophonetic studies (especially perceptual studies), developments in technology in relation to brain imaging, grounded ethnographic studies, especially longitudinal, all combine currently to provide glimpses of this process, promising to provide new and more complete answers to questions that have been asked since variationist studies began.

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Navigating variation amid contested norms and societal shifts

A case study of two L2 Mandarin speakers in Singapore

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L2 learners acquiring patterns of variation in a community that uses stigmatized linguistic features face particular challenges in reconciling prescriptive and local variants. The present study examines the case of Mandarin in Singapore, in which transfer from southern Chinese varieties has created a local norm that differs from the exonormative standard. Speeches from two L2 Mandarin-speaking political figures over a time period from 1966 to 1992 are analyzed, revealing significant roles of L1 background, education, and stance towards standard language. The language use of both speakers is found to temporarily increase in standardness in the years immediately following the launch of the Speak Mandarin Campaign, a government effort to promote Mandarin as the primary language of the Chinese Singaporean community.

Keywords: second language acquisition, sociolinguistic variation, language change, lifespan change, Mandarin Chinese, Singapore

Introduction

Research on second language (L2) acquisition has convincingly demonstrated that, much like in a first language (L1), a learner's language use in an L2 is shaped by the range of stances and identities held by that individual. Learners have been found to exhibit different sociolinguistic patterns in an L2 according to social factors including gender (Adamson & Regan 1991; Major 2004; Regan et al. 2009; Drummond 2011; Meyerhoff & Schlee 2012), socioeconomic status (Rehner et al. 2003) and stance towards language learning (van Compernelle & Williams 2012).

Acquiring native-like sociolinguistic competence in an L2 becomes more complex in a setting in which regional patterns of language use diverge significantly

from the prescriptive standard. Generally, whether in the classroom or in an immersive setting, learners have been found to orient towards the prescriptive norm, particularly when the alternative variety is stigmatized (Wolfram et al. 2004; Mougeon et al. 2010; Starr 2016; i.a.); specific outcomes, however, vary significantly depending upon the stance of the learner. For example, Wolfram et al. (2004: 354), investigating the emerging Hispanic community in the mid-Atlantic American South, found that speakers' individual affiliations for local identities influenced their adoption of regional features.

Learners' potential for affiliation with local identities depends upon the language learning context. The overwhelming majority of acquisition of L2 variation studies have focused on contexts of study abroad, classroom study of a foreign language, or migration, as these are the most common scenarios in which L2 acquisition takes place. In the multilingual context of Singapore, the setting of the present study, the situation is more atypical. In this case, as language shift takes hold within a community, late adopters of the expanding language find themselves in the position of becoming 'linguistic migrants' within their own country, studying an L2 that has already been acquired by other community members. This scenario is crucially different from that of acquisition in a migration context; while migrants may choose to affiliate themselves with local identities, individuals who are native-born members of a community are already authentic holders of local identities, and must therefore negotiate the expression of that identity in a new language.

While a large body of recent work has enhanced our understanding of L2 sociolinguistic variation, data regarding how learners' patterns of variation may shift over the course of their lifespan remains limited. Previous research on the acquisition of L2 variation has predominantly taken a synchronic approach or analyzed data over a short timeframe, evaluating the impact of a brief course of L2 study or study abroad experience (e.g., van Compernelle & Williams 2012). As a result, we know very little about how L2 speakers shift over the course of their lifespan. Our knowledge of lifespan change among L1 speakers, for that matter, is also somewhat sparse. Notable studies of lifespan change include the work of Harrington (2006), an examination of Queen Elizabeth II's Christmas Day broadcasts demonstrating that her vowels have shifted towards changing community norms. Another notable study in this area is Sankoff & Blondeau (2007), a real-time study of /r/ in Montreal French; this analysis concluded that a minority of speakers are able to make substantial shifts in the direction of community change over the course of their lifespan. The findings of these investigations have pointed to considerable individual variation: some speakers change dramatically over their adult life, but most do not. Additional exploration of the social conditions and individual factors that predict lifespan change, in both L1 and L2 contexts, is needed to further our understanding of this phenomenon.

The present study examines sociolinguistic variation in the L2 Mandarin of two prominent Chinese Singaporeans over the course of several decades. We assess the extent to which these learners conform to the sociolinguistic patterns typical of the Singapore Mandarin-speaking community as opposed to adhering to the prescriptive standard, and investigate potential changes over the course of their lifetimes, as they navigate language shifts and language planning movements during this period in Singapore's history.

Research setting

Language shifts in multilingual Singapore

Singapore, founded in 1819 as a British colony, is an island nation located in the Malay archipelago. Since independence in 1965, the country has maintained four official languages: English, Mandarin, Malay, and Tamil. Singapore has always been home to a diverse set of languages and ethnicities, even in its earliest years as a British port city. In the colonial period, immigrants arriving from various regions of southern China spoke an assortment of Chinese varieties: most prominent among these were Hokkien, Teochew, and Cantonese (Cheng 1985). Aside from this Chinese ethnic majority, colonial Singapore was comprised of communities hailing from many other regions of the world: Malays and other natives of the Malay archipelago speaking Malay, Javanese, and other regional languages; Indians speaking Tamil, Malayalam, and other Indian languages; Peranakan Chinese (descendants of earlier migrants to the region who had taken local wives) speaking Baba Malay, a Malay-based creole (N. H. Lee 2014); Eurasians (descendants of Portuguese, Dutch, and English colonists who had taken local wives) speaking primarily English and Kristang, a Portuguese-based creole (Baxter 2005); British colonial administrators, speaking English; and Arabs, Jews, Armenians, and various other minority groups, speaking their respective languages (see P. G.-L. Chew 2012).

The history of language use in Singapore is dominated by two major, parallel shifts: the rise of English, and the rise of Mandarin. During colonial rule, neither language was widely spoken. As English education was limited to a small, elite group prior to the Second World War, inter-ethnic communication was primarily accomplished via the lingua franca Bazaar Malay, a Malay-based pidgin (Platt 1974: 364–365); Hokkien was the primary lingua franca for inter-ethnolinguistic group communication among the Chinese population (Ding 2016: 39). Among the small communities of Eurasians, Peranakan Chinese, and elite Chinese who did embrace English-medium education in the colonial period, however, English soon became a major, or even dominant home and community language (Wee 2002;

Hardwick 2008). In the mid-20th century, the availability of English-medium education began to expand considerably (Kwok & Chia 2012: 231). After several decades of allowing co-existent English-medium and non-English-medium streams of education, the government subsequently unified the system and established English as the universal medium of education in 1987 (Dixon 2015:28). The use of English as a primary home language has undergone a corresponding expansion, growing from 1.8% in 1957 to 36.9% in 2015 (Chua 1964; Department of Statistics Singapore 2015); English is now the most common home language in Singapore, in addition to being the primary language of school and the workplace.

The shift to Mandarin in Singapore has followed a somewhat different trajectory. The rise of nationalist movements across Asia in the early 20th century led to the increasing promotion of unifying ethnic languages among several Singaporean communities. For Chinese ethnolinguistic groups, who had formerly educated their children separately in their respective varieties, the movement to establish Mandarin Chinese as a national language in China prompted a local shift to Mandarin-medium education (PuruShotam, 1998: 43). When this change began in the early 20th century, Mandarin was essentially a foreign language in Singapore; a Chinese variety whose phonology is based on that of Beijing, in northern China, Mandarin is mutually unintelligible with the southern Chinese varieties spoken natively in the local community (Li & Thompson 1981: 1). Following its rise in local schools, however, Mandarin gained a foothold as a second language among the Chinese-educated, and was selected as Singapore's official Chinese language (Dixon 2005: 27). Knowledge of Mandarin increased further when, in the 1960s, the government implemented a bilingual education policy mandating that children in English-medium education study an additional official language corresponding to their heritage: for children of Chinese heritage, this language was Mandarin (Dixon 2005: 28).

Despite the expansion of Mandarin as a school language, the adoption of Mandarin in the home was initially quite slow. In the 1957 census, only 0.1% of individuals reported Mandarin as their primary home language, making it considerably rarer than English (Chua 1964); in contrast, 75.3% of Singaporeans at that time named some other Chinese variety as their home language (e.g., Hokkien; these non-Mandarin varieties are referred to as 'dialects' in Singapore). By 1980, the number of Singaporeans speaking Mandarin as their primary home language still stood at only 7.6% (Khoo 1980: 90). In the interest of unifying the Chinese population under a more economically useful language, the government launched the Speak Mandarin Campaign in 1979 (Kong & Yeoh, 2003: 202; Ng 2017). Among other measures, the campaign phased out the use of Chinese dialects on radio and television, and adopted slogans such as, "Mandarin's In. Dialect's Out" (Lock 1989b: 59; Ng 2017: 26). The Speak Mandarin Campaign, which continues today,

has had a dramatic impact on language use: Mandarin is now the primary home language of 34.9% of Singaporeans, while Chinese dialects have fallen to 12.28% (Department of Statistics Singapore 2015). As part of the campaign, Chinese civil servants in various sectors were strongly encouraged to speak Mandarin rather than dialects, and the use of standard Mandarin pronunciation was emphasized for the first time (Ong 1983; Lin & Man 2009: 108; Lock 1989b: 78); these aspects of the campaign will be relevant in the present analysis.

Features of Singapore Mandarin

Until the 1980s, Mandarin Chinese was learned primarily as a second language in Singapore, by individuals who spoke a range of southern Chinese varieties, dialects of Malay and Malay-based contact languages, and/or English at home. The most common linguistic profile of Mandarin learners was that of a native speaker of Hokkien, Teochew, or Cantonese (Lock 1989a: 277). These three varieties are all quite different from one another; we would not, therefore, expect speakers of different Chinese varieties to produce L2 Mandarin with entirely uniform transfer effects. Nonetheless, scholars have catalogued numerous lexical, syntactic, and phonological features typical of Singapore Mandarin that differ from that of the Mandarin variety established as standard in Mainland China. Some of these differences (primarily lexical) are legitimized in Singapore as part of the local standard of Mandarin (Lock 1989b: 158); the majority of them, however, are considered non-standard features. For the sake of clarity, we will refer to the prescriptive norm as Standard Singapore Mandarin (SSM) and the commonly-spoken variety as Colloquial Singapore Mandarin (CSM), with the understanding that the notion of a single, uniform colloquial variety is an artificial construct that will be unpacked in subsequent discussion.

This chapter focuses on the segmental phonological features typical of CSM. As our analysis examines data from the 1960s to the early 1990s, we will concentrate here on features observed in the Mandarin spoken in that era, rather than in present-day Singapore. While several scholars have discussed the phonological features of Singapore Mandarin in that period (Chen 1986; Ng 1985; i.a.), I revise to Lock's (1989b) doctoral dissertation, a variationist sociolinguistic analysis of Singapore Mandarin, gives a particularly extensive account of the variety. Table 1 lists the segmental phonological features of Singapore Mandarin identified by Lock (1989b), contrasting the pronunciation in the prescriptive norm SSM (which, in these cases, corresponds to the standards of Mainland China and Taiwan) with the commonly-observed CSM variant. In addition to identifying each feature, Lock provided a quantitative analysis of the extent of its usage; this information is also summarized in Table 1.

Table 1. Summary of colloquial Singapore Mandarin features drawn from Lock (1989b). Variables are named according to their romanization in the Mandarin pinyin system

Num.	Variable	Description	SSM	CSM	Observed CSM frequency
1.	(zh), (ch), (sh)	Realization of retroflex initials as dental	[ʈ, ʈʰ, ʂ]	[ts, tsʰ, s]	nearly categorical
2.	(z), (c), (s)	Realization of dental initials as retroflex	[ts, tsʰ, s]	[ʈ, ʈʰ, ʂ]	rare
3.	(j), (q), (x)	Realization of palatal initials as dental	[tɕ, tɕʰ, ɕ]	[ts, tsʰ, s]	moderate (nearly categorical for (x))
4.	(n-)	Realization of <i>n</i> as <i>l</i>	[n]	[l]	rare
5.	(r-)	Alternate realizations of initial <i>r</i> -	[ɹ/z]	[l/n/r/ɹ/ dz/z/j]	nearly categorical (specific realization varies)
6.	(h)	Lack of frication for [x]	[x]	[h]	nearly categorical
7.	(ü)	Unrounding of rounded high front vowel	[y]	[i]	moderate (more frequent among Hokkien speakers)
8.	(i)	Rounding of unrounded high front vowel	[i]	[y]	rare
9.	(-üan)	Raising of vowel nucleus in <i>-üan</i>	[yæn]	[yɛn]	nearly categorical
10.	(-uo)	Deletion of labiovelar glide for <i>-uo</i>	[^u o]	[o]	nearly categorical (only after non-velar consonants)
11.	(er)	Lack of final retroflexion	[ə]	[ə:]	nearly categorical
12.	(-ng)	Final velar nasal fronting	[ŋ]	[n]	moderate (more frequent for <i>-eng</i>)
13.	(-n)	Final alveolar nasal backing	[n]	[ŋ]	rare

The features given in Table 1 may be divided into two broad classes: features that originate from transfer from southern Chinese varieties (features 1, 3, 4, 6, 7, 9, 10, 11, and 12) and features that may be considered examples of hypercorrection, moving in the opposite direction (features 2, 8, and 13). As indicated in the table, Lock found that hypercorrection was much rarer in his data than features originating from transfer. Lock also observed that, while these regional features were consistent with transfer from at least one of the southern Chinese varieties spoken in Singapore, there was evidence that the features had subsequently become part of a conventionalized local norm, and were used even by speakers for whom transfer from a native variety cannot account for their occurrence; for example, (x) was realized as [s] by Hokkien speakers, whose native variety does contain a palatal [ɕ] (Lock 1989b: 205). In other words, these are not simply transfer features typical of L2 learners, but features of a conventionalized CSM whose norms are shared by the speech community.

As is commonly the case with sociolinguistic variation phenomena, Lock observed that certain features of CSM were subject to greater community awareness and marked explicitly as non-standard (e.g., lack of retroflex articulation, realization of (r) as [l]), while other features seemed to go unnoticed and were not recognized as deviating from the standard (e.g., the realization of (x) as [s]) (Lock 1989b: 206). Crucially, the use of CSM features was not limited to the working class in this era; due to the pervasive influence of southern Chinese phonological systems in Singapore, features that were perceived as being foreign to those systems – in particular, the retroflex place of articulation – were marked as non-local and therefore undesirable, even by many educated speakers (Lock 1989b: 278). Regarding the realization of retroflex initials as dental, although Singaporeans were aware that this feature was technically non-standard, many felt that the use of retroflex was inauthentic for a Singaporean to adopt:

Other comments to the author by Singaporean speakers also suggest that the use of retroflex variants may be evaluated negatively as *'putting it on'* and regarded as a specifically Beijing pronunciation inappropriate for Singapore speakers. We may thus hypothesise that lack of retroflexion is a feature in the Huayu [Mandarin] of most Singaporeans not simply because retroflexion is 'difficult' but also because it has become a marker of 'foreign-ness' or affectation. In other words, it is a feature which is 'too salient' and is being resisted as a stereotype of Beijing Mandarin.
(Lock 1989a: 283)

Regarding language change observed in apparent time, Lock found that younger speakers were using fewer non-standard variants for several of the variables. He also noted that there had been increasing emphasis on standard pronunciation in the teaching of Mandarin in recent years, as a result of the Speak Mandarin Campaign (Lock 1989b: 76–78). Taking both the ongoing development of a local norm and the increasing emphasis on the prescriptive standard into account, Lock believed that CSM would continue to approach the exonormative standard to a certain extent, but would maintain a distinctive local character (Lock 1989a: 293). This prediction is consistent with our recent study of young Singaporeans' Mandarin pronunciation, in which certain CSM features, such as the retroflex to dental merger, are greatly reduced in frequency, while other features remain pervasive (Starr et al. 2016).

Research on the phonology of Singapore Mandarin in the 1980s and earlier focused almost exclusively on Chinese dialect speakers; little is known regarding how English-educated individuals or native speakers of English or Malay spoke L2 Mandarin in past decades. In the case of English speakers, in addition to anticipating the occurrence of features that result from English transfer (e.g., the realization of (x) as [ʃ]), we might also expect a lessened degree of local Mandarin features, as these variants would not appear in learning materials. Presumably, however, the adoption

of these CSM features by English-speaking learners would vary depending upon learning environment, social network, and the learner's attitudes. In terms of present-day evidence for a difference between English-speaking and Chinese-speaking learners, Starr et al. (2016), contrasting Singaporean children who speak English at home with those who speak Mandarin at home, found that English-home children are indeed less likely to use CSM features, particularly in the case of retroflex initials; a similar finding is reported among English-dominant versus Mandarin-dominant children in Lim (2017). Further investigation of how English-dominant learners used Mandarin in the past can help clarify the extent to which CSM was an accepted norm across L1 backgrounds, and how the language use patterns of English-dominant learners of Mandarin today differ from those in the past.

Subjects and methodology

The present study investigates variation in the L2 Mandarin of two Chinese Singaporean speakers from different linguistic backgrounds over a portion of their lifespan. In the spirit of Harrington's work on Queen Elizabeth II (Harrington 2006), we analyze the speech of two major political figures in Singapore's history: Lee Kuan Yew (1923–2015) and Ong Teng Cheong (1936–2002). This analysis focuses on their production of Mandarin in National Day Messages, televised speeches delivered in Singapore's four official languages each year on the occasion of National Day, the anniversary of the country's independence in 1965. The National Day Messages are carefully delivered as formal, read speeches; given the significance of National Day, these speeches are arguably one of the most formal speaking situations in which Mandarin is used in Singapore. As such, the Messages provide an intriguing context for examination of the extent to which CSM features occur in formal Mandarin produced by well-educated speakers.

The following sections introduce background information on the two speakers examined in the study and the materials and methodology employed in the analysis.

Speakers' language backgrounds

Lee Kuan Yew and Ong Teng Cheong are, in certain respects, representative of the English-educated and Chinese-educated streams that characterized the Chinese Singaporean community in the early and middle parts of the 20th century. In other respects, however, their backgrounds defy such categorization. Both men had complex, multilingual upbringings, crucially shaped by their families' views on language and education; these experiences, along with their own personal attitudes and

shifting community language patterns, influenced the way that each of them came to speak Mandarin, and how their pronunciation of Mandarin evolved over time.

Lee Kuan Yew served as Prime Minister of Singapore from 1959 to 1990, and is considered the nation's founding father. Over his long life, Lee wrote and spoke extensively on his own language background and learning experiences, particularly in two of his later books: *Keeping my Mandarin alive: Lee Kuan Yew's language learning experience* (2005) and *My lifelong challenge: Singapore's bilingual journey* (2011). As a result, we know a great deal about Lee's early language background, his study of Mandarin as an adult, and his views regarding language learning and Mandarin sociolinguistic variation. Lee's first languages as a child were English and Malay (Lee 2011: 25); although his family initially wanted him to receive a Chinese education, Lee was unhappy in this setting and transferred to English-medium schooling at an early age (26). Lee's post-secondary studies were interrupted by the Japanese occupation; it was at this time that Lee first felt the importance of understanding Chinese, as the Japanese forces would post notices in the language (28). During the occupation, Lee taught himself Chinese characters through the use of dictionaries, and also picked up Japanese (29–30). Lee attended Cambridge University after the war; the experience of meeting Chinese students from around the world who could all speak Chinese affected him significantly: "That was when I began to feel a sense of loss about not knowing Chinese, and decided not to repeat this state of affairs with my own children" (33).

Upon his return to Singapore in 1950, at the age of 27, Lee hired a Mandarin tutor. His study of the language intensified in the run up to the general election of 1955, as Lee, who had recently founded the People's Action Party, realized the political necessity of speaking Mandarin: "I understood then that to win votes, speaking the Queen's English was not much help. I had no time to waste in mastering Mandarin and dialects" (Lee 2011: 39). Lee initially decided to concentrate on Mandarin; although it was not widely spoken in Singapore as a native language, Mandarin was commonly learned as a second language among the younger educated Chinese with whom Lee interacted in his political work (Lee 2005: 25). In 1961, however, his thinking changed when his party needed to contest a by-election in a Hokkien-speaking neighborhood (27–28). Lee characterized his learning of Hokkien as a matter of "life or death," and credited his study of the dialect as key to winning several early major political victories (Lee 2005: 29; Lee 2011: 149). Lee employed Hokkien in certain political speeches until 1979, when he halted his use of the dialect, in line with policies implemented as part of the Speak Mandarin Campaign (Lee 2005: 30; Lee 2011: 153). Lee continued to study Mandarin throughout his life, even in his later years; indeed, his final appointment before falling ill was with his Mandarin tutor (H.-L. Lee 2015).

We can glean something about Lee's orientation towards dialects of Mandarin through his writing. In recounting his Mandarin learning experiences, Lee expressed concern about dialect-influenced pronunciation; for example, Lee recalled that, during the Japanese occupation, a neighbor volunteered to tutor him in the language, but Lee did not continue studying with him because "his Teochew accent was so strong that I feared he would ruin my pronunciation of Mandarin" (Lee 2011: 29). When describing his engagement of a tutor upon his return to Singapore, he noted that he selected a teacher "who spoke with a Beijing accent" (33), apparently referring to the standard variety based on the phonology of the Mandarin spoken in Beijing. Lee's notably standard pronunciation of Mandarin was also highlighted in the interviews and writings of his longtime Mandarin tutor, Chew Cheng Hai, who taught him from 1975 to 2010 (Chung & Ho 2005: 143; Chew 2011: 167). Thus, although Lee's primary goal in studying Mandarin was to communicate with the Chinese Singaporean population, it is evident that learning the standard variety was a priority for him. As is apparent in Lee's shift from Hokkien to Mandarin in his speeches, Lee viewed his language use choices as a means of setting a good example for other Singaporeans (Lee 2005: 30); doing his utmost to learn Standard Mandarin may be seen as one aspect of this phenomenon.

Ong Teng Cheong served as Deputy Prime Minister of Singapore from 1985 to 1993, and as President from 1993 to 1999. After spending the first seven years of his life living primarily with his grandparents, who spoke Hokkien, Ong moved in with his parents and siblings, who spoke mainly English at home (Ng & Tan 2005: 13). Although Ong's father was English-educated, he was determined that Ong should receive a Chinese-medium education, and therefore sent him to Mandarin schools. Ong struggled with Mandarin in his primary school years, but eventually graduated at the top of his class in secondary school (16). Ong went on to attend post-secondary school and university in Australia, and subsequently worked in Australia for some time, followed by a period of postgraduate study in the United Kingdom, before returning to Singapore. Ong was known as a fluent speaker of Hokkien during his political career (13), but he nonetheless consistently promoted the use of Mandarin rather than dialects, in line with government policies (Ong 1978, 1990, etc.). Unlike Lee, we do not know anything of significance relating to Ong's views of non-standard Mandarin.

Methodology

Our data is drawn from Lee and Ong's National Day Messages.¹ In his role as Prime Minister, Lee delivered the English, Mandarin, and Malay Messages for many of his years in office, giving 16 of the Mandarin speeches spanning a period from 1966 to 1990. In certain years, however, some of the Messages were delivered by other government officials. Ong was one of these officials, giving a total of 10 of the Mandarin Messages, first as a Senior Minister and then as Deputy Prime Minister, over a period spanning 1979 to 1992.

For each speaker, the first three and final three Mandarin Messages were selected for analysis, as detailed in Table 2. This was done so that real time changes in each speaker's language use could be investigated.

Table 2. Years of Mandarin National Day Messages selected for analysis

Time period	Lee	Ong
Early	1966	1979
	1967	1981
	1969	1982
	1983	1989
Late	1984	1991
	1990	1992

Keeping in mind that the Speak Mandarin Campaign began in 1979, the division of Lee's early and late speeches allows us to investigate any shifts that may have accompanied this campaign and the end of Lee's practice of giving some political speeches in Hokkien. Ong's speeches, in contrast, take place within a shorter time span, and all date to after the start of the Speak Mandarin Campaign, with the exception of the 1979 speech, which was given one month before the launch of the campaign (*The Straits Times* 1979: 1).

Within this speech corpus, every occurrence of the variables identified in Lock (1989b; see Table 1) was coded perceptually by the second author (a native Mandarin speaker). 8,779 tokens in total were coded from Lee's speeches; 10,510 tokens were coded for Ong.

1. National Day Messages are available in video and audio format on the National Archives of Singapore website at <http://www.nas.gov.sg/archivesonline/NationalDayMessage>. Because Lee's Mandarin speech of 1968 is missing from the archive, it was excluded from the analysis.

Findings

In this section, we review the speakers' usage patterns with respect to the variables identified in Table 1, followed by an analysis of real-time change centering around the launch of the Speak Mandarin Campaign in 1979. Where appropriate, we will note the results of statistical analyses; these consist primarily of generalized linear mixed-effect models generated using the `glmer` function of the `lme4` package in R (Bates et al. 2015).

Variation in retroflex and dental sibilant initials (zh), (ch), (sh), (z), (c), (s)

The production of retroflex sibilant initials (zh, ch, sh) as the dental (z, c, s) is the most salient and widely-recognized non-standard feature of CSM, and indeed of the Mandarin spoken in much of southern China and Taiwan (see Li 2004; Brubaker 2012; Starr 2016; i.a.). As noted in Table 1, Lock (1989b: 187) found that use of standard retroflex was extremely rare; similar results were found by Chen (1986: 115) and Ng (1985). Ng (1985) also observed that (sh) was most likely to be produced with the standard retroflex, and that, in formal speaking situations, hypercorrection of dental initials to retroflex became more common (Ng 1985: 34).

Figure 1 illustrates the overall rate of standard retroflex and dental initials for each speaker in the speech corpus data. Unlike the typical Singaporean patterns observed in previous work, Lee's production of each variable is almost completely standard. Ong, in contrast, shows a more typical pattern; his retroflex initials are all produced primarily with the CSM dental variant. Notably, however, although this is an extremely formal speech context, Ong does not hypercorrect the dental initials to retroflex.

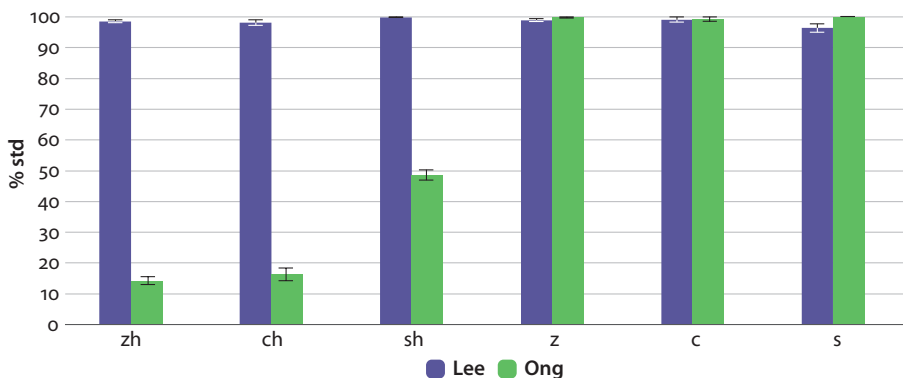


Figure 1. % standard realization of retroflex and dental sibilant initials by Lee ($N = 2571$) and Ong ($N = 2853$)

A generalized linear mixed-effects model incorporating word as a random effect finds that, for Ong, (sh) is significantly more standard than (zh) and (ch) ($z = 3.317, p = .00091$); Ong's (sh) also becomes less standard over time at a marginally significant level ($z = -1.732, p = .08323$). For Lee's data, the only significant effect is a higher standardness for (sh) than the other two retroflex variables ($z = -1.100, p = .0289$). No significant effects were found among the dental initials.

Variation in palatal initials (j), (q), (x)

In the case of the palatal initials (j, q, x), in addition to the SSM variants [tɕ, tɕ^h, ɕ] and the CSM variants [ts, ts^h, s], we will also examine the occurrence of the English-influenced variants [dʒ, tʃ, ʃ]; for English listeners, these phones are perceptually similar to the Mandarin palatal initials, and, in the experience of the first author, are common substitutions for these initials among English-speaking L2 Mandarin learners. Lock (1989b: 204) and Chen (1986: 117) both found that use of the dental variants before unrounded vowels was frequent among Singaporean speakers, and that the use of [s] for (x) was particularly dominant.

Table 3. Realization of palatals (j), (q), and (x) by the two speakers

Speaker	Variable	Following vowel	N	Palatal (SSM) [tɕ, tɕ ^h , ɕ]	Dental (CSM) [ts, ts ^h , s]	Post-alveolar (English-influenced) [dʒ, tʃ, ʃ]
Lee	(j)	Rounded	65	80%	–	20%
		Unrounded	869	93.67%	0.35%	5.98%
	(q)	Rounded	118	44.92%	–	55.08%
		Unrounded	217	79.72%	0.46%	19.82%
	(x)	Rounded	176	53.98%	–	46.02%
		Unrounded	522	74.90%	23.18%	1.92%
Ong	(j)	Rounded	98	100%	–	–
		Unrounded	1198	99.95%	0.08%	–
	(q)	Rounded	154	100%	–	–
		Unrounded	269	99.63%	0.37%	–
	(x)	Rounded	205	98.54%	–	1.46%
		Unrounded	616	88.15%	11.85%	–

Table 3 lists the distribution of each variant by following vowel and palatal initial for the two speakers. As found in previous work, dental realization of (x) before unrounded vowels is more frequent than dental realization of (j) or (q); however, the overall rates of dental realizations for both speakers are quite low, relative to the findings of previous authors. Lee, a native English speaker, also makes substantial use of the post-alveolar variants, particularly before rounded vowels.

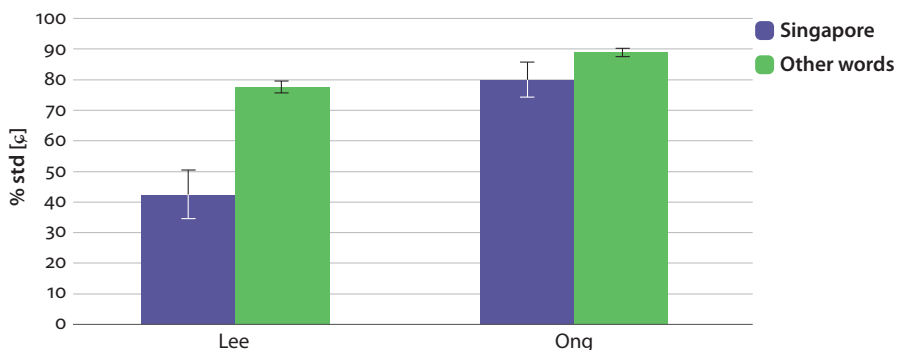


Figure 2. Pronunciation of (x) in *xinjiapo* ('Singapore') versus other words containing (x) before unrounded vowels by each speaker (Lee: Singapore $N = 40$, Other $N = 482$; Ong Singapore $N = 50$, Other $N = 566$)

A generalized linear mixed-effects model incorporating word as a random effect indicates that Ong is significantly more standard than Lee in his production of palatal initials ($z = 4.718, p < .0001$). For Lee's data, palatals preceding unrounded vowels are significantly more standard ($z = 5.739, p < .0001$), (q) and (x) are significantly less standard than (j) ((q): $z = -4.845, p < .0001$; (x): $z = -5.580, p < .0001$), and palatals preceding unrounded vowels are significantly less standard in late-era speeches ($z = -1.968, p = .0491$). Ong's data follows a rather different pattern; although, consistent with Lee and previous work, (x) is the least standard of the palatals ($z = -4.775, p < .0001$), in Ong's case the palatals preceding unrounded vowels are significantly less standard ($z = -2.807, p = .00499$) and there no significant time period effects. The difference in effects observed of the following vowel among the two speakers is evidently caused by the occurrence of post-alveolar variants in Lee's data.

While (x) is the least standard of the palatal initials before unrounded vowels for both speakers, this realization varies considerably by lexical item. As indicated in Figure 2, the frequency of the CSM [s] variant of (x) before unrounded vowels is greater in *xinjiapo* ('Singapore') than in other words; this difference is significant in a generalized linear model (speaker: $z = 4.862, p < .0001$; Singapore: $z = -4.439, p < .0001$; speaker*Singapore: $z = 1.663, p = .0964$). The effect of 'Singapore' is particularly dramatic for Lee; this word accounts for 23 of his 98 realizations of [s] for the (x) variable. This phenomenon makes sense when we consider that 'Singapore' is produced with an [s] in both English and Malay, in addition to its status as a 'local' topic, thus priming the use of CSM features.

Variation in (ü) and (i)

Lock and Chen both observed that the realization of (ü) as unrounded [i], rather than the standard [y], was common among Singaporeans, and particularly among native Hokkien speakers (Chen 1986: 138; Lock 1989b: 260). Both scholars also found that the non-standard [i] realization was favored when it appeared in the glide position (e.g., *quan*) rather than when it appeared as the nucleus of the syllable (e.g., *qu*) (Chen 1986: 138; Lock 1989b: 255). Lock found this variable to stratify both socially and stylistically, observing that the standard variant [y] was more common in read speech and among the university educated, who used the CSM variant [i] in only 7% of tokens (Lock 1989b: 256, 258). Finally, Lock also observed a low rate of hypercorrection of (i) to [y] in read speech (Lock 1989b: 256).

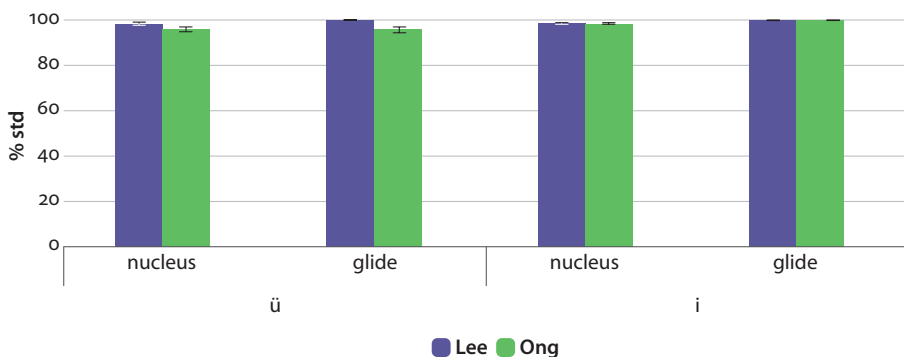


Figure 3. Realization of (ü) and (i) by position of vowel for each speaker (Lee: (ü) $N = 519$, (i) $N = 1809$; Ong: (ü) $N = 621$, (i) $N = 2053$)

Figure 3 indicates the realization of the (ü) and (i) variables by the two speakers. Ong produces [i] for (ü) at an overall rate of 4.2%; this is comparable to Lock's observed rate for university graduates. However, unlike the findings of Lock and Chen, Ong shows no variation by position, using [i] at comparable rates in the nucleus and glide. Lee's (ü), in contrast, is extremely standard across the board, showing no tendency to use the CSM variant. As observed by Lock, we also find a small number of hypercorrections, with Lee using 13 and Ong using 16 [y] realizations for (i).

A generalized linear mixed-effects model for (ü), incorporating word as a random effect and vowel position, speaker, time period, and the interaction of speaker and time period as fixed effects, identifies only speaker as a significant effect, with Ong significantly less standard than Lee ($z = -1.987$, $p = .047$).

Variation in (ng) and (n)

The present analysis focuses exclusively on (ng) and (n) when they follow the *e* [ə] vowel, as variation in this context has been found to be far more frequent than in other environments among Singaporean speakers (Chen 1986: 140; Lock 1989b: 293). Lock noted that realization of (ng) did not vary stylistically, indicating that Singaporeans are unaware of the local variant's non-standardness, although he did observe a limited effect of education (Lock 1989b: 317).

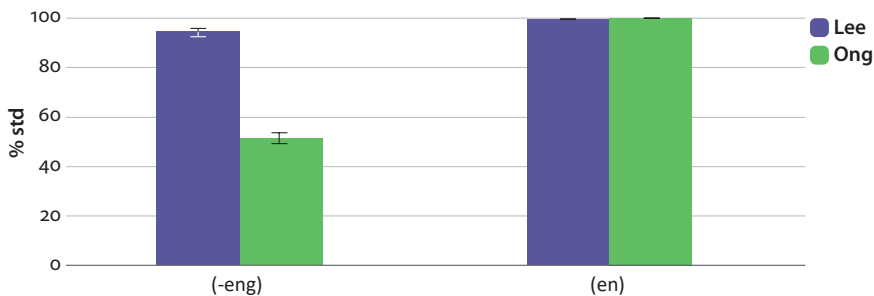


Figure 4. Realization of (-eng) and (-en) for each speaker (Lee: (-eng) $N = 358$, (-en) $N = 366$; Ong: (-eng) $N = 506$, (-en) $N = 416$)

As illustrated in Figure 4, the two speakers once again make no use of hypercorrection, but do produce the CSM variant for (-eng). Ong's distribution of variants for (-eng) is comparable to those found in prior work (Chen 1986: 140; Lock 1989b: 306). A generalized linear mixed-effects model for (-eng) incorporating word as a random effect and speaker, time period, and the interaction of speaker and time period as fixed effects identifies only speaker as a significant effect, with Ong significantly less standard than Lee ($z = -7.092$, $p < .0001$).

Variation in (-uo)

Lock (1989b: 209) reported that even highly-educated speakers almost categorically lacked the labiovelar glide for (-uo) in environments following non-velar consonants (e.g., *zuo*), producing it as the CSM [o] rather than the SSM [ʷo]. When following velar consonants (e.g., *guo*), however, rates of [o] use were much lower.

As demonstrated in Figure 5, while there is some variation in (-uo) for both speakers in non-velar and velar environments, the rate of standard realization is far higher than observed in Lock (1989b). A generalized linear mixed-effects model incorporating word as a random effect finds no significant effects for speaker or time period in this case, but a significant effect of place of articulation of the preceding consonant, with (-uo) following velars significantly more standard ($z = 2.66$, $p = .00782$).

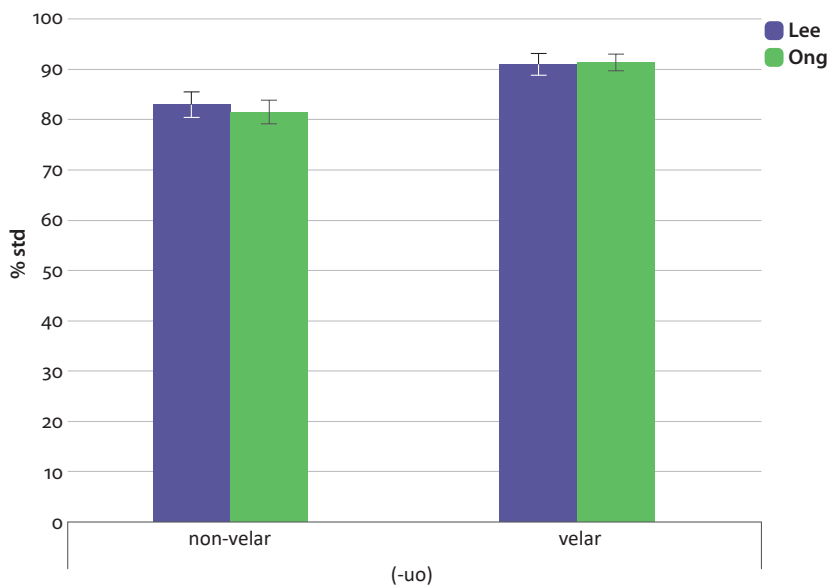


Figure 5. Rate of standard realization of (-uo) for each speaker by place of articulation of preceding consonant

Variation in (er)

The rhotic coda in Mandarin occurs as an element in the syllable *er* [əʔ] and as a suffix that may be added onto existing syllables. Regarding the standard use of the rhotic in (er), Lock (1989b: 198) finds that Singaporean speakers nearly categorically realize this syllable as [ə:], without the SSM rhoticity.

Figure 6 indicates that both speakers make use of the standard rhotic (er) more frequently than observed in Lock's data; a generalized linear model finds that Ong

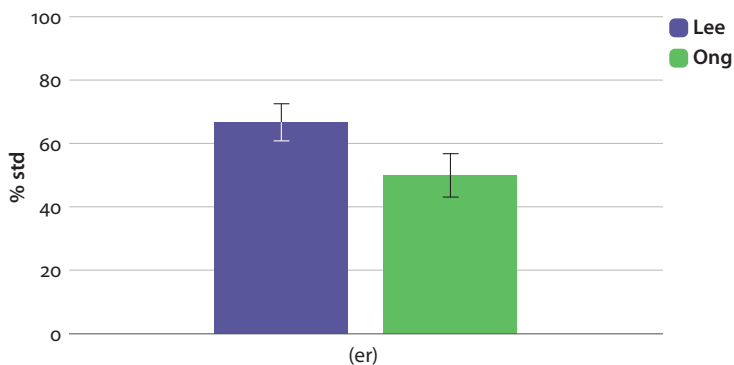


Figure 6. Rate of standard realization of (er) for each speaker

is marginally less standard than Lee ($z = -1.838, p = .06610$). Regarding the impact of lifespan change, a mixed-effects model incorporating speaker as a random effect finds that production of (er) becomes significantly less standard in later speeches ($z = -2.844, p = .0045$).

In addition to the rhotic element of (er), the Beijing variety of Mandarin features an extensive system of final rhotacization, in which words such as *bian* ('side') are realized as [piaə̃]. The status of these rhotacized variants is complex, but generally they are not considered to be part of Standard Mandarin in Singapore, and are rarely used outside of northern Mainland China (Lock 1989b: 196–199; also see Zhang 2005). Lock's informants believed that this sort of final rhotacization was typical of Beijing speakers, and would be unnatural for a Singaporean to adopt (Lock 1989b: 199). Nevertheless, we observe that Lee occasionally makes use of final rhotacization, pronouncing words such as *tou* as [tʰoə̃]; we did not conduct a complete quantitative analysis of this feature.

Other variables: (n-), (r-), (h), (-üan)

The four remaining variables will not be subject to extended quantitative analyses, as they were found not to vary significantly, and because, in the case of (-üan), a full analysis would require more fine-grained acoustic data.

Lock (1989b: 357) observed that the CSM [l] variant of (n-) was relatively rare, and limited to older, less-educated speakers. It is perhaps unsurprising, then, that Lee and Ong uniformly use standard [n] in the data. Regarding the variable (r-), both Lock and Chen observed that the standard retroflex realizations [ɹ] and [ʐ] were rare among Singaporean speakers (Lock 1989b: 267; Chen 1986: 123–125); moreover, while Singaporeans were sensitive to the [l] variant of (r-), they did not appear to notice or stigmatize the range of other variants common in CSM [ɹ, ɿ, dz, z, j] (Lock 1989b: 269). In contrast to these previous studies, we found that both Lee and Ong consistently use standard SSM variants of (r-).

The (h) variable, with variants [x] (SSM) and [h] (CSM), is a complex one, as the degree of frication of [x] in standard Mandarin varies considerably depending on the openness of the following vowel and other factors (Duanmu 2000: 27). Lock found that his speakers consistently used [h] for (h), virtually never exhibiting audible frication, and that this feature was not salient as non-standard among Singaporeans (Lock 1989b: 201). In our data, however, we observed that both speakers use the standard [x].

Finally, the realization of (-üan) involves gradient vocalic variation. Our qualitative observation is that Lee consistently produces the SSM variant [yæn], while Ong uses the CSM variant [yən]. As these variants were difficult to code via perception alone, we leave a more detailed acoustic analysis to future work.

Summary of features

A brief summary of the linguistic variables reviewed in the above sections is given in Table 4.

Table 4. Summary of features analyzed and their usage by the two speakers

Num.	Variable	SSM	CSM	Lee	Ong
1.	(zh), (ch), (sh)	[ʈʂ, ʈʂ ^h , ʂ]	[ts, ts ^h , s]	SSM	primarily CSM
2.	(z), (c), (s)	[ts, ts ^h , s]	[ʈʂ, ʈʂ ^h , ʂ]	SSM	SSM
3.	(j), (q), (x)	[tɕ, tɕ ^h , ç]	[ts, ts ^h , s]	SSM, CSM, and English-influenced	primarily SSM
4.	(n-)	[n]	[l]	SSM	SSM
5.	(r-)	[ɹ/z]	[l/n/r/ɹ/dz/z/j]	SSM	SSM
6.	(h)	[x]	[h]	SSM	SSM
7.	(ü)	[y]	[i]	SSM	primarily SSM
8.	(i)	[i]	[y]	SSM	SSM
9.	(-üan)	[yæn]	[yɛn]	SSM	CSM
10.	(-uo)	[^u o]	[o]	primarily SSM	primarily SSM
11.	(er)	[ə]	[ə:]	SSM, CSM	SSM, CSM
12.	(-ng)	[ŋ]	[n]	primarily SSM	SSM, CSM
13.	(-n)	[n]	[ŋ]	SSM	SSM

Impact of the speak Mandarin Campaign

The previous analyses of real time variation in Lee and Ong's speeches have demonstrated that this broad division is only statistically significant for a few of the variables, and thus does not appear to be a major factor accounting for real time variation in their language use. Rather than arranging the data into early and late periods, then, we can look more specifically at the impact of the initial years of the Speak Mandarin Campaign, in which standard pronunciation of Mandarin was emphasized (Lock 1989b: 78). In Lee's data, the closest speech year following the launch of the campaign is 1983, while for Ong it is 1981.

Figure 7 indicates the overall standardness of Lee and Ong's use of all variables in three periods of time: before the launch of the Speak Mandarin Campaign, during the initial years of the campaign, and after the launch of the campaign. Generalized linear mixed-effects models for the two speakers controlling for phoneme as a random effect indicate that the pre- and post-launch periods are significantly less standard than the Speak Mandarin Campaign launch period (Lee: $z = -3.145$, $p = .00166$; Ong: $z = -7.709$, $p < .0001$).

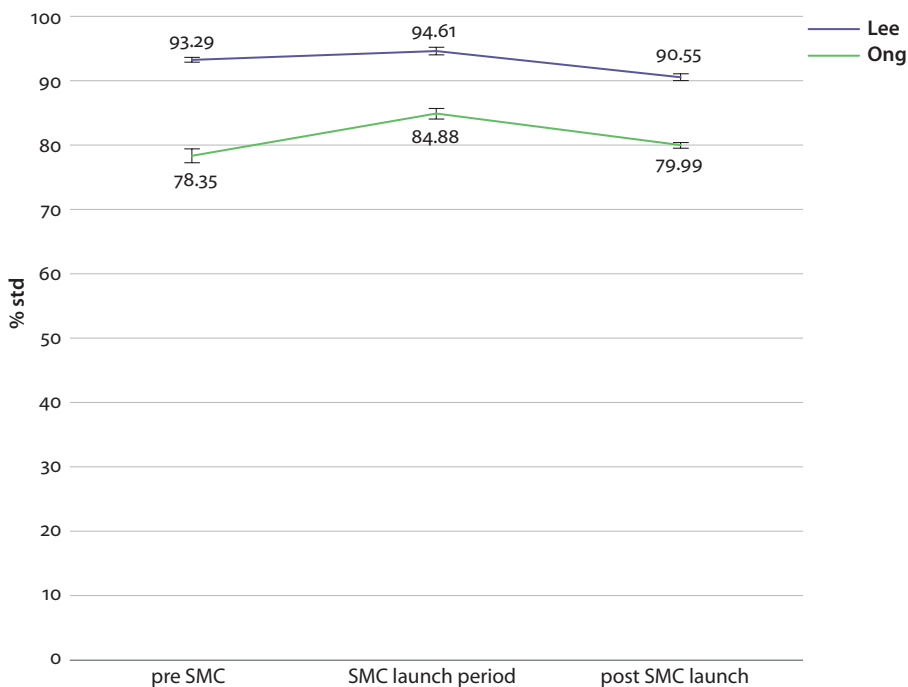


Figure 7. Overall rate of standard realization of all variables for each speaker, with speeches divided into pre-SMC, SMC launch, and post-SMC launch periods (Lee: $N = 4141, 1409, 3229$; Ong: $N = 1358, 1912, 7240$)

To further unpack the effect of the Speak Mandarin Campaign launch period by variable, Figures 8 and 9 illustrate, for Ong and Lee respectively, the rate of standard realization for every variable that was found to fluctuate in usage in the two years closest to before and after the campaign launch (for Lee, 1969 and 1983; for Ong, 1979 and 1981). In the case of Ong, every variable shows an increase in the 1981 speech; in some instances, this rise is quite dramatic, as in the rise in (sh) standardness, which jumps from 33% standard in 1979 to 72% standard in 1981. As shown in Figure 7, however, this shift was shortlived, as Ong returned to his usual style after this early-1980s period of temporary hyper-standard speech. In Lee's case (Figure 9), the shifts are less consistent, with the variable (x) rising in standardness significantly but others, most notably (-er), falling in the second speech. Perhaps examination of additional data from years closer to the Speak Mandarin Campaign launch would yield a pattern more consistent with Ong's data. As the majority of Lee's production of variables is extremely standard, his speech retains a high level of standard pronunciation overall, regardless of year, as reflected in Figure 7.

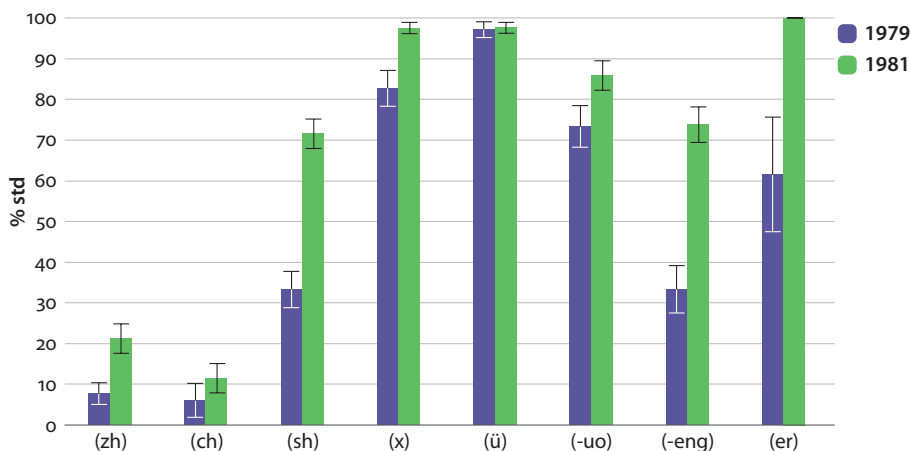


Figure 8. Rate of standard realization of all non-categorical variables for Ong in the years 1979 and 1981 (before and after the launch of the Speak Mandarin Campaign) (1979 $N = 548$; 1981 $N = 812$)

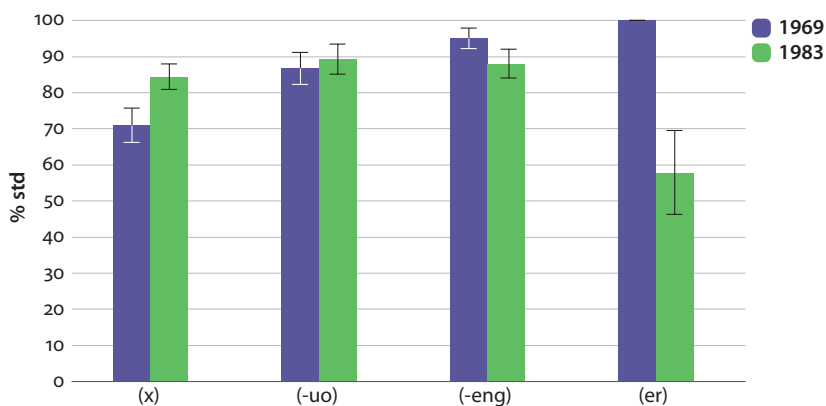


Figure 9. Rate of standard realization of all non-categorical variables for Lee in the years 1969 and 1983 (before and after the launch of the Speak Mandarin Campaign) (1969 $N = 220$; 1983 $N = 251$)

Discussion

The analysis above has examined speech data from two prominent Singaporean speakers of L2 Mandarin in Singapore, assessing the extent to which their usage of sociolinguistic variables conforms to or diverges from observations in previous work. In several respects, the variation patterns of these speakers are distinct from those argued to be typical of educated Singaporean Mandarin speakers; here, we will briefly consider why this might be the case.

As our data have illustrated, Lee's Mandarin tutor was correct when he noted Lee's unusually standard pronunciation of Mandarin (Chew 2011: 167). Not only does Lee's Mandarin lack almost all of the features typical of CSM, but he also makes limited use of rhotacization, a Beijing regional feature not incorporated into SSM. It is particularly interesting, then, to note the few features of CSM that Lee does adopt. In the majority of these cases, Lee's use of CSM appears to be triggered by a convergence of two factors: interference from the English phonological system, and the presence of a pervasive and non-stigmatized CSM variant. First, Lee's production of the palatal initials (j), (q), and (x) varies between standard palatal phones, CSM dental phones, and English-influenced postalveolar phones. As these palatal consonants do not occur in English and are cross-linguistically marked, as well as being rarely produced by Singaporean Mandarin speakers, it is not surprising that Lee makes variable use of substitutions. The fact that Lee does not exclusively use post-alveolar variants reflects the ubiquity of the dental variants in Singapore, and the community's lack of awareness regarding the non-standardness of these variants (see Lock 1989b: 206). In the case of the (-uo) variable, once again we see a convergence of English transfer and a common CSM feature; for example, given the syllable *duo*, the CSM variant [to] is more consistent with Singapore English than the SSM [t^ho]. The same argument can be made for (er), as Singapore English is non-rhotic. As for (-eng), on the other hand, we have no apparent English-based explanation, as English does distinguish between the alveolar and velar nasal (e.g., *rung* vs. *run*). Lee's production of (-eng), however, is 94.7% standard; his use of the CSM variant in this case, then, is quite limited. One potential explanation for his limited adoption of this variant is interference from Hokkien (see Fon et al. 2011), which Lee was also studying and speaking as an L2 until 1979.

As reflected in Lee's biographical sketch, the primary forces apparently shaping Lee's production of Mandarin were the views he held regarding the importance of standard language and the resulting efforts he made to target the Beijing variety in his language learning. Lee's focus on Beijing Mandarin is evident not only in his phonological features, but also in more fine-grained phonetic features that fell outside the scope of this analysis. Lee's sensitivity to dialect-influenced pronunciation may account for his low uptake of Hokkien-influenced features during the period

in which he was actively speaking and studying the dialect; despite the typological similarity of Hokkien to Mandarin (see Rothman 2011), we see very little evidence of Hokkien influence in Lee's speech, even in cases such as (x), where transfer would be facilitative.

Ong's use of sociolinguistic variables in the data also reveals several significant patterns. First, his high rate of non-retroflex realizations of (zh), (ch), and (sh) in this very formal context supports Lock's contention that many Singaporean speakers in this era, while recognizing that retroflex initials were part of standard Mandarin phonology, rejected these initials as inauthentic and non-local (Lock 1989a: 283). Even in Ong's 1981 speech (see Figure 8), in which he uses far more standard variants, his rates of retroflex for (zh) and (ch) remain remarkably low. Furthermore, Ong does not hypercorrect dental initials to retroflex; this indicates that he is aware of which words have a retroflex initial and which have a dental initial in SSM, but elects not to produce retroflex the majority of the time in his speeches.

Ong's data has also yielded some surprising findings relating to variables that have been characterized as not salient to Singaporeans in previous work. Despite Lock's argument that the [s] variant of (x) is not marked as non-standard among speakers of Singapore Mandarin (Lock 1989b: 413–414), this is a feature that Ong avoids to some extent in his speeches, using it with far less frequency than has been observed among other Singaporeans in the same time period (Chen 1986: 119; Lock 1989b: 204). The same can be said for the regional [h] variant of (h) and the various non-[l] variants of (r); Lock identifies these as CSM features that Singaporeans are unaware of (Lock 1989b: 269, 414), and yet Ong largely avoids them in his speeches, using the standard [x] and [z] instead. The variable (-üan), on the other hand, is consistently produced as the regional variant [yæn] in Ong's data, rather than the standard [yæn]. This may reflect the subtlety of this phonetic difference, as well as the fact that the [yæn] variant is widespread in China and Taiwan (Chen 1986: 146), and is even indicated as the standard pronunciation in certain accounts of Mandarin phonology (e.g., Li & Thompson 1981: 7; Shibles 1994). The extent to which [yæn] is indeed the standard variant in SSM is therefore debatable.

Overall, Ong's speech can be characterized as non-standard with regard to salient features, and standard with regard to non-salient features; this is a rather unusual state of affairs in the sociolinguistic literature. We might attribute some of Ong's atypical production of Mandarin to his home language background. As noted in his biographical outline, while Ong spent the first years of his life with his Hokkien-speaking grandparents, following this period his home language environment consisted primarily of English. As his father was English-educated, and Ong spent his university years and much of his early career abroad in English-speaking environments, it is probable that he was less integrated into the local Mandarin speech community than a typical Chinese-educated Singaporean. This can account

for the eclecticism of Ong's Mandarin production, as he adopts some salient regional CSM features but not others, instead using SSM features he presumably acquired via exposure at school, which constituted his primary source of Mandarin.

Regarding lifespan change, both Lee and Ong's data reveal a temporary rise in standard features coinciding with the launch of the Speak Mandarin Campaign. While the shift was significant for both speakers, it was particularly dramatic for Ong, who used a higher percentage of standard variants for every one of his variable features in this period. The impact of the Speak Mandarin Campaign on the language used in Singapore's National Day Messages illustrates the intensity and scale of the campaign; the fact that this effect was temporary, however, reflects the campaign's greater emphasis on the overall use of Mandarin, rather than on the adoption of standard pronunciation.

Conclusion

Previous investigations of Singapore Mandarin have argued that, for social and political reasons, although coming from different Chinese dialect backgrounds, the community of L2 Mandarin speakers in Singapore rapidly formed a local norm, distinct from the exonormative standard, in the early years of Mandarin-medium education at the beginning of the 20th century (Lock 1989b: 73–76). In the present study, we have investigated the pervasiveness and acceptability of these local norms by considering the cases of two prominent Chinese Singaporean L2 learners of Mandarin who, as a result of their language backgrounds, were not typical members of this speech community. A selection of Mandarin National Day Messages from the political figures Lee Kuan Yew and Ong Teng Cheong were analyzed, focusing on a range of sociolinguistic variables identified in previous work as typical of colloquial Singapore Mandarin.

Lee, a native speaker of English and Malay who began learning Mandarin as an adult, was found to orient primarily to the exonormative Beijing Mandarin standard, and to use few local features. Ong, a native speaker of Hokkien and English who studied Mandarin beginning in primary school, displayed a more eclectic pattern, using some salient, stigmatized local features, but preferring standard variants in other cases. While neither speaker grew consistently more or less standard over the time span of the data, both demonstrated a significant, temporary boost in standard pronunciation during the early years of Singapore's Speak Mandarin Campaign.

This study has been limited in scope to the use of segmental phonological features in Mandarin. In ongoing work, we are investigating each speaker's use of lexical tone; unlike the segmental features analyzed here, Lee's tone contours exhibit considerable shift over the years. Additionally, as Lee delivered National Day

Messages in English, Malay, and Mandarin, we are analyzing multilingual patterns of phonological variation in his speech, focusing on the voice onset time of stops in the three languages. As a multilingual speaker who gave many public addresses and interviews throughout his adult life, Lee represents a fascinating source of data on language change over the lifespan.

In scholarship on World Englishes, the variety of English spoken in Singapore has traditionally been identified as belonging to the Outer Circle, referring to its status as a widely-used but non-native variety (see Kachru 2006). While English has subsequently become a first language for many in the country, from an ideological perspective, its perceived status as an illegitimate, non-native variety remains salient both within and outside of Singapore, even as Singaporeans increasingly orient towards the local norm (Park & Wee 2009). We suggest that the Mandarin spoken in Singapore has experienced a similar phenomenon. Although an endonormative standard of Mandarin has developed, many in Singapore still uphold external norms; moreover, the variety of Mandarin spoken in Singapore is perceived by many as incorrect and deficient. This contestation of norms is evident in the distinction between the two speakers examined in the present study. While Lee largely avoids local features in his speech, Ong makes prominent use of a well-known, stigmatized feature, the fronting of retroflex sibilant initials; evidently, there is some non-alignment between these two individuals regarding the appropriate use of Mandarin in a formal setting. Thus, as in previous studies of L2 acquisition of sociolinguistic variation, learners' language use patterns have been found to vary significantly in these data according to the learner's social identities and orientation towards standard language norms. Further work on present-day learners of Mandarin in Singapore promises to contribute further to our understanding of how the country's population of L2 Mandarin learners interacts with the community of native speakers in the ongoing negotiation of the norms and status of Singapore Mandarin.

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Usage, evaluation and awareness of French sociolinguistic variables by second-language learners during a stay abroad

The case of negative *ne* and optional liaison

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This chapter deals with the acquisition of two sociolinguistic variables of twenty-nine American and Chinese learners of French. The purpose is to track the production and evaluation of the optional liaison and the variable deletion of negative *ne* during a 9-month stay abroad (SA) and to take a close look at the differences between the two sociolinguistic variables during the course of acquisition. We also aim to understand whether evaluation and awareness of the usage of these variables could influence the learners' production. Statistical analyses show that the use of formal variants by the learners declined significantly during their SA. Moreover, acquisition of the *ne* variable seems guided by awareness of its sociolinguistic value, whereas acquisition of optional liaison appears to be driven by exposure to input and item-based learning.

Keywords: study abroad, sociolinguistic competence, sociolinguistic usage, sociolinguistic awareness and evaluation

1. Sociolinguistic variation in second language research

An important stream of research on the acquisition of second languages (L2) has focused on sociolinguistic variation using the theoretical and methodological approach initiated by Labov (1972). Sociolinguistic variation refers to points in the language where the speaker can say the same thing in different ways. Some variable linguistic elements may take the form of different variants which are 'identical in reference or truth value, but opposed in their social and/or stylistic significance' (Labov, 1972: 271). Dickerson (1975) was one of the first to use a quantitative variationist approach to describe variation in the interlanguage. Her work paved the

way for considering variation in L2 use as an integrated characteristic of learner competence. Between the 1970s and the end of the 1980s, the studies carried out focused on variations between native and non-native forms. Since the 1990s, many researchers have focused on the acquisition of native forms in L2 using a variationist approach (Howard, Mougeon and Dewaele, 2013; Mougeon, Nadasdi and Rehner, 2010; Regan, Howard and Lemée, 2009). Mougeon and Dewaele (2002: 3) explain that the main aspects studied by the variationist current in L2 focus on observing whether learners:

- (i) use all the variants observable in the speech of L1 speakers; (ii) employ non-native variants of their own; (iii) use native variants at the same frequency level as that observed in the speech of L1 speakers; (iv) respect the linguistic and extralinguistic constraints of sociolinguistic variation observable in the speech of L1 speakers.

This study focused on the third and fourth points and the following section provides an overview of research that has analysed the frequency with which standard and non-standard sociolinguistic variants are used by L2 learners.

2. Sociolinguistic variables in second language classroom and textbooks

Existing studies on sociolinguistic competence in L2 show that learners' use of informal sociolinguistic variants is low when compared to native speaker levels of use (Howard et al., 2013). Various studies carried out on learners' sociolinguistic usage show that when all types of variables are combined (phonological, lexical, morphosyntactic variables, etc.), formal variants predominate in the oral productions of learners in language classes. Studying classroom instruction of French as a foreign language could help afford a better understanding of this phenomenon.

Sociolinguistic competence proves complex to teach and acquire because not only is it necessary to know the different possible linguistic options but learners must also be capable of recognising the associations between the different variants and the appropriate contexts in which to use them (Howard, 2012; van Compernelle, 2013). Numerous analyses agree on the omnipresence of formal variants in language classes. Waugh and Fonseca-Greber (2002) and Mougeon, Nadasdi and Rehner (2002) note that teachers' discourse is strongly standardised.

Etienne and Sax (2009) examined the introduction of sociolinguistic variables in a large number of textbooks of French as a second language in the United States. Their findings on three sociolinguistic variables (*nous* vs *on*, *ne* deletion and the inversion in interrogative forms) show in general that the textbooks are inconsistent when it comes to what is taught and how it is taught. In more than

half of the textbooks, formal variants predominate, whereas informal variants are marginalised (a finding supported by various different authors: van Compernelle (2013), Mougeon et al. (2010), Nadasdi, Mougeon and Rehner 2003)). In audio and video documents, formal and informal variants often coexist in situations where native speakers mostly use informal variants (eg. daily conversation with friends).

This type of didactic incoherence was also noted by Mougeon et al. (2002), who found discordant use of variants within the same text in textbooks. Moreover, these authors emphasise the lack of information available about the sociolinguistic principles underpinning the alternation between two or more forms. Etienne and Sax (2009) also found that when sociolinguistic information is provided, it is often simplified, with the variation presented in terms of an opposition between oral and written norms. Van Compernelle (2013) also noted that sociolinguistic variation is often described either using simplistic rules or overly precise usage conventions. At present, the language class does not seem to have optimised the learning of sociolinguistic competence. In fact, the way it is taught can even lead to confusion regarding the sociolinguistic principles underpinning the use of variants.

3. Awareness and evaluation of sociolinguistic variants

The teaching materials used in language classes do not give learners the opportunity to develop sociolinguistic skills close to those of native speakers. According to van Comperolle (2013), in order to promote development of sociolinguistic competence, it is necessary to show learners that sociolinguistic conventions follow a probabilistic model. In a study on eight American students learning French, he tested whether this type of knowledge allows the emergence of sociolinguistic variation in learner discourse. The author, through a six weeks concept-based pedagogical program including explanations of sociopragmatic concepts and verbalized reflections tasks, observes that the learners' awareness of the use of the two variants of the negative *ne* increased and that they made progress in their control of the variation in oral production. However, this study also shows that learners are not immediately able to suppress the *ne* of negation even after receiving instruction about its optional nature and even after planning to suppress it in their production.

This result suggests that awareness is not sufficient for appropriate use of the different variants in context. However, this study emphasises the importance of explicit teaching to enable understanding of the socio-stylistic values of the variants, where a more implicit form of learning only allows the learner to identify a difference between the various forms of the variable. This being said, the fact that developing learners' awareness does not suffice to ensure appropriate use can be productively linked to the results of research on the differences between implicit

and explicit teaching, which has demonstrated, for example, that knowledge of a rule does not always imply it will be used by learners (Ellis, 2002). Conversely, the use of sociolinguistic variables cannot always be ascribed to an increased awareness of their meaning but can sometimes simply be a reflection of fragmentary learning (van Comperolle and Williams, 2011).

4. Purpose of the study

In general, the previous studies following French learners have shown that those who have stayed in France use less formal variants than those who have never stayed abroad (Dewaele, 2002; Howard, 2012; Regan et al. 2009; Sax 2003; Thomas, 2004). This study will analyse more precisely the evolution of sociolinguistic usage in order to detect changes in production and evaluation at different stages of the stay abroad. Indeed, few studies investigated changes in production overtime during the stay abroad and very few have documented the evaluation of the sociolinguistic variants. In addition, a detailed analysis of the lexical and syntactic contexts of variant usage will allow us to gain a deeper understanding of the changes taking place in learner discourse. As far as we know, other studies on sociolinguistic usage in L2 have fewer participants and therefore weren't able to collect large corpus of sociolinguistic usage in different lexical and syntactic contexts.

For this purpose, we have chosen to combine the observation of two different variables: the optional liaison and the *ne* of negation. These two variables have been subject to substantial research in both L1 and L2 and present the advantage of being located at two linguistic levels (phonological and morphosyntactic), allowing us to observe the evolution of acquisition for two sociolinguistic features that draw on awareness and implicit learning in different ways. Indeed, it is assumed that the phonological variants could be learned by a less explicit and less aware process than the morphological variants.

To date, limited studies have been conducted on the question of sociolinguistic awareness in L2. According to Labov (1976), awareness of the social value of usage precedes the ability to adopt the appropriate variants in context. In L2, recent research on the development of sociolinguistic meta-knowledge has shown that awareness of the use of variants of the same variable increases after a study visit abroad (Kinginger, 2008 and van Comperolle and Williams, 2012). In our study, we want to examine whether the ability to evaluate variants evolves during a SA.

5. Methodology

a. Participants

The participants were 29 French foreign language learners, spending two semesters in France at the University of Grenoble. They attended the same course in a French language-learning centre. They had fourteen to sixteen hours of French classes per week, including a language and a literature/culture component. The participants' mean age was 21.6 (range: 18–25 years). Half of the students (14) came from the United States (and were all native English speakers) and the other half (15) were from China (all native Mandarin speakers). At the beginning of the course, the students' proficiency in French varied slightly; approximately three quarters of the students were placed at B1 level (intermediate speakers) and the other quarter were placed at B2 level (upper-intermediate speakers). The French language-learning centre measured the students' proficiency at the beginning of each semester. The profile of our students is given in the following table sorted by nationalities, presenting their age, gender and level of proficiency at the beginning of the study.

Table 1. Profile of the learners (nationality, gender, age and French level at T1)

Learners code name	Nationality	Gender	Age at T1	French level at T1
KRI	Am	F	20	B1.1
MEL	Am	F	20	B1.1
HEA	Am	F	21	B1.2
SAM	Am	F	21	B1.2
JEF	Am	M	21	B1.1
AND	Am	M	20	B1.2
JAC	Am	M	24	B2.4
MAT	Am	M	21	B2.4
EMI	Am	F	20	B1.0
BEV	Am	F	20	B1.2
MER	Am	F	18	B1.5
KAT	Am	F	25	B2.6
ROB	Am	M	20	B1.0
MIC	Am	M	20	B1.3
HUI	Ch	F	21	B1.2
RON	Ch	F	22	B1.3
WEN	Ch	F	21	B1.3
HUA	Ch	F	23	B1.5
LUO	Ch	F	21	B1.5

(continued)

Table 1. (continued)

Learners code name	Nationality	Gender	Age at T1	French level at T1
MEN	Ch	F	23	B1.8
HAI	Ch	F	22	B2.3
YAX	Ch	F	21	B2.3
CHE	Ch	M	19	B2.3
LEI	Ch	F	20	B1.7
XIE	Ch	F	20	B1.7
YAP	Ch	F	20	B1.7
SHU	Ch	F	20	B2.6
YIN	Ch	F	22	B2.7
WUY	Ch	F	20	B2.9

The study is based on quantitative longitudinal observations that took place at three points in the SA: at the beginning (September, T1), at the middle (January, T2) and at the end (May/June, T3). The learners volunteered to participate in the project but were not aware of its aim.

Three types of data were used to look into sociolinguistic use, evaluation and awareness.

b. Sociolinguistic variables

Optional liaison

The liaison phenomenon is common in French speech, it consists of the production of a consonant between two words (word1 and word2), with word 2 beginning with a vowel when it is pronounced in isolation. For instance, when the French adjective *petit* (meaning *small*) is combined with the noun *arbre* (*tree*), the sequence can be pronounced /petitarbre/. The liaison consonant /t/ appears when the two words are combined. A limited number of consonants are used for liaison: /z/, /t/, /r/, /p/, the most common liaisons are /z/, /n/ and /t/ (Adda-Decker et al., 1999).

Liaison contexts are divided in two categories: categorical and optional contexts. We will be interested in this chapter in the second as previous studies showed that it is a stratified sociolinguistic variable in adult speech. Its realisation varies with speaking style and speakers' socio-economic backgrounds, for example a study reports that speakers from upper middle class producing more optional liaison than speakers from lower working class (DeJong, 1991).

In order to distinguish the optional liaison contexts from the categorical contexts, we relied on the work of Durand and Lyche (2008). The contexts of optional liaison that we took into account therefore reflect the uses of French speakers given that they draw on recent analysis of a large corpus. The contexts in question are as follows:

- ** After a pre-nominal adjective (e.g. *un petit/t/appartement* – a small flat)
- ** After a plural noun (e.g. *des langues/z/étrangères* – foreign languages)
- ** After a form of the verb *avoir* (e.g. *ils ont/t/un* – they have a)
- ** After a form of the verb *être* (e.g. *c'est/t/un* – this is a)
- ** After another verb form (e.g. *il vient/t/aussi* – il is also coming)
- ** After invariable words such as prepositions or adverbs (e.g. *dans/z/un* – in a, *chez/z/elle* – in her house)

The realisation of the optional liaison can be considered as the standard and sometimes prestigious form while non-liaisons are considered the non-standard form. A study by Adda-Decker et al. (2012) based on a corpus of a familiar register (Torreira, Adda-Decker and Ernestus, 2010) analysed the optional liaison with 46 French-speaking speakers. The authors reveal that the speakers of this study (students from the Paris region) use very few optional liaisons in daily conversations with friends. Based on the same optional liaison contexts as those mentioned above (Durand and Lyche, 2008), the authors note that the rate of optional liaison does not exceed 11%.

Negative *ne*

Negation in French is expressed through a pre-verbal *ne*, a verbal form and a post-verbal particle (*pas, jamais, plus, rien* or *personne*), the most frequent being the item *pas* (i.e. *je ne sais pas*; I don't know). Although, it is required in written speech, *ne* is 'omissible' in oral speech. Coveney (1996) considered that the negative *ne* is the most extensively studied and known sociolinguistic variable in French. As is the case for the realisation of optional liaison, the omission of *ne* depends on speaking style and speakers' socio-economic backgrounds. Researchers have shown that age has an influence on the omission rate of *ne*, Hansen and Malderez (2004) observed the maintenance rate of *ne* in different age group observe during the same period of time. A maintenance rate of 22,3% was observed for people between 51 and 64 years old, while a maintenance rate of 7.5% was observed for people between 24 and 35 years old. Social class has also proved to be a good factor the use of *ne*. By categorizing speakers according to three social classes, Ashby (2001) finds that speakers of popular social class have a rate of use of not much lower than the two other social classes. Similarly, Coveney (1996) observes that speakers from lower class maintain the *ne* at a rate of 8.2% while the speakers of upper social class maintain a rate of 16.4%. Although the differences between the social groups are small the omissions rate reported in these different studies indicate mostly a very low use of negative *ne* in everyday speaking of French speakers.

c. Sociolinguistic interviews

Sociolinguistic usage was elicited using sociolinguistic interviews, which aimed to prompt natural, spontaneous discourse. The interviews were not formal. Rather, informal conversational topics were used, guiding the learners to speak in an unmonitored style, and were chosen to reflect the learners' interests such as hobbies and pastimes, holidays, and social life in France.

The interviews lasted a mean length of 43 minutes and were conducted by a native speaker of French at the three time points (September, T1; January, T2 and May/June, T3). The data were then transcribed into standard orthography using CLAN software (MacWhinney, 2000).¹ Specific codes were included for the realisation or non-realisation of the variants of *ne* negation and optional liaison.

d. Judgement tasks for the two variables

We devised a judgement task based on standard and non-standard sentences. We drew here on work by Nardy (2008), which explores children's evaluation of sociolinguistic variables. To our knowledge, only the study by Harnois-Delpiano (2016) has pursued a similar objective with learners of French as a second language. Our experimental task involved listening to utterances containing one of the two variants of the sociolinguistic variables. Learners were asked to determine after each sentence they heard whether it was correct or incorrect in French. They were given the opportunity to reply: 'I do not know'. With this experimental task, we aimed at revealing the learners' knowledge referring to 'norms' of correctness they had learnt in second language classroom. Furthermore, we wanted to examine if their reference of correctness change during the stay abroad.

Learners listened to a total of 54 utterances (see Appendix 1) at each of the three observation time points. These sentences were composed of a standard / non-standard pair, where learners heard exactly the same sentence containing either the standard variant or the non-standard variant. We added 'distractor' sentences to these pairs of sentences, in which neither of the two target variables were present. The aim of the 'distractor' phrases was to limit the attention paid to sociolinguistic variation. The sentences were presented in a random order. The learners therefore did not hear the three sentences of the same type (standard / non-standard and distractor) successively.

When processing the data, we removed the distractor statements from our analysis. Utterances were composed according to the frequency of the variant syntactic structures (for *ne* negation) and lexical structures of the variants (for the optional

1. <http://childes.psy.cmu.edu/>

liaison). Two types of sentences were devised: sentences involving linguistic contexts in which the standard variant is realised at a low frequency by native speakers and sentences where the standard variant is realised at a higher frequency (see Appendix 2). For the negation, the study by Hansen and Malderez (2004) based on a sociolinguistic interview corpus of 24 subjects from the Paris region, allowed us to select personal pronouns as well as the negation markers (eg. *pas*, *plus*, *jamais*) involving different frequencies of production. For the optional liaison, we used the PFC corpus (Phonology of Contemporary French, Durand and Lyche, 2003; Durand, Laks and Lyche 2005) based on 259 French speakers from different regions of France. The analysis by Mallet (2008) and Durand et al. (2011) allowed us to extract optional liaison contexts involving different frequencies of realisation of standard and non-standard variants.

The task was given at each time point (September, T1; January, T2 and May/June, T3) and it was fully computerised under E-Prime 2.0 (Psychology Software Tools, 2012). We recorded response times which were used to process the data and to remove some excessively long or short responses that correspond to errors, hasty judgements or moments of loss of concentration (Bargh and Chartrand, 2000).

e. Questionnaire on sociolinguistic variables

At the end of the study, a questionnaire was given to students to determine their conscious and verbally-accessible knowledge about sociolinguistic variation and more precisely regarding the two target sociolinguistic variables. This questionnaire (see Appendix 3) was given orally and resulted in an exchange which lasted between 30 and 45 minutes. The questionnaire was only given at the end (May/June, T3) because we asked explicit questions about the use of the optional liaison and *ne* negation. It was therefore important not to mention these two variables before the end of the interviews so that the learners did not modify their usage in the interviews or their judgements in the evaluation task. The questions were designed to assess the learners' knowledge of the use of the optional liaison and the negative *ne*. From the responses collected, we gave a score on a scale ranging from 0 to 3. The score of 0 was given to the learners who did not provide any explanation regarding the use of the variables or did not notice any variation (e.g. '*The negative ne disappears all the time*', Yaxin, Chinese learner). The learners who observed a variation but did not deliberately demonstrate an awareness of the use of the variants obtained a score of 1 (e.g. '*Sometimes we cannot do the optional liaison but often we do it*', Yapin, a Chinese learner). The score of 2 was given to learners providing a partial or unclear explanation of the use of the different variants (e.g. '*if you want to speak more standard it is better to keep the ne but it does not matter if it is deleted*', Berveyey, American Learner). And learners who had a score of 3 were those who observed

a variation and gave a clear explanation of the use of the different variants (e.g. ‘*In some cases the liaison is compulsory in other cases it is optional but it also depends on the speaker and the context*’, Jack, American learner).

In the next section, we will examine the results of our study. We used two non-parametric statistical tests: the Wilcoxon test and the Spearman rank correlation coefficient. We preferred the use of non-parametric tests that are not based on a normality assumption and that can be used in small samples. Indeed, a Shapiro-Wilk’s test ($p > 0.05$) and visual inspections of histograms of the distribution of the variables showed that the sample data were not approximately normally distributed.

6. Results

a. Optional liaison

Table 2 provides our results for the optional liaison, presented as percentages of formal use produced by each learner² (29) at the three time points. The realisation percentages were calculated by dividing the number of optional liaisons realised by the number of occurrences of possible liaisons for each subject.

The mean rate of realisation of the optional liaison decreased markedly between T1 and T3 and this difference was significant (Wilcoxon: $z = -2.258$, $p = 0.002$, with a medium effect size, $r = 0.42$). The difference was mostly noticeable between T2 and T3 (Wilcoxon: $z = -2.714$, $p = 0.007$, with a large effect size, $r = 0.5$), but the difference was not significant between T1 and T2.

We carried out a more detailed analysis on frequent lexical contexts of emergence of optional liaison. On the one hand, we studied the influence of lexicon on the learners’ productions and their evolution and, on the other hand, we observed the proximity between these productions and those of native speakers.

The different contexts taken into account have been studied in native adults and in the table below we also present the results for native speakers identified by Mallet (2008) in order to offer a point of comparison with the learners’ productions and assess their evolution. We identified each learner’s use and calculated an average rate of realisation of the optional liaison for each of the lexical contexts listed in the Table 3.

2. All names are pseudonyms and learners are identified by the initials of the pseudonyms to ensure anonymity.

Table 2. Percentages of formal variants produced out of the total of occurrences of optional liaisons according to learner and longitudinal time point

Learners	Nationality	T1		T2		T3	
		Percentage of optional liaisons realised (number/total number of occurrences)		Percentage of optional liaisons realised (number/total number of occurrences)		Percentage of optional liaisons realised (number/total number of occurrences)	
ROB	American	83.72%	(36/43)	38.10%	(16/42)	22.73%	(5/22)
AND		80.90%	(72/89)	63.93%	(39/61)	42.37%	(25/59)
MEL		68.42%	(13/19)	51.22%	(21/41)	31.67%	(19/60)
HEA		81.48%	(22/27)	75.00%	(21/28)	50.00%	(13/26)
KRI		63.77%	(44/69)	50.60%	(42/83)	47.22%	(34/72)
MAT		59.15%	(42/71)	63.74%	(58/91)	44.44%	(28/63)
JEF		60.71%	(34/56)	61.18%	(52/85)	47.50%	(38/80)
KAT		26.15%	(17/65)	36.84%	(49/133)	14.91%	(17/114)
MIC		20.00%	(2/10)	60.00%	(9/15)	11.76%	(2/17)
BEV		50.00%	(1/2)	83.33%	(5/6)	44.44%	(4/9)
JAC		26.87%	(36/134)	31.82%	(28/88)	23.94%	(45/188)
MER		32.14%	(9/28)	33.33%	(26/78)	30.88%	(21/68)
EMI		28.57%	(2/7)	33.33%	(13/39)	31.25%	(5/16)
SAM		20.37%	(11/54)	36.17%	(34/94)	26.67%	(20/75)
HUA		Chinese	57.50%	(23/40)	25.81%	(24/93)	28.89%
YAP	57.50%		(23/40)	57.78%	(26/45)	42.86%	(18/42)
YAX	24.29%		(17/70)	27.12%	(32/118)	10.09%	(11/109)
XIE	75.00%		(36/48)	81.52%	(75/92)	69.05%	(58/84)
CHE	66.67%		(14/21)	51.61%	(16/31)	62.50%	(5/8)
HAI	30.30%		(10/33)	26.67%	(8/30)	28.57%	(6/21)
LEI	28.57%		(8/28)	43.75%	(21/48)	27.42%	(17/62)
WUY	25.61%		(21/82)	35.77%	(44/123)	25.61%	(21/82)
MEN	25.00%		(7/28)	66.67%	(10/15)	25.00%	(8/32)
LUO	10.81%		(4/37)	21.62%	(8/37)	12.12%	(4/33)
YIN	16.67%		(7/42)	2.86%	(1/35)	18.00%	(9/50)
SHU	36.00%		(18/50)	22.62%	(19/84)	43.75%	(35/80)
RON	67.31%		(35/52)	75.86%	(44/58)	81.03%	(47/58)
HUI	11.67%		(7/60)	23.36%	(25/107)	29.03%	(18/62)
WEN	48.21%		(27/56)	46.15%	(18/39)	67.86%	(19/28)
Means (Standard-deviation)		44.25% (23.04)		45.79% (20.37)		35.92% (18.04)	

Table 3. Average percentage of optional liaison produced out of the total of optional liaison occurrences according to syntactic context and longitudinal time point (shaded boxes statistically significant results)

Lexical context	T1	T2	T3	PFC corpus (Mallet, 2008)
	Percentage of optional liaisons realised Mean (SD)	Percentage of optional liaisons realised Mean (SD)	Percentage of optional liaisons realised Mean (SD)	Percentage of optional liaisons realised Mean (number/total number of occurrences)
<i>C'est</i> + X (<i>It is</i> + X)	48.18% (38.64)	40.35% (31.71)	27.49% (31.79)	28.10% (413/1470)
<i>Est</i> + X(<i>Is</i> + X)	47.97% (40.71)	33.66% (36.68)	34.51% (46.44)	43.87% (279/636)
<i>Sont</i> + X (<i>Are</i> + X)	32.14% (46.44)	41.67% (44.84)	19.64% (31.28)	19.23% (168/208)
<i>Suis</i> + X (<i>Am</i> + X)	55.98% (47.47)	53.28% (39.4)	49.24% (41.15)	13.49% (58/430)
<i>Dans</i> + X (<i>In</i> + X)	90.00% (26.71)	90.50% (25.84)	94.71% (15.99)	94.97% (378/398)
<i>Pas</i> + X (<i>Not</i> + X)	41.70% (40.46)	29.42% (33.88)	12.20% (19.71)	1.36% (12/185)
<i>Plus</i> + X (<i>Not</i> + X)	56.41% (44.25)	62.50% (43.5)	52.13% (47.4)	64.11% (159/248)
<i>Quand</i> + X (<i>When</i> + X)	25.19% (41.67)	11.27% (29.04)	25.00% (41.36)	77.93% (498/639)
<i>Très</i> + X (<i>Very</i> + X)	48.97% (44.85)	57.31% (46.95)	75.56% (35.97)	96.55% (140/145)

By comparing the uses of learners at T1 with those of native speakers from the PFC corpus, we found that five of the nine lexical contexts displayed higher rates of standard variants than those of native speakers (*c'est* + X, *est* + X, *sont* + X and *pas* + X). For the four remaining contexts (*dans* + X, *plus* + X, *quand* + X and *très* + X), the rates of use were lower than native speakers at T1. Switching from description of the data to statistical inferences shows that only three contexts revealed a significant evolution between the three time points (see the shaded boxes in Table 2). After *c'est*, learners produced fewer formal variants over time. The differences were significant between T1 and T3 (Wilcoxon, $z = 2.37$, $p = 0.001$, with medium effect size, $r = 0.44$). The rate of realisation of the formal variant at T3 was close to that of native speakers (27.49% for our learners at T3 and 28.10% for the native speakers). For the optional liaison after *pas*, learners realised the formal variant less and less as their stay progresses: the differences between T1 and T3 (Wilcoxon, $z = 2.621$, $p = 0.009$, with medium effect size, $r = 0.49$) were significant. The learners' use

declined markedly between T1 and T3, approaching native use (12.20% for learners at T3 and 1.36% for native speakers). After *très*, learners use of the formal variant increased significantly between T1 and T3 (Wilcoxon, $z = 2.053$, $p = 0.04$, with medium effect size, $r = 0.38$). The learners also approached native use by increasing their rate of realisation of the formal variant (75.56% for learners at T3 and 96.55% for native speakers). Thus, for the three contexts showing a significant difference between T1 and T3 the learners approach the native performance by decreasing or increasing the production of optional liaison and the three results reflect the learners' performance drawing closer to that of native speakers.

b. Negative *ne*

The following table presents the percentages of formal realisation of negative *ne* produced by the 29 learners at the three time points as well as the number of occurrences.

Table 4. Percentages of formal variants produced out of the total number of occurrences of negation according to learner and longitudinal time point

Learners	Nationality	T1		T2		T3	
		Percentage of negative <i>ne</i> realised (number/total number of occurrences)	(number/total number of occurrences)	Percentage of negative <i>ne</i> realised (number/total number of occurrences)	(number/total number of occurrences)	Percentage of negative <i>ne</i> realised (number/total number of occurrences)	(number/total number of occurrences)
EMI	American	31.82%	(7/22)	53.33%	(32/60)	66.67%	(18/27)
BEV		83.33%	(5/6)	92.31%	(12/13)	90.91%	(20/22)
MIC		33.33%	(5/15)	38.10%	(8/21)	28.57%	(6/21)
JAC		12.84%	(14/109)	3.48%	(4/115)	0.00%	(0/198)
KRI		95.45%	(63/66)	77.61%	(52/67)	81.82%	(54/66)
HEA		15.79%	(6/38)	3.33%	(1/30)	0.00%	(0/46)
JEF		72.55%	(37/51)	72.73%	(72/99)	43.64%	(24/55)
KAT		85.90%	(67/78)	60.15%	(80/133)	50.88%	(58/114)
SAM		97.78%	(44/45)	89.02%	(73/82)	54.24%	(32/59)
ROB		77.78%	(21/27)	18.42%	(7/38)	23.53%	(4/17)
AND		93.83%	(76/81)	70.83%	(34/48)	35.71%	(30/84)
MAT		79.27%	(65/82)	27.27%	(24/88)	18.18%	(20/110)
MER		75.00%	(12/16)	19.70%	(13/66)	8.89%	(4/45)
MEL		97.78%	(44/45)	34.00%	(17/50)	14.02%	(15/107)
HUI	Chinese	40.91%	(27/66)	28.04%	(53/189)	51.90%	(41/79)
YAX		22.00%	(11/50)	16.98%	(18/106)	26.87%	(18/67)
HAI		78.57%	(22/28)	46.88%	(15/32)	79.31%	(23/29)
SHU		1.59%	(1/63)	0.00%	(0/70)	0.96%	(1/104)
YAP		83.02%	(44/53)	72.97%	(54/74)	81.08%	(30/37)

(continued)

Table 4. (continued)

Learners	Nationality	T1		T2		T3	
		Percentage of negative <i>ne</i> realised (number/total number of occurrences)		Percentage of negative <i>ne</i> realised (number/total number of occurrences)		Percentage of negative <i>ne</i> realised (number/total number of occurrences)	
WUY		79.22%	(61/77)	73.05%	(103/141)	74.49%	(73/98)
MEN		61.90%	(26/42)	66.67%	(32/48)	53.95%	(41/76)
XIE		65.45%	(36/55)	62.96%	(85/135)	55.88%	(57/102)
WEN		72.00%	(36/50)	75.00%	(39/52)	58.82%	(20/34)
YIN	Chinese	49.23%	(32/65)	42.65%	(29/68)	32.26%	(20/62)
RON		82.05%	(32/39)	48.39%	(30/62)	63.49%	(40/63)
LUO		73.08%	(38/52)	79.25%	(42/53)	53.45%	(31/58)
CHE		38.46%	(15/39)	13.89%	(5/36)	4.17%	(1/24)
HUA		93.48%	(43/46)	70.37%	(95/135)	36.71%	(29/79)
LEI		88.24%	(15/17)	42.37%	(25/59)	22.81%	(13/57)
Means		64.88% (28.23)		48.27% (27.46)		41.83% (27.03)	
(Standard-deviation)							

As for the optional liaison, an overall decrease can be observed in the rates of realisation of the formal variant of *ne* negation produced by all learners between the time points. Contrary to the optional liaison where the reduction of the realisation rate of the formal variant was essentially observable between T2 and T3, the decrease in the rate of realisation appears as early as T2 with a statistically significant decrease of 16.61% (Wilcoxon, $z = 3.525$, $p = 0.001$, with large effect size, $r = 0.65$) between T1 and T2, followed by a significant decrease of 6.44% (Wilcoxon, $z = 1.979$, $p = 0.04$, with medium effect size, $r = 0.37$) between T2 and T3.

As with the optional liaison, our corpus allows a more detailed analysis of the syntactic contexts of the use of *ne* negation.³ Based on the work of Hansen and Malderez (2004), we observed the maintenance of *ne* negation in relation to different syntactic subjects. For our analysis, only the five syntactic subjects (nominal groups or personal pronouns) more frequently used in our corpus were extracted for more detailed analysis. Table 5 details the use of negative *ne* according to learner (pronouns and nominal group) and longitudinal time point. We also added the mean retention rates of the Hansen and Malderez study (2004) obtained from native speakers of French.

3. Our corpus allows us to work on some syntactic contexts but not on the influence of other linguistic variables such as phonological variables or syntactic variables as the clause types that may have an influence on the omission or retention of negative *ne*.

Table 5. Average percentage of formal variants produced out of the total number of occurrences of negative *ne* according to syntactic context (pronouns and nominal group) and longitudinal time point

Syntactic subject	T1	T2	T3	Hansen and Malderez corpus (2004)
	Percentage of negative <i>ne</i> realised Mean (SD)	Percentage of negative <i>ne</i> realised Mean (SD)	Percentage of negative <i>ne</i> realised Mean (SD)	Percentage of negative <i>ne</i> realised Mean (number/total number of occurrences)
Nominal group	38.60% (21.41)	21.63% (31.81)	13.94% (43.39)	56.4% (31/55)
Ce	36.33% (43.19)	19.33% (33.66)	14.14% (12.10)	2.6% (5/191)
Il	35.82% (37.89)	20.02% (34.10)	14.65% (33.73)	7.2% (9/125)
Je	33.45% (32.81)	17.16% (30.66)	15.17% (30.53)	3.8% (25/657)
On	34.68% (40.60)	17.77% (41.97)	15.71% (46.10)	6.6% (4/61)

Overall, learners decreased their uses of negative *ne* for all types of syntactic contexts even for the context with a nominal group whereas this type of context tends more to result in maintenance of *ne* in native speaker discourse. Only the sentences with subject pronouns *ce* and *je* presented significant results. For *ce*, the decrease was significant between T1 and T2 (Wilcoxon, $z = 2.613$; $p = 0.009$, with medium effect size, $r = 0.49$) and between T1 and T3 (Wilcoxon, $z = 2.819$, $p = 0.005$, with large effect size, $r = 0.52$). Similarly, for *je*, the decrease in use of the formal variant was significant between T1 and T2 (Wilcoxon, $z = 2.411$; $p = 0.01$, with medium effect size, $r = 0.45$) and between T1 and T3 (Wilcoxon, $z = 2.869$, $p = 0.004$, with large effect size, $r = 0.53$). In order to refine the analysis, frequent syntactic sequences were extracted in our corpus. Table 6 presents eight specific contexts. However, we were not able to compare them to the use of French speakers. To our knowledge, there are no studies that have analysed the use of *ne* in precise sequences of this type in native speakers.

Five contexts revealed a significant difference (see the shaded boxes in Table 5). In the construction *ce n'est pas*, the learners tended to significantly reduce their use of the formal variant between T1 and T3 (Wilcoxon, $z = 2.37$, $p = 0.001$, with medium effect size, $r = 0.44$) and between T1 and T2 (Wilcoxon, $z = 2.67$, $p = 0.007$, with medium effect size, $r = 0.49$). For the realisation of the formal variant in construction *je n'ai pas*, the learners realised the formal variant less and less as their

Table 6. Average percentage of formal variants produced out of the total number of occurrences of negative *ne* according to syntactic context and longitudinal time point

Syntactic contexts	T1	T2	T3
	Percentage of negative <i>ne</i> realised Mean (SD)	Percentage of negative <i>ne</i> realised Mean (SD)	Percentage of negative <i>ne</i> realised Mean (SD)
Ce n'est pas	38.98% (42.12)	13.15% (26.95)	9.43% (21.64)
Il n'y a pas	70.56% (43.12)	58.49% (43.27)	58.89% (40.77)
Je n'ai pas	72.83% (42.94)	48.14% (42.95)	38.32% (41.16)
Je n'aime pas	84.76% (35.18)	65.22% (46.3)	73.68% (45.24)
Je ne peux pas	68.86% (45.12)	71.15% (39.79)	51.32% (44.97)
Je ne sais pas	49.09% (39.52)	36.76% (39.72)	29.47% (37.3)
Je ne suis pas	53.85% (51.88)	56.46% (47.05)	26.59% (39.93)
Je ne veux pas	66.67% (49.23)	52.2% (47.53)	61.54% (50.63)

stay progressed: the differences between T1 and T3 (Wilcoxon, $z = 2.621$; $p = 0.009$, with medium effect size, $r = 0.49$) and T1 and T2 (Wilcoxon, $z = 3.254$, $p = 0.001$, with large effect size, $r = 0.6$) were significant. For the construction, *je ne peux pas*, the learners dropped their use of *ne* significantly between T2 and T3 (Wilcoxon, $z = 1.963$; $p = 0.05$, with medium effect size, $r = 0.36$), the differences between T1 and T3 and between T1 and T2 are not significant. In the construction *je ne sais pas*, the learners realised the formal variant significantly less at T3 than at T1 (Wilcoxon, $z = 2.13$, $p = 0.03$, with medium effect size, $r = 0.4$) and the differences between other time points were not significant. For the realisation of the formal variant in the construction *je ne suis pas*, the learners realised the formal variant less and less as their stay progressed, however only the difference between T2 and T3 (Wilcoxon, $z = 2.726$, $p = 0.006$, with large effect size, $r = 0.51$) was significant. For the three contexts, *il n'y a pas*, *je n'aime pas* and *je ne veux pas*, a drop was noted but the differences between the time points were not statistically significant (Wilcoxon, $p > 0.05$).

c. Evolution of judgements from T1 to T3

L2 learners' evaluation of variables and of their social and stylistic value remains under-researched and a neglected aspect of sociolinguistic competence. Learners who are primarily confronted with institutional input are not very aware of French speakers' usage. Determining when learners become aware of the use of variants of the same variable during their SA can help provide a more complete picture of L2 sociolinguistic competence.

We present here the results of our judgement task, reporting the judgement scores in favour of the standard. To calculate these scores, we differentiated between two types of standard judgement: those where the learners judged a standard utterance as correct and those where the learners considered a non-standard utterance to be incorrect. For each learner, we calculated two types of percentages, one score where we counted the number of times learners accepted a standard sentence and divided this by the total number of standard sentences, and another score where we counted the number of times learners refused a non-standard statement and divided this by the total number of non-standard statements. As the first score (accepting the standard) and the second (refusing the non-standard) were positively and significantly correlated ($p < 0.01$), we then calculated the average of these two percentages per learner. Our hypothesis was that learners would lower their normative judgements during the course of their stay. Indeed, in oral productions, learners realised the standard variants of the two sociolinguistic variables less and less as their stay progressed. Assuming that their judgements follow their productions, we would therefore expect judgements in favour of the standard to decrease progressively. The following table shows the total averages calculated from the averages of each learner.

Table 7. Mean percentage of judgements in favour of standard and standard deviation in the judgement task according to variable and longitudinal time point, for all learners

	T1	T2	T3
Mean % of judgements in favour of standard Optional liaison	54.59 (31.10)	49.58 (30.50)	56.91 (38.21)
Mean % of judgements in favour of standard Negative <i>ne</i>	62.08 (31.50)	75.60 (23.96)	73.20 (32.26)

The first apparent result was that the rates of judgements in favour of the standard were high: between 56.9% and 49% for the optional liaison and between 62% and 75% for the negative *ne*. The judgements for the optional liaison showed little fluctuation between the three time points and the differences were not significant

(Wilcoxon, $p > 0.05$). Negative *ne* increased between T1 and T2, and between T1 and T3, differences between the three time points were statistically significant (Wilcoxon, $p > 0.05$). Nevertheless, the learners showed stronger levels of judgement in favour of the standard for the negative *ne* negation compared to the optional liaison. This difference was significant only in T2 (Wilcoxon, $z = -2.335$, $p = 0.02$, with medium effect size, $r = 0.44$) but overall, it appears that the standard form of negative *ne* was evaluated more easily than for the optional liaison.

In addition to this task, at T3, a questionnaire was given to the learners which allowed us to determine their knowledge of variable usage. We observed that optional liaison was a less known phenomenon for the learners. At T3, a number of learners (8) did not detect any variation for this variable, while, for negation, they were minimally aware that there was variation even when they were not able to give a full explanation of how it was used (see Appendix 4 for detailed results). In order to test the link between the awareness of usage of variants and learners' production, we correlated the scores obtained with the questionnaire and the use rates for the two variants at T3. No significant results appeared for the optional liaison, however we obtained a negative correlation with respect to negative *ne* ($Rho = -0.41$, $p < 0.05$). This result therefore means that the more the learners are aware of the negative *ne* uses, the lower their rate of realisation of the formal variant.

7. Conclusion and discussion

In this study, 29 learners of French as a second language were followed during a SA of nine months, 15 of them Chinese and 14 American. We observed their realisation of two sociolinguistic variables in French: the optional liaison and the negative *ne*. We noted a significant decrease in the production of the standard variants between T1 and T2 for the negation and only between T2 and T3 for the optional liaison. The learners' sociolinguistic usage therefore changed more rapidly for the morpho-syntactic variable than for the phonological one. This difference in the acquisition process could be explained by the complexity of the optional liaison, by its low perceptual salience and, conversely, by the more marked salience of negative *ne*, the variation of which does not concern a phoneme but an entire grammatical word. Indeed, the optional liaison presents greater difficulties than the negative *ne*. On the one hand, the rules of liaison use can be difficult to grasp. Its acquisition implies distinguishing between two types of liaison: one that is compulsory or systematically realised and the other that is optional. Learning the French negation doesn't confront the learner to this kind of phenomenon. On the other hand, the optional liaison involves adding a consonant which varies according to the linguistic context.

Learners must therefore decide on a case-by-case basis which consonant should be pronounced. Due to the large number of lexical contexts after which a liaison can appear, detecting its realisation or non-realisation may prove difficult.

Conversely, negation appears in fairly regular linguistic contexts. Moreover, the negative *ne* can be considered as a more salient sociolinguistic variable. In this sense, learners may find it easier to observe the presence or absence of *ne* in the usage of French-speakers. They may detect more quickly that the native speakers mostly do not maintain *ne* in their daily conversation and consequently lower their own realisation of the standard variant.

By comparing native speakers' optional liaison usage with that of our learners, we found that the subjects of our study differed from French speakers in T1. In most cases, learners' produce more optional liaisons than native speakers, and for some contexts the realisation of the standard variant is lower for learners compared to French speakers. The evolution of usage between T1 and T3 revealed that learners approach native speakers' production of standard variants in seven of nine lexical contexts. This difference in evolution is particularly interesting and seems to demonstrate an influence of the frequency of realisation in the input. Indeed, in two lexical contexts (after *c'est* and *pas*) the liaison is not often realised by native speakers and, over time, learners' usage of the standard variant tends to decrease in both those contexts, whereas in a lexical context (after *très*) the liaison is very frequent among French speakers and, in this case, the learners increase their usage of the standard variant. One possible interpretation would be that learners reproduce the high frequency of realisation after *très* and the lowest frequency after *c'est* and *pas*.

For the negative *ne*, the results show that the learners tend to lower the realisation of *ne* in all contexts, even when the realisation of the *ne* is very frequent among native speakers. Moreover, by observing frequent syntactic contexts in our corpus, and in keeping with the results of previous studies (Regan et al., 2009), we found that learners tend to reduce their use of *ne* in lexicalized sentences such as *c'est pas*, *j'ai pas*, *je peux pas*, *je sais pas* et *je suis pas*.

Our results also show that the more strongly learners are aware of the use of this variable, the lower their rate of judgements in favour of the standard. For the optional liaison, our results suggest that learners do not generalise its deletion but rather that it is subject to word-by-word learning. This would seem to suggest that learners memorise the optional liaison contexts in which variants are realised or not realised by native speakers.

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Appendix 1.

Table 8. Judgement task utterances

	Standard	Non-standard
Ne de négation		
Énoncé 1a	On ne viendra pas demain	On viendra pas demain
Énoncé 2a	Je ne sais pas s'il est là	Je sais pas s'il est là
Énoncé 3a	Il ne dit rien depuis trois jours	Il dit rien depuis trois jours
Énoncé 4a	Tu ne peux plus rentrer	Tu peux plus rentrer
Énoncé 5a	Vous ne comprenez rien	Vous comprenez rien
Énoncé 6a	Elle ne prend jamais le train	Elle prend jamais le train
Énoncé 7a	Ca ne m'arrive jamais d'être en retard	Ca m'arrive jamais d'être en retard
Énoncé 8a	Ils ne veulent pas partir loin	Ils veulent pas partir loin
Énoncé 9a	Ils ne font pas toujours la même faute	Ils font pas toujours la même faute
Liaison facultative		
Énoncé 1b	C'est /t/ un peu trop grand	C'est un peu trop grand
Énoncé 2b	Paul était /t/ avec vous hier	Paul était avec vous hier
Énoncé 3b	L'homme avait /t/ un sac à dos	L'homme avait un sac à dos
Énoncé 4b	Marie et Michel ont /t/ une grande maison	Marie et Michel ont une grande maison
Énoncé 5b	Elle peut /t/ encore devenir riche	Elle peut encore devenir riche
Énoncé 6b	Il faut /t/ en profiter	Il faut /t/ en profiter
Énoncé 7b	Il est sympathique mais /z/ aussi intelligent	Il est sympathique mais aussi intelligent
Énoncé 8b	Elle travaille avec des personnes /z/ âgées	Elle travaille avec des personnes âgées
Énoncé 9b	J'aime les langues /z/ étrangères	J'aime les langues étrangères

Appendix 2.

Table 9. Selection of frequent and infrequent co-occurrences for the judgement task

Usage of standard variant by native speakers		
Negative <i>ne</i>		
Pronoms sujets	Il, on, je et tu	7,2%, 6,6%, 3,8% et 3,8% (Hansen et Malderez, 2004)
	Ca, ils et elle	14,5%, 13% et 12,5% (Hansen et Malderez, 2004)
Marqueurs de négation	Plus, rien et pas	9,4%, 6,6% et 8,2% (Hansen et Malderez, 2004)
	Jamais	11,4% (Hansen et Malderez, 2004)

Usage of standard variant by native speakers

Optional liaison

After <i>être</i>	C'est + X	28% (Mallet, 2008)
	Était + X	8,5% (Mallet, 2008)
After <i>avoir</i>	Ont + X	9,6% (Mallet, 2008)
	Avait + X	2,7% (Mallet, 2008)
After a verb	Peut + X	30,9% (Mallet, 2008)
	Faut + X	0% (Mallet, 2008)
After an invariable noun	Mais + X	0,5% (Mallet, 2008)
Noun + adjective	Personnes /z/ âgées	Co-occurrence avec réalisation de la LF la plus forte dans le corpus PFC (Durand et al., 2011)
	Langues /ø/ étrangères	Co-occurrence sans réalisation de la LF la plus forte dans le corpus PFC (Durand et al., 2011)

Appendix 3.

Table 10. Questionnaire on sociolinguistic knowledge

Questionnaire final	
Question 1	Selon toi, quel est l'objectif général de cette expérience ? Tâche de jugement d'acceptabilité
Question 2	Selon toi, quel était le but du test où tu devais écouter des phrases et dire si elles étaient correctes ou incorrectes ? <input type="checkbox"/> Tester la compréhension orale en français <input type="checkbox"/> Tester les connaissances grammaticales en français <input type="checkbox"/> Je ne sais pas <input type="checkbox"/> Autre:
Question 3	As-tu remarqué quelque chose de particulier au sujet de ces phrases ?
Question 4	As-tu trouvé qu'il était facile de répondre si les phrases étaient correctes ou incorrectes ? <input type="checkbox"/> Oui <input type="checkbox"/> Non. Pourquoi ? Enseignement et règle d'usage de la liaison et de la négation
Question 5	Lors de ton apprentissage du français, avant de venir en France, tes enseignants ou ton manuel d'apprentissage du français faisaient-ils référence à la liaison en français ? <input type="checkbox"/> Oui <input type="checkbox"/> Non <input type="checkbox"/> Je ne me souviens pas
Question 6	Lors de ton apprentissage du français cette année, tes enseignants ou ton manuel d'apprentissage du français faisaient-ils référence à la liaison en français ? <input type="checkbox"/> Oui <input type="checkbox"/> Non Si oui, pourrais-tu en quelques mots donner des explications sur son utilisation?

Questionnaire final

- Question 7 Lors de ton apprentissage du français, avant de venir en France, tes enseignants ou ton manuel d'apprentissage du français ont-ils mentionné que dans la phrase tu ne viens pas, le *ne* disparaissait parfois (-> tu viens pas) ?
 Oui Non Je ne me souviens pas
- Question 8 Lors de ton apprentissage du français cette année, tes enseignants ou ton manuel d'apprentissage du français ont-ils mentionné que dans la phrase tu ne viens pas, le *ne* disparaissait parfois (-> tu viens pas) ?
 Oui Non
 Si oui, pourrais-tu en quelques mots donner des explications sur son utilisation?
-

Appendix 4.

Table 11. Results of the questionnaire on sociolinguistic awareness

Awareness score	Optional liaison (number of learners)	Negative <i>ne</i> (number of learners)
0	8	0
1	11	8
2	6	12
3	2	7

The standard-dialect repertoire of second language users in German-speaking Switzerland

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The coexistence of dialect and standard language is a pronounced characteristic of everyday life in the Swiss German context. This paper examines the linguistic repertoire of second language users in the Swiss context and how they deal with dialect-standard variation in a structured interview situation with a dialect speaker and a standard language speaker. The data from eight second language users, with English or Turkish as their first language, illustrate different patterns in the use of dialect, standard, and a mixture of both codes. Among the eight selected speakers, high ability to discriminate dialect from standard language can be observed, and only some L2 users show frequent mixing of dialect and standard, which violates the strict separation of the two codes according to L1 speaker norms. Furthermore, the L2 speakers only rarely change their usage of the codes according to their interlocutor. The results reveal that integrating dialect and standard language in the L2 repertoire is challenging. L2 users – depending on their constructed identity within the Swiss German community and influenced by their L1 social categorization of codes – compose their linguistic repertoire with more or less openness to dialect, standard, or integrated use of both codes.

Keywords: standard-dialect variation, linguistic repertoire, German, Switzerland, second language acquisition, code-mixing

1. Introduction

Becoming a proficient speaker in a given speech community includes acquiring sociolinguistic competence, that is, the ability to vary language according to social conditions. This ability is critically important, as “[i]t permits people to interact in a meaningful way with others, and includes the knowledge of how and when to speak, to whom, how to shift style, register and so on” and “enables humans to bond with others” (Regan 2010: 22). Given the complexity of the interrelationship

of linguistic, social, and cognitive factors in communication, the ability to acquire the variation present in input is challenging for second language users (Bailey and Regan 2004; Howard, Mougeon, and Dewaele 2013; Ender 2017; Schleef 2017).

The coexistence of dialect¹ and standard language is a pronounced characteristic of the everyday life of language learners in the Swiss German context, making German-speaking Switzerland an ideal setting for investigating the acquisition of sociolinguistic variation. Depending on interactional and sociolinguistic aspects of the communication situation and autochthonous speakers' varying senses of the appropriate way to speak with allochthonous members of the social community, second language users are confronted with either local dialect(s) or the Swiss standard variety (Berthele 2004; Werlen 1998; Christen, Glaser, and Friedli 2010). Interacting with a hitherto unknown person with an apparent foreign language background, individual Swiss people may base their decision of using dialect or standard language on any of several different grounds – for instance, their interpretation of any signals of belonging by the interlocutor, such as the greeting, the self-identification, or the manifested choice of code (Christen et al. 2010: 120–121), may interact with their general sense of whether in-group-like speaking or accommodation to the standard code (which is taught in language courses and has the broader geographical range) is more polite and/or fit to communicative purpose (Christen et al. 2010: 61–62). Generally speaking, for Swiss Germans the local Alemannic dialects serve the very central function of expressing local identity, among all social classes. Furthermore, Swiss Germans do very strictly adhere to the concept of diglossia and the separation of the two codes. L2 speakers' language use can and does vary with respect to their definition of what kind of language is the target in the acquisition process, which in turn depends on their social and linguistic experiences and their identity construction in the L2 context (Ender 2017). As a consequence, they may acquire flexible usage of both codes, develop a preferred code, or violate the community norm of diglossia by mixing the two codes.

This paper focuses on the integration of local dialect and standard language in the linguistic repertoire of eight second language users of German varieties in the Swiss context, examining their speech in structured interviews with a native (Bernese) dialect speaker and a native standard speaker. The following questions are of primary interest:

- To what extent do L2 users – according to established criteria for differentiating dialect and standard – produce one or the other code or a mixture of codes?

1. Throughout this paper, the notion of “dialect” is used to refer to a local vernacular (non-standard) variety, as this is the common term in the German sociolinguistic tradition (*Dialekt*); it is not used in the sense of “any language variety.”

- Do L2 users vary their usage pattern depending on the interlocutor?
- To what extent do speakers violate the L1 speaker norm of diglossic separation of dialect and standard language, and how can the nature of any mixing be explained?

With these aims in mind, the next section introduces information regarding the relevance of acquiring sociolinguistic variation in the diglossic Swiss context, the distinction between local dialect(s) and standard speech in this setting, and the feasibility for second language learners of all ages of learning variable patterns. The third section presents methodological details on the participants, the data collection, and the analyses. Findings on the integration of dialect and standard in the L2 repertoire and a qualitative analysis of the mixing that is characteristic of some L2 users are given in section four. What these results can tell us about the linguistic repertoire and the emergence of sociolinguistic competence in L2 users in a context with standard-dialect variation is then discussed in the concluding section.

2. Constructing a dialect-standard L2 repertoire in an Alemannic context

2.1 The relevance of learning sociolinguistic variation in an L2

Learning and using languages in naturalistic contexts involves interaction with a variety of speakers in a range of very different situations. These social and linguistic experiences lead to the emergence of a linguistic repertoire. This concept, first introduced by Gumperz in the 1960s as “verbal repertoire” (Gumperz 1964), is used in interactional sociolinguistics to refer to “all the accepted ways of formulating messages. It provides the weapons of everyday communication. Speakers choose among this arsenal in accordance with the meanings they wish to convey” (Gumperz 1964: 138). The concept of linguistic repertoire emphasizes diversity in the usage of languages and varieties in a speech community and by individuals, and has been used productively in different strands of sociolinguistic research (e.g. Busch 2012 under the condition of super-diversity).

For second language users in the German-speaking part of Switzerland, everyday interactions generally involve both the local dialects and the (Swiss) German standard variety – and additionally all the languages that are not related to the general Swiss community but to their individual language experiences and language learning biography. As the role(s) of two Swiss codes in the linguistic repertoire of second language users will be the focus of this analysis, we must consider the relevance of the two codes for second language users, and the main criteria for their distinction and categorization.

The primary goal of most L2 users in naturalistic environments is to find an efficient way to communicate in everyday life. But language does not only serve as a means of communication; it also bears social information: superimposed on basic communicative requirements is knowledge about how to change linguistic patterns according to social and interactional factors such as situation or interlocutor – what is called “sociolinguistic competence” (Regan 2010: 22).

The ability to adapt one’s linguistic behaviour – be it in a first language or any other language in one’s repertoire – is strongly tied to the development of speakers’ identity, and to questions of group affiliation and formation (inclusive or exclusive). Regan (2010) demonstrated that L2 speakers in study-abroad or immersion contexts construct their own identity by adopting or modifying patterns of language use. Regan’s work underlines the link between language variation and speakers’ social positioning. In an analysis of the usage of dialect and/or standard language by three second language individuals in the Swiss German context, Ender (2017) showed that social experiences, expectations towards the surrounding community, and the speaker’s target position within the community are central criteria shaping L2 speakers’ incorporation of and emphasis on standard language and/or the local dialect in the L2 system.

When describing variation in a second language, a central distinction must be made between different forms of variation. First, second language production is inherently variable (Romaine 2004), in that we can observe “individual inconsistency within each L2 speaker and [also in that] different L2 speakers differ from each other” (Hudson Kam and Newport 2005: 154). Deviations from what L1 speakers would produce have been referred to as *type 1* variation (Rehner 2002: 15; Howard et al. 2013) or *learning-related* variation (Durham 2014), whereas native-like variation constrained by linguistic and social factors is called *target-based* (Durham 2014) or *type 2* variation (Howard et al. 2013; Rehner 2002). Dialect-standard variation falls within the latter domain.

In the Swiss German context, L2 users have to be able to handle a range of different considerations related to the linguistic targets. They must not only learn to identify the appropriate code to employ in various settings – when, with whom, and in which medium Alemannic dialects or the Swiss standard variety are (more) adequate – but also acquire patterns of variation within each code. Thus, in order to attain language use aligned to the norms of the surrounding community, learners must successfully match linguistic features and constructions with the appropriate code: Swiss standard German, or a dialect (Ender 2017). Needs, conditions, and exigencies that affect this appropriateness may change according to different individual characteristics of L2 users and also L1 speakers’ attitudes towards the use of dialect or standard by and with L2 speakers.

2.2 Distinguishing dialect and standard language

Alemannic dialects and Swiss standard language coexist in everyday life within the German-speaking regions of Switzerland. There is not one Swiss vernacular variety, but many different Alemannic dialects that dominate communication between Swiss German people (Christen et al. 2012). The dialects are used on Swiss television and radio programmes (with the exception of newscasts) and in informal written communication. In contrast, the Swiss standard variety has a more restricted function in its spoken form: it is the language of instruction and institutional settings (e.g., speeches in parliament) and the main means of communication with individuals from other German-speaking countries or elsewhere who are presumed to not understand local variants; that is, its use is highly addressee dependent. The varied domains in which dialects carry social prestige and are used across all social groups result in their omnipresence in the daily lives of most community members. These conditions differentiate the Swiss German situation from those of other German-speaking regions (Ender and Kaiser 2009; Ammon 2003), and make this setting an interesting site for studying the interface of socio- and cognitive linguistic aspects of second language acquisition.

Whether the coexistence of dialect and standard language in Swiss German communities is better described as a form of diglossia or of bilingualism has been discussed in relation to various aspects of the sociolinguistic situation, including functional distribution and completeness, mutual intelligibility, linguistic distance, and community attitudes (e.g. Ferguson 1959; Werlen 1998; Berthele 2004). Across these different aspects, there exists a consensus that the two codes are distinct linguistic systems. Although dialects and (Swiss) standard German are closely related – and even though a transition area is theoretically possible in a similar way as one exists in other German-speaking regions – there is no continuum between dialect and standard in production or comprehension among autochthonous speakers, i.e. people with a Swiss German first language socialization (Christen 2000: 247, Hove 2008: 63). As Christen et al. (2010) show in their extensive analysis of the usage of Swiss standard German on police hotlines, native speakers are very sensitive to addressee-dependent cues, which shape their choice between dialect or standard language. Mixing phenomena are observable, but are restricted to instances of mixed speech addressed to non-local speakers (Christen et al. 2010: 133) or to multiple code-switchings in functionally very specific contexts (Petkova 2016 for media contexts where playing with norms is more acceptable). These findings support the notion that, first and foremost, Swiss German language-community norms limit the use of language-mixing and maintain the “ideology of diglossia” (Petkova 2012: 137).

In such a situation, as speakers' intention to choose one or the other code is recognized by hearers, Hove (2008: 63) argues that the dialects and the standard language are not only discrete sociopsychological entities, but substantiated by different sets of distinct linguistic characteristics. Hove (2008) presented an overview of these characteristics, which can be used to classify Swiss German speech as dialectal or standard-like. Some of the dialect-standard variants that clearly fall beyond the set of shared structures and homophonous diamorphs, elements which cannot be assigned according to an unambiguous variety index (Muysken 2000: 131), should be mentioned here (see Table 1): (1) the non-diphthongized Middle High German monophthongs that Swiss German realizes as [i:], [u:], [y:] instead of [ai], [aʊ], [ɔy], (2) the prefix /g-/ instead of /gə-/ used to indicate the past participle, (3) the realization of the consonant clusters <st>, <sp> as [ʃt], [ʃp], (4) the divergent intervocalic realization of <h>, (5) the collapse of nominative and accusative in masculine noun phrases, (6) the reduced realization of <-en> as [ə] in word-final position, and (7) the use of the particle *wo* as a relative clause marker (7) are clearly dialectal. This means, in return, that (e.g.) the diphthong in /haʊs/ for *Haus* 'house' (1), unrealized intervocalic <h> in /fry:ʋ/ for *früher* 'earlier' (4), or suffix /(ə)n/ in word-final position, such as in /gartən/ for *Garten* 'garden' (6), are clear indications of standard language. Besides these differences on the phonological, morphological, and syntactic levels, there are many specific lexical differences (Rash 1998).

Table 1. Example features characterizing Alemannic dialects and (Swiss) standard German

	Alemannic dialects		(Swiss) standard German
(1)	/hu:s/ /bli:bə/ /fy:r/	<Haus> 'house' <bleiben> 'to stay' <Feuer> 'fire'	/haʊs/ /blaibən/ /fɔyɐ/
(2)	/gmaxt/	<gemacht> PP of 'to make'	/gəmaxt/
(3)	/iʃ/	<ist> 3rd p. sg. 'to be'	/is(t)/
(4)	/fryəxər/	<früher> 'earlier'	/fry:ʋ/
(5)	/də ma:/ or /dr ma:/ both for nom. and acc.	<der Mann> Nom. vs. <den Mann> Accusative	/də man/ nom. vs. /den man/ acc.
(6)	/ʃri:bə/ /gartə/	<schreiben> <Garten>	/ʃrab(ə)n/ /gart(ə)n/
(7)	/dfraʊ vo.../	rel. clause marker <wo> versus pronouns such as <der/die/das>	/di: fraʊ di: .../

This set of distinguishing features is not exhaustive and cannot be generalized for each Alemannic dialect, but these examples support the idea that the two codes are identifiable by specific features – not on the level of each individual lexical unit, but in the composite structures of speakers' utterances. At the same time, a

differentiation between Swiss standard German and other German standards is not straightforward as there is no codification, but only a pronunciation convention that allows a stylistic continuum from a more to a less regionally influenced standard pronunciation (Hove 2008: 71).

Such characteristics build the frame for categorizing speech employed by Swiss autochthonous speakers (Hove 2008: 68–69), allowing them to classify speech as either dialect or standard language. On the other hand, if speakers are not aware of or do not adhere to these conventions, it might be difficult for them to distinguish the status of a given utterance or to draw a clear line between the two codes. This can lead to unconventional, or from the perspective of Swiss speakers, “unacceptable” combinations of features. The quantity and quality of unconventional usage in L2 users’ speech, however, has not been previously studied in detail.

2.3 The ability to align to native speakers and variation in the input

Learning a second language is driven by social and linguistic experiences. Depending on personal and professional interactions, media consumption, language classes and so forth, second language users have variably intense contact with dialect and standard language; but irrespective of this, acquiring sociolinguistic variation seems to be challenging especially for late-starting learners (Romaine 2004; Howard et al. 2013). Schlee (2017) argues that adolescents in Britain require two to three years of exposure to start producing *t*-glottaling, a common phonological feature of many colloquial varieties of British English. But it is not only the amount and time of exposure that influence how learners handle variable patterns, but also “the subjects’ sense of identity within the respective speech communities” (De Vogelaer et al. 2017: 29). In line with research on attitudes towards second languages (Culhane, 2004; Gardner, 1985), the process and product of second language learning seem to be dependent on how second language users perceive and evaluate the language and what they want to express socially using a particular language.

Due to the significance of these social factors, a sociolinguistically informed stance is crucial in studying the acquisition of variation. As natural, untutored language acquisition emerges from experience, cognitive mechanisms, and social interaction (e.g. Beckner et al., 2009; Atkinson 2010), the cognitive processing of a second language is therefore influenced by the relations that an L2 user experiences and maintains and by those who provide input in different forms (Tarone, 2007: 840). In the given Swiss German context, native speakers have a very flexible account of use of dialect and standard with different interlocutors, while L2 users might have different experiences and variable positions of what is more suitable for them. Such a viewpoint reflects the intuitive or common-sense recognition that language acquisition is a social as well as a cognitive process in which knowledge

develops amid the interplay of a range of forces; studies in this framework need to take into account the fact that reception and production of language and language variation depend upon the cognitive interrelation of social and linguistic structures (Campbell-Kibler 2010: 37).

Mastering variable patterns is a challenging but manageable task for second language learners of all ages. Adolescent and adult learners have been found to acquire knowledge of variation present in a wide range of contexts, such as when learning a miniature language (Hudson Kam and Newport 2005; Hudson Kam 2015), and both when learning in a classroom setting (Dewaele and Mougeon 2004; Li 2010) and in untutored conditions (Drummond 2010; Schlee 2017). Although there certainly remain “difficulties in detecting both linguistic and sociolinguistic constraints on variation” (De Vogelaer 2017 et al.: 29), we can say that the acquisition process often traverses stages such as variable usage, simplified patterns, and/or overgeneralizations before adopting native-like patterns (Ender 2017). However, learners’ adherence to the patterns of variation present in their input depends on several factors, including the complexity of the patterns and access to data regarding constraints; these considerations further underscore the utility of adopting a sociocognitive approach and the fact that language is co-constructed “in the head” and “in the world” (Atkinson 2002: 525).

Along these lines, this study focuses on the structure of the L2 repertoire when interacting with speakers of the respective codes. Preliminary analysis of the speech of three L2 Swiss German users with English backgrounds has indicated that learners vary with respect to the relative prominence of dialect, standard, and code-mixing in their L2 systems (Ender 2017). The present investigation proceeds with the aim of providing a clearer picture of the quantity and quality of use of standard, dialect, or a mixture of both codes in the speech of eight L2 learners.

3. Methods

3.1 Participants

The present paper focuses on eight second language users with different language learning biographies, four with English and four with Turkish as a first language. They share some important characteristics – all eight individuals are late starters of German as a second language, and all in the Swiss German context – but also vary considerably with respect to their language learning history, as Table 2 summarizes.

The eight individuals, ages 27 to 58, cover a range of length of exposure to German from 1.5 to 33 years. None of them had lived in a German-speaking

Table 2. Characteristics of study participants (LoE = length of exposure to German in the Swiss context, LTP = long-term partner, AoI = Amount instruction in the standard variety, EB = educational background)

Participant	Gender	L1	Age	LoE	Swiss LTP	AoI	EB
James	m	English	27	1.5	yes	some	vocational
Loren	f	English	58	33	yes	little	vocational
Stan	m	English	54	24	yes	little	academic
Joanna	f	English	29	5	yes	some	academic
Yagmur	f	Turkish	40	17	yes	much	academic
Aylin	f	Turkish	41	26	no	some	vocational
Hakan	m	Turkish	37	8	yes	some	vocational
Ahmed	m	Turkish	36	16	yes	much	academic

environment before. All had received at least a bit of formal instruction in standard German. The participants' individual statements regarding their experiences with instruction in Standard German were classified into three groups: following a German course only occasionally and attending a very limited number of classes was categorized as "little" instruction; intensive courses lasting about three months, commonly taken directly after arrival in Switzerland, were categorized as "some" instruction; additional attendance in courses for a considerable amount of time was taken to be "much" instruction in the context of the present learners. Except for Aylin, all the participants had Swiss life partners; for some of them, this had been their reason for coming to Switzerland (James, Loren, Stan, Joanna), whereas others had met their partners while already living in Switzerland (Yagmur, Hakan, Ahmed). Living within a Swiss German family context implies that these people all had contact to Alemannic dialects in everyday life, the amount naturally being variable. Besides, all of them declared to regularly being in contact with people speaking local dialects in their personal or professional life. At the same time, the necessity to also use standard German is – according to the second language users' statements – by tendency higher for those with an academic education background.

The data for these eight learners originate from a larger ongoing study based on a convenience sample of more than 20 second language learners with varied linguistic, educational, personal, and professional backgrounds. The eight L2 users selected for analysis here had all completed either professional or academic training beyond compulsory schooling, but had experience in very different professional contexts (e.g. language teacher in the language of origin, nurse, restaurant owner), and comparability of their education is difficult to ascertain across different national and cultural traditions. All participants took part in the study voluntarily and without noteworthy compensation.

3.2 Data

The speech elicited from participants included both spontaneous speech data (from structured interviews) and prompted data (from translation and metalinguistic preference tasks), gathered using an exploratory approach. This analysis focuses exclusively on the speech samples gathered via structured interviews.

These interviews were used to collect biographic information and information on participants' experiences with the second language(s), and to elicit speech from the participants when interacting with a dialect speaker versus a standard speaker. With this aim, two female interviewers spoke with each participant, one speaking standard German and one speaking an Alemannic dialect (specifically, Bernese German). The two interviewers alternated as interlocutors in thematically organized blocks (see below). Even though the fact that two people were mainly posing questions and only one was mainly answering led to an asymmetry among the interlocutors, this was the most practicable way to provide a context in which both varieties under study were presented as equally acceptable and appreciated. The conversations followed a framework of questions on different relevant topics: country of origin and immigration to Switzerland (standard language), education in general and language education in particular (dialect), family and children (standard language), language use with family and children (dialect), perception of differences between Swiss standard German and dialect (standard language with inserted question(s) in dialect), etc. To guarantee some consistency, the respective questions were – so far as possible – posed by the same interviewer across participants, but the length of the L2 users' narratives nevertheless varied considerably. Except for James, who produced significantly less speech and for whom the majority of the interview was therefore used in the present study, the analysis is based on only the first segment of the interview, lasting approximately 25 minutes.

3.3 Analysis

Transcription

The recorded speech was first transcribed in a literal way (quasi-orthographically, following transcribing conventions from Dieth 1986) with the aim of capturing key features that distinguish standard language or dialect. Deviations in pronunciation from a standard or a dialect norm or acceptable variations that could only be represented in a closer phonetic transcription were not necessary. In other words, for instance, whether a speaker realizes an /n/ for word-final <-en> is relevant, but whether a word-final unstressed vowel is characterized by more or less openness is not. In the phrase /jedən tak tsvar drai ftündən/ <jeden Tag zwei drei Stunden>

‘each day two or three hours’ from Ahmed, the word-final /n/ makes /jedən/ or /ʃtəndən/ or their possible variant /jedn/ or /ʃtəndn/ marked as standard language. The vowel is represented as <e> irrespective of its specific pronunciation as [ə], [ɐ] or [ɛ]. This leads to the transcription <jeden tag zwei drei stunden>.

As we are dealing with the speech of L2 users, many deviations from dialect or standard speech norms are observable that do not contribute to the questions of whether the utterance is realized as dialect- or standard-like. When for example, a speaker realizes the palatal and velar fricatives for <ch> rather more like plosives (e.g. Joanna realizes *achtzehn* as /aktse:n/, and not /axtse:n/), this is not relevant for the distinction between the two target codes: for instance, the dialectal variant /axtseni/ would still be categorized as dialectal if the speaker said /aktseni/. Even though these do not constitute standard-dialect contrasts, such differences were generally represented in the literal transcription but ignored by the present analysis.

Segmentation

To represent intonational information such as rising or falling tone, the GAT 2 conventions for basic transcripts were employed (Selting, Auer, and Barth-Weingarten 2009). Furthermore, to account for the syntactic structure of the speech, the clause definition Foster, Tonkyn, and Wigglesworth (2000) posited in the context of the AS (analysis of speech)-unit is adopted. An AS-unit is a unit “consisting of *an independent clause or sub-clausal unit*, together with any *subordinate clause(s)* associated with either” (Foster et al. 2000: 365) – that is, a higher-order segment constructed from clausal units. These clausal elements can be complete or elliptic main or subordinate clauses, wherein “elliptic” means a clause that can be elaborated or recovered to a full clause in the given context. As dialect and standard share a pool of elements that cannot be assigned an unambiguous label for one or the other of the codes, categorization into dialect and standard is most often only possible in compound structures. As will be shown below, the clause level seems apt to capture the combination of multiple elements that should be analysed in conjunction to each other.

Annotation

Each clause produced by an L2 user is categorized as dialect, standard, or an instance of mixing or switching (between the codes or also between a German variety and another language). To categorize each clause, its individual elements have to be taken into account; they can be labelled as either: A – ambiguous (possible in both codes); S – standard, D – dialect or M – mixed, if separate individual elements respectively carry markers for the dialect and the standard. Subsequent categorization on the clausal level was realized as indicated in the following examples:

- (1) homophonous diamorphs + standard -> standard

James ja, es gefällt mir.
 A A S A
 'yes, it pleases me'

- (2) homophonous diamorphs + dialect -> dialect

Loren und das isch mir wichtig.
 A A D A A
 'and this is important for me'

- (3) dialectal + standard -> mixed

Joanna jein, ich habe ei kurs uf der uni gnommen
 A S S D A D A A M
 'yes and no, I have taken one course at te university.'

- (4) with meaningful switch/insertion

James ich spreche English [engl.] mit kindern
 S S English S S
 'I speak English with (the) kids'

Ahmed einfach keine ahnung gehabt über die sprache also über
 S S S S A S S S A
 schwizertütsch und so
 D A A
 'just had no idea about the language well about Swiss German
 and so'

Examples (1) and (2) illustrate the importance of examining speech on the clausal level, as several of the elements of each utterance are, in isolation, ambiguous between dialect and standard. As a result of this situation, in rare cases, very short clauses cannot be attributed a clear code label and are excluded from the analysis. Example (3), in contrast, contains juxtaposed elements of both codes, including one example where features of both are incorporated into one variant: *gnommen* <genommen> 'taken'. As described in Table 1, Example (2), the prefix /g-/ instead of /gə-/ for the past participle is a dialectal variant, whereas the rest of the word is standard-like (the dialectal past participle would be *gno*).

The two examples in (4) illustrate switches into the L1 of the speaker or into another code – often represented by the psycholinguistic function of trigger words: In the two presented cases, a language or a variety is named using the form corresponding to that variety (e.g. pronouncing the name of the English language in an English way). In this sense, and in contrast to utterances of the type shown in (3), clauses in which a switch in code had an identifiable social, conversational, or psycholinguistic function were labelled as code-switching. In order to identify and quantify different patterns of usage when confronted with a dialect- or a standard-speaking person, this interlocutor information was taken into account.

4. Results

4.1 Patterns of dialect and standard use in elicited free speech

Observing the language choices of the participants when conversing with a dialect-speaking versus a standard-speaking interlocutor reveals a range of patterns among these L2 users. There is greater variability among the L2 users with English as a first language (the first four speakers in Figure 1), whereas the speech patterns of the L2 users with Turkish as a first language produce a more homogeneous picture (the final four speakers in Figure 1).

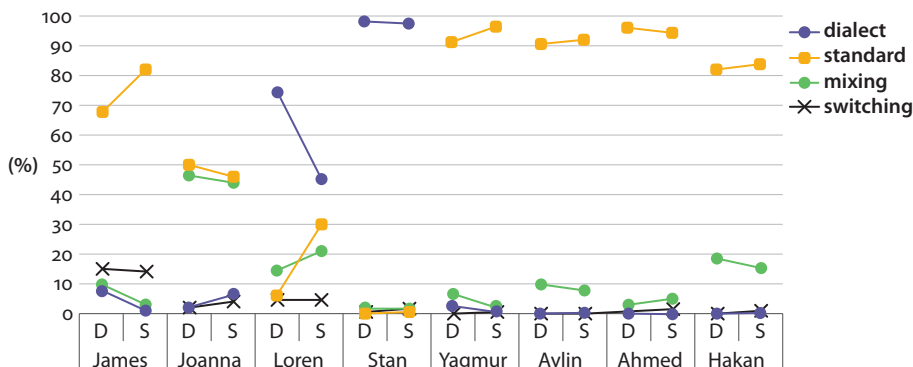


Figure 1. Relative amount (percentage) of dialect, standard language, and mixing/switching in speech directed to a dialect speaker (D) or a standard language speaker (S) by eight second language users

Table 3 provides the exact numbers and proportions of the various utterance types produced by the eight L2 users when interacting with a dialect versus a standard language speaker. Again, the L1-English-speaking participants are listed first in the table.

The four L2 users with English as a first language show inconsistent usage patterns. James, the participant with the lowest exposure time to German of any kind, uses a high rate of standard language with both interlocutors. Whereas the proportion of switching is stable, those of mixing and dialect are reduced, to the benefit of standard language (which rises from 68% to 82%) when he is in conversation with the standard speaker. Joanna, in contrast, shows an equally high rate of use of both standard language and mixing (about 45% to 49%), and a very low rate of dialect clauses and clauses with code-switches, with both interlocutors. Loren produces a very high rate of dialect (74%) when conversing with the dialect speaker, and low proportions of standard language, mixings, and clauses with code-switches.

Table 3. Relative amount of dialect, standard, mixing, and switching produced by the eight L2 users in conversation with a dialect speaker (D) or a standard variety speaker (S)

Interlocutor	James		Joanna		Loren		Stan		Yagmur		Aylin		Ahmed		Hakan	
	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S
	<i>n</i> =53	<i>n</i> =126	<i>n</i> =92	<i>n</i> =137	<i>n</i> =62	<i>n</i> =187	<i>n</i> =103	<i>n</i> =142	<i>n</i> =76	<i>n</i> =150	<i>n</i> =61	<i>n</i> =174	<i>n</i> =71	<i>n</i> =148	<i>n</i> =70	<i>n</i> =123
dialect	0.08	0.01	0.02	0.07	0.74	0.45	0.98	0.97	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
standard	0.68	0.82	0.49	0.45	0.06	0.29	0.00	0.00	0.91	0.96	0.90	0.91	0.96	0.94	0.81	0.84
mixing	0.09	0.03	0.46	0.44	0.15	0.21	0.02	0.01	0.07	0.03	0.10	0.08	0.03	0.05	0.19	0.15
switching	0.15	0.14	0.02	0.04	0.05	0.05	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.01

In conversation with the standard speaker, her use of dialect is clearly reduced, but still high (45%), while she produces more standard language (from 6% to 29%) and also more mixings (from 15% to 21%). Stan, finally, exhibits very high, stable proportions of dialect clauses with both interlocutors (97% and 98%).

In contrast to this variability, the four second language users with Turkish as a first language show very consistent usage patterns of the codes. They all produce very high rates of standard language (over 80%), almost no exclusively dialectal clauses, a low level of mixed clauses, and even fewer code-switches. Hakan is the Turkish participant with the lowest rate of standard clause use, producing a relatively high rate of mixed clauses with both interlocutors (19% and 15% for D and St respectively). Aylin, Ahmed, and Hakan show little variation (under 3 percentage points) in response to interlocutor type. Yagmur shows a slightly different pattern: even though the vast majority of her speech is standard-like, she produces some mixed clauses (7%) when interacting with the dialect speaker.

The repertoires of the different L2 users are variably constructed from the codes present in the input. The four Turkish speakers and James rely heavily on standard language. Joanna uses a large amount of standard language, but has an equally high proportion of mixing, making her the speaker with the highest rate of mixed clauses (almost 50%, in contrast to maximally around 20% for the other L2 users). Then, in contrast to the above-mentioned learners, Loren and Stan exhibit a preference for dialect.

Only some of the L2 users are found to converge towards their interlocutors. Sensitivity to the interlocutor is most obvious in the speech of Loren, who dramatically reduces her rate of dialect use when interacting with the standard language speaker; the difference between the proportions of the different codes is highly significant in a Fisher's exact test ($p < 0.001$). Addressee-dependent changes are also observable in the speech of James – the distribution of speech categorized as dialect or standard, and instances of mixing or switching addressed to the two interlocutors also differs significantly in a Fisher's exact test ($p = 0.01973$). The small increase in standard clauses with the standard language speaker by Yagmur doesn't lead to a significantly different usage pattern. All other participants exhibit stable patterns with both interlocutors and do not obviously adapt their choice of codes in the analysed sequences.

4.2 Nature of the code-mixing

The majority of the L2 users analysed here exhibit usage patterns consistent with the account that they can and do distinguish between dialect and standard speech. However, some L2 users more frequently transgress the border between the two

codes. The quality of the mixings present in the speech of these eight L2 users will therefore be examined in more detail.

Among the presented speakers, Joanna is the one with the highest proportion of mixed speech. In Extract 1, her description of the differences between standard language and dialect is interesting not only content-wise but also in relation to her use of the two codes. Joanna starts her explanations in a standard-like form of speech, but over the course of the ongoing conversation mixes in elements from Bernese German (underlined in the extract). The two short clauses in lines 9 and 10 can be categorized as dialectal; after these, she continues in standard-like speech.

In the passage, Joanna reports experiencing difficulties differentiating the codes. This experience is also reflected in her usage of dialectal elements embedded in otherwise more standard-like speech, such as lexical items with the long Middle High German monophthongs ([tsi:t] *zit* instead of [tsart] *zeit* ‘time’ in lines 08 and 26, [gli:ç] *glich* instead of [glaiç] *gleich* ‘same’ (line 21), and [u:sdriçkt] *usdrückt* instead of [aʊsgədriçkt] *ausgedrückt* ‘expressed’ (line 22); s-palatalization (lines 09, 10, 22); the particles [den] *denn* instead of [dan] *dann* ‘then’ (line 21), and *ned* instead of *nicht* ‘not’; and the dialectal relative clause marking with *wo* in line 22.

In her speech, Joanna does not comply with the strict borders that native speakers generally draw between dialect and standard. Besides incorporating established dialectal elements in standard-like speech, she also produces several hybrid forms during the interview, for example *schriben* (*schribə* vs. *schreiben*) ‘to write’, *ufpassen* (*ufpassə* vs. *aufpassen*) ‘to pay attention’ – in both examples, she produces dialect-like monophthongs in places where in the standard one would produce a diphthong and she realises standard-like word final [ən] instead of the dialect-like mere [ə].

Extract 1. Joanna (10:29)

(I-S = standard-speaking interviewer, Joa = Joanna)

- 01 I-S: u:nd (.) wie findest du es SELber den unterschied zwischen
berndeutsch und hochdeutsch?
02 findest du den=
And how about the difference between Bernese German and High German? Do you
consider it=
03 Joa: =am anfang ich {hab_es ganz KLA:R}, (.) :: [STANDARD]
In the beginning I have it very clearly
04 konnte TRENnen, :: [STANDARD]
I could separate
05 was is berndeutsch- :: [STANDARD]
what is Bernese German,
06 was is hochdeutsch- :: [STANDARD]
what is High German
07 weil mein vokabular war so KLEIN. | [STANDARD]
because my vocabulary was so small.

- 08 mit dem ZIT bin ich nicht bewusst- :: [MIX]
zeit
Over time I am not aware of
- 09 was ISCH es; | [DIALECT]
ist
what it is.
- 10 so isch es. | [DIALECT]
ist
It is like this.
- 11 proBIER ich hochdeutsch noch- :: [STANDARD]
I still try High German,
12 aber ich bemerke (.) so „ITZA“ statt „jetzt“, ::
[SWITCHING]
but I notice (.) “itza” instead of “jetzt”
- 13 es kommt manchmal einfach (-) BERNdeutsch. | [STANDARD]
sometimes it just comes [out as] Bernese German.
- 14 ((lacht 1.0))
15 ich mach es nicht beWÜSST. | [STANDARD]
I don’t do it on purpose.
- 16 I-S: und findest du den unterschied GROSS?
And do you find the difference big?
17 oder findest du den NICHT so gross?
Or do you think the difference is not so big?
- 18 Joa: TEILweise. [STANDARD]
Partly.
19 was ich finde sehr SCHWIERig zum Beispiel (-- „weiss“ und
„WI:SS“, | [SWITCHING]
What I think is very difficult for example is “weiss” and “wi:ss.”
- 20 einfach (-- WEISS ned, | [MIX]
nicht
Just (-- I don’t know,
21 is GLICH geschrieben, :: [MIX]
gleich
it is written the same,
22 aber (---) irgendwie isch es anders (-- usdrückt (.), |
[MIX]
ist ausgedrückt
but (---) somehow it is expressed differently.
- 23 und denn klar gibt es SAchen- :: [MIX]
dann
And then, there are things
- 24 wo einfach GANZ speziell berndeutsch sind; | [MIX]
die
that are just very specially Bernese German,
25 aber vielleicht weil ich beides GLEICHzeitig gelernt hät-
:: [STANDARD]
but probably because I have learnt them at the same time,
26 bemerk ich mit dem zit den UNterschied nicht so. | [MIX]
zeit
in the course of time, I do not notice the difference.

Loren, the speaker with the second-highest amount of mixing, is distinct not only with respect to her proportion of mixing, but also in terms of her preference for dialect. Extract 2 illustrates that dialectal clauses predominate in her speech, with also a few mixed sentences. Furthermore, the example demonstrates how she adapts to the interlocutor when addressing the question of whether and how her English has changed since her move to Switzerland. The speech addressed to the dialect speaker (lines 04, 05, 06) is clearly intended to be Swiss German; this does not mean that everything is target-like, but we are confronted with Type 1 or learning-related deviations (in word order and in the choice of the relative clause marker) rather than Type 2 deviations. After the question interposed by the standard-speaking interviewer, she starts out in standard-like speech until she inserts *lüt* 'people' and continues in dialect. She then returns to the standard, but later shifts back from more standard-like clauses with dialectal insertions in line 12 and 13 to a more dialectal passage.

Extract 2. Loren (15:05)

(I-S = standard-speaking interviewer, I-D = dialect-speaking interviewer, Lor = Loren)

- 01 I-D: und heit ihr s_GFÜHL dass sich eues englisch verändertet hät,
And do you have the feeling that your English has changed,
02 sit ihr HIE ir schwiz sit?
since you have been living in Switzerland?
03 dass ihr anders redet aus die daHEIme no?
That you are speaking differently than the people at home?
04 LOR: mini SCHWOSCHte hät gseit, :: [DIALECT]
My sister has told me
05 dass i töne nit wie ÖPper, :: [DIALECT]
that I do not sound like someone
06 wä DERT wohnt hät de ganz zit. | [DIALECT]
who has been living there all the time.
07 I-S: sondern WIE?
But how?
08 LOR: ahm (.) ich GLAUbe :: [STANDARD]
I think
09 dass man andere wörter WÄHLT (.) für lüt da :: [MIX]
Leute
that one uses other words (.) for the people here
10 dä ka nit VIEL. | [DIALECT]
who do not know a lot.
11 und ma tuet irgendwie viel WEniger. | [DIALECT]
And you do somehow less.
[...]
12 und ja nach so viel jahr es wird WÖRter, :: [MIX]
Jahren
And after so many years, there are words
13 dass sie si irgendwie geboren DERT - | [MIX]
sind dort
that have been born there,

- 14 und i bin NET dabi. | [DIALECT]
and I wasn't present.
- 15 und i muess ja anderes streetwise LErnen. | [MIX]
lernen
and I have to learn other things streetwise.
- 16 ja (.) sprach isch ANders worda in die drisg jahr.
[DIALECT]
Yes (.) language has changed in these thirty years.

Other speakers in the analysis show distinct and not so variable instances of mixing. For instance, even though Hakan shows quite a high rate of mixing, his mixed clauses mostly stem from the usage of the dialectal particles *aso* instead of *also* 'well',² and *nit/ned* for *nicht* 'not'. James produces some mixings in the form of dialectal *s*-palatalizations in the context of otherwise standard-like utterances. In addition, he exhibits some mixings due to repetition of parts of the speech of the dialect-speaking interviewer. The dialectal particle *aso* 'well' is also the reason for the very infrequent mixings produced by Ahmed and for some of the rare mixings by Yagmur. Aylin, finally, uses dialectal relative clause marking with *wo* embedded in otherwise very standard-like speech, as well as some rare dialectal lexical items, e.g. the particle [ɛbə] instead of [eb(ə)n] *eben*. The eight presented second language users therefore differ not only in terms of the rate but also the quality of mixing dialect and standard language.

5. Discussion and conclusion

This paper has presented an analysis of the dialect-standard repertoire of a sample of L2 users in the Swiss German context with English and Turkish first language backgrounds. The eight participants whose data are presented in this exploratory study showed divergent patterns with regard to their use of dialect and standard codes with a dialect speaker and a standard language speaker – both on the individual level and also in relation to first language group.

First, there is an obvious dissimilarity between the L2 speakers with an English versus a Turkish background. Speakers with some variety of English as their first language exhibit language repertoires that vary considerably: Stan and Loren show a strong preference for the dialect, while James prefers the standard language and Joanna relies heavily on both standard language and mixed speech. In contrast,

2. The usage of the dialectal particle *aso* 'well' is also reported in spoken standard German on Swiss police hotlines (Christen et al. 2010: 203). It is open to debate whether the dialectal particle has entered the Swiss standard pronunciation convention – due to its frequency and potentially relaxing effect in conversation. In any case, it is very plausible that second language users encounter this realization in spoken standard language contexts.

the four speakers with a Turkish language background reveal strong, consistent dominance of the standard language. Evidently, they have developed a very similar instrumentarium – or “weapons of everyday communication” in Gumperz’s (1964: 138) term – to convey their intended social meanings. In order to understand the observed variation in the linguistic repertoire of these participants, it may help to consider “the language ideologies and metalinguistic interpretations of speakers” (Busch 2012: 510).

When learning and using a second language, L2 speakers already have at their disposal the sociolinguistic categorizations and concepts of their first language(s). Durrell (1995) has put forward the notion of sociolinguistic interference, meaning that L2 users transfer the sociosymbolic values of local and standard varieties in their first language(s) to the second language environment. Although the social attribution of the first language varieties is not necessarily determinative (e.g. Baßler and Spiekermann 2001), the consistent bias towards the standard variety among the group of Turkish speakers may be explained by social categorizations of dialect and standard language in their country of origin. The Turkish language reforms of the 20th century, which shaped contemporary Turkish through an alphabet reform and the “purification” of the lexicon and grammar, have very successfully promoted standardization and codification of the Turkish language (Bayyurt 2010; Doğançay-Aktuna 2004). On this basis, the consistent dominance of standard German among the four L1 Turkish speakers can potentially be interpreted as an instance of sociolinguistic interference from a language ideology promoting the standard variety as the most legitimate way of speaking.

If such a standard language ideology brought by L2 users to their non-native languages is less pronounced in relation to the use and the social meaning of different varieties, other social and identity-constructing factors for adopting or changing patterns of language variation can come into effect. This appears to be the case among the L1 English speakers in the present study, which is logical as the importance of language standardization is emphasized comparatively little in Anglophone societies (Durrell 1999: 296–299; Seidlhofer 2011: 42–47): the conception of what is the legitimate way of speaking seems to be more open to regional variation, even though English speakers of different origins might bring along different language attitudes to varieties used by different social classes or ethnic groups that might value and valorize or stigmatize those forms of speech (Milroy and Milroy 2012: 150–160).

In the cases of Stan and Loren, we can infer from their language use patterns and metalinguistic comments a high appreciation of dialect and a perception of the high relevance of the local variety as a resource for establishing closer social affiliation. Joanna, in contrast, reports that even though she likes Bernese German, she does not try hard to speak it, as she needs to use the standard variety in her

professional context. This attitude might explain her mixed use of the two codes and her integration of both dialectal and standard-like elements; that is, her linguistic repertoire may reflect an attempt to align with the surrounding community and therefore, from her perspective, may – despite its non-native-like characteristics – constitute a strategic and efficient means of everyday communication. James, on the other hand, predominantly uses standard language; the fact that he is the participant with the shortest time of exposure to German and is thinking about taking more classes in the standard language in future may explain the dominance of standard language in his repertoire. It is an open question at this point whether James will come to expand his repertoire on the horizontal, that is, sociolinguistic, axis as he reaches a higher proficiency level on the developmental axis (Regan 2010: 23).

As this analysis has demonstrated, being exposed to both dialect and standard language input does not necessarily lead to learning and using both in the diglossic manner typical among autochthonous Swiss Germans (Christen et al. 2010; Hove 2008). Only two of the L2 users are found to significantly vary their use of their linguistic repertoire depending on the interlocutor.³ James and Loren do not invert their usage patterns, but increase their use of the code used by the interlocutor and significantly change the frequency profile(s) of dialect, standard, and mixed speech. Furthermore, some learners (first and foremost Joanna) use a significant amount of mixed speech, intermingling dialect and standard features, while on the other hand the majority of the presented L2 users have quite a low rate of mixing on the clausal level. Moreover, the dialectal particle mixing behaviour (*aso* instead of *also* ‘well’) has also been observed among Swiss native speakers; this phenomenon has been argued to result from the high accessibility of such particles and from their stylistic function as casual markers that can decrease social distance (Christen et al. 2010: 203); Petkova (2016: 285) even argues that this particle can be considered to have entered Swiss standard German as a stylistic variant. Learners’ use of mixing in this case, therefore, could be based on the native speaker input they have received, and should be analysed in more detail – also from the perceptual perspective: whether particles such as *aso* can actually be considered to be instances of register variation within the standard language. Overall, violations of implicit community norms in the form of mixings are, despite their non-native status, not detrimental to communication, as all Swiss speakers are able to understand both codes.

3. This does not necessarily mean that they do not have knowledge of the respective other variety. Data from a translation and a metalinguistic judgement task that cannot be discussed in detail in this paper indicate that most speakers have knowledge about the variety not overtly used in the interview situation (for a more detailed discussion about Stan and Loren see Ender 2017).

All together, the observed repertoires indicate that the L2 users have developed a considerable body of knowledge about variation in the German-speaking Swiss situation: dialect and standard language are differentiated in so far as mixing does not prevail. Lack of discrimination could not lead to a majority of dialect- or standard-only utterances in most speakers. Applying dialect-standard variation in an addressee-dependent manner as autochthonous speakers do, however, seems to be very challenging, given that only one L2 speaker (Loren) is approaching such a pattern. Nevertheless, seven of the eight L2 users show a high ability to discriminate between the codes, in the sense that mixed utterances occupy only a restricted space in their repertoire. At the same time, the socioindexical interpretation of the two codes appears to vary among the participants, leading to inconsistent emphasis on either the dialect or the standard in their speech. The fact that L2 users develop a preferred code cannot demonstrate that they are not able to speak the respective other code, but only indicates which code they consider to qualify best for conveying social and linguistic meaning in the conversation or interaction at hand.

The findings drawn from the analysed speech data of these eight L2 users underscores that they are, for the most part, competent in detecting dialect-standard variation, but that this sociolinguistic knowledge does not necessarily lead to native-like, addressee-dependent usage patterns. Based on their respective social and linguistic experiences, and perhaps under the influence of the different social categorizations of variation in their L1 speech communities, these individuals construct different dialect-standard repertoires that allow them to efficiently convey linguistic as well as social meaning.

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Identity, authenticity and dialect acquisition

The case of Australian English

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The importance of dialect in indexing identity has been well described for ethnic and regional dialects, such as African American English (e.g. Rickford & Rickford 2000) and Pittsburghese (e.g. Johnstone & Kiesling 2008), but not so much for national dialect (although Portnoy 2011 on Austrian German is one example). This chapter examines dialect and national identity, focussing on Australian English, and especially on accent. It also explores the issues of authenticity, ownership and legitimacy and their effect on the acquisition of Australian English by speakers of other dialects, and on second dialect acquisition in general.

1. Australian English and national identity

Australian English, spoken throughout Australia, differs from other dialects of English primarily in its vowel phonetics/phonology – especially in the pronunciation of diphthongs (see Cox & Fletcher 2017). It also has many distinct lexical items, although most of its vocabulary corresponds to that of either British or North American dialects. While there is hardly any regional variation, there is a continuum of minor social variation along which three different accents are generally recognised (e.g. Delbridge 1999). These are known as “Cultivated” (closest to British Received Pronunciation), “General” (by far the most common) and “Broad” (the most distinct). But compared to dialects of other nations, such as American English in the USA, Australian English is remarkably homogeneous.

It has often been pointed out that Australian English is an important component of Australian identity. For example, in the *National Policy on Languages*, Lo Bianco (1987: 72) stated: “Australian English is a dynamic but vital expression of the distinctiveness of Australian culture and an element of national identity.” And Moore (2008: 206) noted that speaking Australian English “is by far the most important marker of Australian identity”. Evidence of the importance of Australian English

for national identity can also be found in public discourse – especially in reaction to the perceived growing influence of American English through American films and television shows. For example, Guild (2004) wrote that the Americanisation of Australian culture and language “is enormously detrimental to our national identity”. And Steed (2010) observed: “There are a lot of people out there who feel passionately about the preservation and protection of Australian English from the dominance of American English.” In this vein, the former Deputy Leader of the Opposition, Tanya Plibersek argued that Australian-produced children’s TV programs are important “so that Australian kids can grow up with Australian accents” (Barlass 2014). This statement also underlines that accent – or pronunciation – is the most important distinguishing feature of Australian English.¹

For Australians, speaking Australian English – especially having an Australian accent – also appears to be a requirement for a person to be considered a genuine Australian. This brings us to the question of language and authenticity, a topic of interest in both the sociolinguistic and the second language acquisition literature (see, e.g., Gill 2012; Coupland 2003; Creese, Takhi & Blackledge 2014; Lacoste, Leimgruber & Breyer 2014). Authenticity normally refers to the quality of being a reliable and accurate representation (Varga & Guignon 2017) – i.e. being genuine rather than fake. With regard to identity, Blommaert and Varis (2013) assert that authenticity is created by combining a variety of semiotic resources that are “enough” to produce a particular recognisable identity: “One has to ‘have’ enough of the emblematic features in order to be ratified as an authentic member of an identity category” (p. 146). Speaking Australian English is clearly a necessary emblematic feature for Australian identity, and its absence leads to questions about the speaker’s authenticity as an Australian. This can be illustrated by examples in the Australian media concerning three Australian citizens who speak other dialects: Kristina Keaneally, Daniel Begg-Smith, and Doug Cameron.

Kristina Keneally was born in Ohio to an Australian mother and an American father. She married an Australian, moved to Australia in 1994 and became a citizen in 2000. Although she now considers Australia her home and has only an Australian passport, she has not fully acquired Australian English. Ms Keneally joined the Labor Party and was elected to the House of Representatives of the New South Wales (NSW) State Parliament in 2003.² In 2009, she began to be viewed as a potential leader of the Labor Party, and thus the future state Premier. However,

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1. Unique lexical items in Australian English, such as *fair dinkum* ‘genuine’ and *bogan* ‘a boorish and uncouth person’, are also relevant to national identity (e.g. see Brandy 2018). However, the Australian accent is a far more important signifier of being Australian.
 2. Note that, interestingly, the Australian Labor Party uses the American spelling of *labour*.

one political commentator (Smith 2009) noted: “If she does aspire to lead NSW, Keneally... faces several stumbling blocks. The biggest, most agree, is her pronounced American accent.” Another (Salusinszky 2009) specifically referred to “fears of how that accent will play in western Sydney” (a crucial political area of the state). These comments reflect the view that because of her lack of Australian English, Keneally would not appear Australian enough to attract votes.

Damiel Begg-Smith is a Canadian who became an Australian citizen and won a gold medal for Australia in the 2010 Winter Olympics. After his victory, he was criticised for not being enthusiastic enough about Australia. Columnist Peter FitzSimons (2010) wrote:

He *says* he is Australian. And of course he has had an Australian passport for six years... – though he still lives in Vancouver. But ... it has been hard to ignore gaining the feeling that he couldn't give a flying fig for Australia, and is simply flying a flag of convenience.

A correspondent (Peter Baker, Letter to the Editor, *Sydney Morning Herald*, 17 February 2010) added national dialect to the list, commenting: “Spot on, Fitz. If it lives in Canada, trains in Canada and talks like a Canadian, it's a Canadian.” In other words, if he lives and trains in Canada, and doesn't speak Australian English as well, he's not an Australian.

Doug Cameron was a long serving Labor Party Senator in the Federal Parliament, well-known for his strong Glaswegian accent. He was born in Scotland in 1951 and migrated to Australia in 1973. On 16 September 2015, after a heated exchange in parliamentary question time, Liberal Party Senator Ian Macdonald (a fifth generation Scot) shouted across the chamber to Cameron: “Learn to speak Australian, mate!” (Manser 2015). The leader of the Labor Opposition in the Senate reacted, saying that this remark was unacceptable in the national parliament of a multicultural society and it should be withdrawn. But the Senate President ruled that it was not unparliamentary. One commentator, Caroline Duncan (2015) – herself a Scottish immigrant who was ridiculed as a child for her accent – wrote that MacDonald's remark was “offensive to not just Scottish Australians, but every Australian whose accent doesn't meet the standard”. She observed that such taunts are common and cause “the victim to feel excluded and unwelcome from society”.

Other evidence of the importance of speaking Australian English to projecting an authentic Australian identity is that well-known Australians who have seemingly shifted to another dialect are often the subject of criticism implying they are somehow un-Australian. For example, an article in the entertainment section of the *Sydney Morning Herald* (13–14 August 2011) talked about internationally well known Australians who “have long been criticised for their lack of accents”:

Kylie Minogue...started to sound like she grew up in Buckingham Palace rather than suburban Melbourne years ago, while Elle Macpherson dropped her Aussie accent somewhere across the Atlantic back in the early 1990s.³

An on-line article titled “Aussies who have lost their accents” (*Daily Mail Australia*, 27 February 2015) begins with: “Hugh Jackman is just the latest Aussie actor to run into allegations he’s turned his back on his native Aussie drawl.” It goes on to list “some more Aussies that have, or are in danger of, abandoning their ocker roots”. (An “ocker” is a stereotypical Australian.) These include Oscar-winning actor Nicole Kidman and country musician Keith Urban, as well as Kylie Minogue, and Elle Macpherson.

These attitudes are reminiscent of Collins’ (2012) account of speakers of the Newfoundland dialect criticising a local actress, Krystin Pellerin, who uses an Irish-sounding accent in a television series filmed in Newfoundland. Comments included: “Krystin Pellerin is from Newfoundland. So why make her use an [Irish] accent?”, and “Krystin Pellerin’s fake accent really annoys the shit out of me”.

Like other dialects that have covert prestige (Labov 1966) and are important signifiers of group identity, Australian English has a history of low status and denigration. The eminent scholar of Australian English, Arthur Delbridge (1999: 259), observed that in the first part of the 20th century:

the common view was that to the extent that it was different from British English, the English used in Australia was a deformed and objectionable product of an isolated antipodean community, its local vocabulary outlandish, and its accent regrettable.

Most of the condemnation centred around Australian phonology. Delbridge (1999: 260) presented the following quotes from Australian newspapers:

It is not only the abominable diphthonging of the vowels, it is the harsh nasal voice, the slovenly elision of half the consonants, that offend the ear.

(*Telegraph*, 24 August 1923)

It is ruined by bad voice production, which is mainly due to laziness, flattened vowels and inadequate use of the tongue lips and cheek.

(*The Sun*, 25 September 1940)

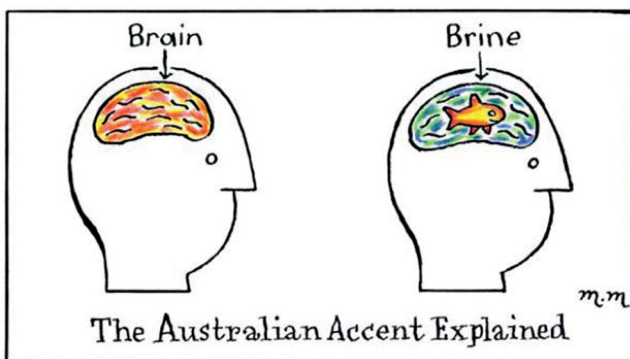
The reputation of Australian English has come a long way since then, starting with serious study of it as a distinct variety at Sydney University the 1940s, and leading to the appearance of *The Macquarie Dictionary* (Delbridge 1981) and *The Australian National Dictionary* (Ramson 1988). The development of a standard Australian English followed, culminating in *The Cambridge Australian Style Guide* (Peters

3. Kylie Minogue is a pop singer and Elle McPherson a model.

1995). Nevertheless, residual negative views remain, as evident in the use of the term “Aussie drawl” in one of the quotes above from 2015, and in the lingering belief that Australian English is the result of Australians not opening their mouths enough when they speak. This has been attributed to various factors, including laziness or slovenliness and the overabundance of flies.

In a negative foray into the past, Frenkel (2015) attributes features of Australian English to heavy drinking: “Our forefathers regularly got drunk together and through their frequent interactions unknowingly added an alcoholic slur to our national speech patterns.” This assertion, which received wide national and international coverage, has been refuted by many experts in linguistics. One linguist (Manns 2015) demonstrates how research on alcohol and speech provides no support for this view and concludes: “This story stinks of cultural cringe and sits alongside other wildly speculative tales about the Australian accent, including flies, climate and dental hygiene.”

The description of the sounds of Australian English in the story includes some common exaggeration and stereotyping – such as *night* being pronounced as “noight”. The Australian English diphthongs are frequently the target of stereotyping and humour. The PRICE diphthong is exaggerated as the CHOICE diphthong (as in “noight”) because the first element of the Australian variant ([æ] in General Australian) is further back than in other varieties. More commonly, the FACE diphthong is caricatured as the PRICE one (e.g. *mate* represented “might”) because the Australian variant ([æɪ] in General Australian) is lower than in other varieties. This latter stereotype is reflected in the title of a humorous book on Australian English (written by an Australian): *Let’s Talk Strine* (Lauder 1965) – i.e. Let’s talk Australian (‘stra’ian). It can also be seen in this cartoon by Matthew Martin:⁴



4. Brine: Matthew Martin: <http://www.smh.com.au/national/its-all-english-but-vowels-aint-voils-20100125-mukf.html>

2. Acquisition of Australian English as a second dialect

The question arises of why people like Kristina Keneally and Doug Cameron – who have made Australia their home, acquired Australian nationality and see themselves as Australians – have not fully acquired what is arguably the most important emblem of Australian identity – i.e. Australian English, and in particular, the Australian accent.

2.1 Explanation from previous research

To answer this question we need to look first at the literature on second language acquisition (SLA) in general and second dialect acquisition (SDA) in particular (see Siegel 2010). The most important predictor of success appears to age of acquisition (AoA) – also referred to as age of arrival or age of onset. A great deal of evidence exists showing “sensitive periods” (Long 1990, 2007) – ages at which it is easier to acquire various aspects of a second language (L2) or second dialect (D2), and after which it is very difficult. These are up to 7 years for complex phonological rules, up to 13 for simple phonological rules and suprasegmentals, and up to the mid teens for morphology. It could be simply that because Kristina Keneally and Doug Cameron migrated to Australia as adults, they had passed the sensitive period for acquiring a new dialect, and especially its phonology.

This explanation appears to be backed up by cases such as that of Caroline Duncan (2015), the Scottish-born commentator mentioned above, compared to Doug Cameron. She migrated to Australia at age six and within two years learned to sound Australian. It is also backed up by two academic studies of SDA done in Australia. Research by Rogers (1981) and Trudgill (1981, 1986) with two children (aged 7) who had migrated from southern England to Australia showed that they acquired most phonetic/phonological features of Australian English in only six months, and sounded very Australian. In contrast, research by Foreman (2003) with 34 North Americans who migrated mostly as adults showed very little acquisition, even though they had been living in Australia for up to 40 years. Of the six phonetic/phonological features she examined, the participants used Australian variants as opposed to North American variants an average of only 5.6 percent of the time.

However, AoA is not the whole story. This rate of adult D2 acquisition in Foreman’s study is extremely low compared to findings in other research. For example in six studies of SDA in which participants’ AoA was 12 years of age or older (in Norway, Sweden, Brazil and England), the average percentage of use of D2 variants (both phonetic/phonological and morphological) ranged from 35 to 79 (Siegel 2010: 85). In a more recent study in the Czech Republic (Wilson 2010), the average was 28 percent. But one other SDA study also reports very low use of D2

variants: 0.2 percent. This is the research done by Stanford (2007, 2008) among Sui people in China. Married Sui women maintain their own clan dialect when they move to their husband's village where a different clan dialect is spoken, and even after as many as 40 years acquire virtually none of the features of their husband's dialect. Stanford attributes this to the importance in Sui culture of maintaining identity with one's clan, and the key role of clan dialect in projecting this identity.

Could the maintenance of their original Canadian or American identity also be a factor in the low rate of SDA by the North Americans in Australia? Foreman (2003) examined the role of national identity as part of a qualitative analysis of interview data in her study. She found that the question of identity was a relevant but complicated factor for many of the participants. Some clearly identified as still being more Canadian or American, while others identified as being more Australian. But many were "unsure of their identity or uncomfortable with the topic" (p. 235), some because they had not fully committed to staying in Australia and had left the door open to return to Canada or the USA. Only twelve out of the 34 participants in Foreman's study made any use of the six phonetic/phonological features of Australian English Foreman examined. But interestingly, of these twelve, eight identified as being at least partly Australian (p. 244). Nevertheless, their average use of the Australian English rather than North American English features was still a low 24.4 percent. So while identifying as Australian appears to be a significant factor in the acquisition of Australian English, it is not enough to go very far in the acquisition. To understand the reasons for this, we go back to a discussion of authenticity, but instead of asking what role speaking Australian English has in being an authentic Australian, we ask: What is authentic Australian English and who is an authentic and/or legitimate speaker of Australian English?

2.2 Authenticity and legitimacy

To follow Blommaert and Varis (2013) again, authentic Australian English would be characterised as having enough of the emblematic features that distinguish it from other varieties of English. These are primarily features of vowel phonetics/phonology, especially concerning the diphthongs as described above. Authentic speakers of Australian English would be those who demonstrate proficiency in most if not all of its emblematic linguistic features. Native born speakers of the national dialect would clearly be in this category, but whether others could come to be judged as authentic is not so clear. As Johnstone (2014: 97–98) observes: "What counts as an authentic linguistic variety or an authentic speaker depends on who is counting and why." Here we will look first at insider views of authenticity – i.e. the views of those who are clearly authentic speakers of Australian English – and then at outsider views – those of speakers of other dialects.

2.2.1 *Insider views*

Bucholtz (2003) characterises speaker authenticity as the effect of a process (“authentication”) stemming from constant negotiated social practices. Blommaert and Varis (2013: 147) also view authenticity as the result of highly dynamic processes: “configurations of features and criteria of enoughness can be adjusted, reinvented, amended”. However, in the case of a person born in Australia, their authenticity as a speaker of Australian English is normally a given and does not need to be negotiated. The question here is: Can a speaker of another dialect acquire enough features of Australian English in order to be authenticated as a speaker? This brings us to the notion of legitimacy.

Legitimacy refers to the quality of being in accordance with established principles and standards. According to Bourdieu (1977: 650), “the characteristics which legitimate discourse must fulfil” are that “it is formulated in the legitimate phonological and syntactic forms” and that “it is uttered by a legitimate speaker, i.e. by the appropriate person, as opposed to the imposter”. Thus, as with authenticity, there is a distinction between a legitimate variety of language and a legitimate speaker of that variety. But while the terms “authentic” and “legitimate” are virtually interchangeable in describing a variety, this is not so for describing a speaker of a variety. An authentic speaker is a genuine *bona fide* speaker of a variety, while a legitimate speaker is one who is entitled to speak the variety by virtue of established conventions. Kramsch (2012a: 487), one of the few scholars to differentiate legitimacy and authenticity, says they are related concepts, but of different value, one entailing the other. However, as will be shown below, an authentic speaker is always a legitimate speaker, but the reverse is not true.

Let us now return to dialect. A person who knows a dialect from birth is clearly an “appropriate person” – i.e. a legitimate speaker of that dialect. But when the dialect is an important part of their ethnic, regional or national identity that distinguishes them from speakers of other dialects, the idea of “ownership” is evoked. This is the view that a particular language variety belongs only to legitimate speakers for whom it is a marker of identity (see, e.g. Wee 2002). A person trying to speak a dialect when they obviously don’t know it (and therefore don’t own it) can be interpreted by legitimate speakers of that dialect as an imposter. In other words, such a person is trying to use something that belongs to someone else, and they have no right to do so – i.e. this is appropriation.

For example, Sweetland (2002: 519) notes that the use of African American English (AAE) by White Americans is seen by their African American peers as “inappropriate or inauthentic”. Jacobs-Huey (1997) reports similar negative reaction to Whites using AAE, contrasting it with the positively valued language crossing described by Rampton (1995).

Hill's explanation (1999: 554) is that such dialect crossing is "often seen by source populations as theft, as the illegitimate use of a resource" – i.e. "genuine appropriation". It is not only "source populations" who view dialect crossing negatively: Cutler (1999: 439) and Sweetland (2002: 518) report that Whites who use African American English are called "sellouts" by other Whites, or "wannabes" by both Blacks and Whites. Thus, dialect crossing can be considered by both insiders and outsiders to be what Kramsch (2012a) refers to as "imposture" – an act of assuming a false identity.

Negative attitudes to dialect crossing as opposed using another language are commonly recognised, as evidenced by this comment on an internet blog:

We consider it normal to learn and speak another language, but strange and dishonest to employ a different dialect or regional pronunciation...if you try it, you'd be accused of "faking" or "affecting" an accent."⁵

To go back to the case of Kristina Keneally in Australia, in 2009 rumours began to circulate that she was undergoing accent modification training to learn Australian English. Commentators noted that her speech was becoming a mixture of American and Australian English. One (Salusinszky 2009) wrote that her accent "sounds as if it set off from California and, at some indeterminate point over the Pacific Ocean, met [Australian golfer] Greg Norman's accent coming the other way".

Nevertheless, in December 2009, Ms Keneally won a party leadership challenge and became the first female Premier of New South Wales. But her accent was still an issue. In an interview, she was asked if she had done voice training. Her reply was: "Do you think I'm some sort of Eliza Doolittle, sitting around with some fellow getting me to say 'the rain in, you know, Spain'?" (Clennell 2009). But in a *Sydney Morning Herald* online reader poll (Elliot 2009), 39.8 percent answered "yes" to the question: "Does Kristina Keneally's American accent annoy you?"⁶

Negative comments about her perceived attempt to learn Australian English continued during her premiership. For example, one blogger wrote: "I saw her in an interview last night on Lateline [TV show] and her accent was a painful conglomeration. She is obviously attempting to hide her natural accent and in doing so, sounds like a hybrid of numerous clashing vowel pronunciations."⁷ There was even

5. Bhumiya, 17 July 2006: http://en.wikipedia.org/wiki/Wikipedia:Reference_desk_archive/Language/2006_July_17 (accessed 13 October 2017).

6. Of course, the results of such a survey are not reliable (as pointed out by one reviewer of this chapter), but they give some indication that accent is was an issue. Furthermore, it is significant that the question was even asked.

7. sporty1, SFCU [Sydney Football Club Unofficial] website, 15 April 2010. <http://sfcu.com.au/smf111/index.php?topic=14915.90;wap2> (accessed 8 March 2011).

a Facebook page titled, “Kristina Keneally’s accent kills me”, with the description: “doesnt that australian-cross-american accent just make you cringe”.⁸

During the election campaign the following year, some voters were still focusing on her accent – one blogger reflecting the common view that by changing their accent, a person is being fraudulent:

The best thing she can do is re-learn her accent and go back to where she came from. The fact that she has tried to deceive the people of New South Wales by having lessons to disguise her accent shows everyone how shallow and deceitful [i.e. deceitful] she is.

(Comment by Pete, 6 March 2011, in response to Cranston 2011)⁹

Another factor that may lead to insiders’ negative reactions to dialect crossing is its misinterpretation as stereotyping or mocking – especially when the dialect has a history of denigration, as with Australian English. When attempting to speak another dialect, the first features that an outsider focuses on are usually the most noticeable ones, and these are also the features that are often stereotyped. If the features are phonetic/phonological and not in the outsider’s own dialect, their attempts to imitate the feature may miss the mark and sound like caricatures. Thus, insiders may think that the outsiders are mimicking their dialect and making fun of it, especially when there is no communicative need to for the outsider to alter their dialect. Insiders often have strong negative reactions to such attempts at imitation, describing it in terms such as “repulsive”, “insulting” and “cocky at its worst” (see Siegel 2010: 147). A common example from Australian English is that the FACE diphthong is interpreted by outsiders as the PRICE diphthong in other dialects (e.g. *mate* pronounced as “might”). This is often joked about by insiders themselves, as shown above, but coming from outsiders, it may be seen as “taking the piss” – i.e. mocking or making fun of how Australians speak English.

Unn Røynealand (p.c., 5 October 2017) reports similar negative attitudes to dialect crossing in Norway:

8. It might be that some of this negative commentary was aimed at Keneally because of misogyny and the practice of attacking women in public positions for how they present rather than for what they do. Australia’s first female prime minister, Julia Gillard, was similarly criticised for the way she spoke – for example, in a newspaper article titled: “Drop the Gillard twang: it’s beginning to annoy” (Frenkel 2011).

9. Kristina Keneally’s party lost the 2011 election. She resigned from state parliament in 2012 and began a career in the media. Keneally returned to politics in 2017, and in February 2018 was selected by the Labor Party to fill a vacant seat in the Federal Senate. She still maintains her American accent.

[A]lthough there is great tolerance of dialect diversity in Norway, people are not very tolerant vis a vis adult Norwegians who change their dialect, acquire a new dialect or are bi-dialectal. There is a sense that you are morally obliged to keep your dialect as unchanged as possible – also [even] if you move out of the area where you grew up.

She also observes that if a user of a high prestige dialect tries to acquire a lower prestige dialect, “it could be rather risky since you may be suspected to be mocking”.

Interestingly, such stereotyped pronunciations by foreigners learning English as a second language in Australia do not seem to evoke negative reactions. For example, the former Minister for Finance and Deputy Leader of the Government in the Senate, Mathias Cormann, migrated from Belgium as an adult. His pronunciation of the FACE diphthong is similar to that of the PRICE one and could be interpreted as exaggeration, but unlike Kristina Keneally, he was not criticised for his accent. Horvath (1985) also demonstrated that seemingly exaggerated pronunciations this and other diphthongs were prominent the speech of Italian and Greek immigrants in Sydney in the 1980s. Perhaps the interpretation of being mocked does not arise when the outsider is not a speaker of another English dialect, and there is a communicative reason for using Australian English. Again, in the Norwegian case, there are no negative attitudes to non-Norwegian speakers using local dialects, and “you are perceived as far more Norwegian and more integrated if you acquire a non-Oslo-dialect” (Unn Røyneland, p.c., 5 October 2017).

Similarly, actors from other English-speaking countries are not viewed negatively for attempting to speak Australian English. Many websites rate various overseas actors’ Australian accents. Although they make fun of bad imitations, they do not criticise the actors for trying, and they applaud those who manage to sound Australian. For example, in a web article titled “The stars who absolutely nailed our accent”, Roach (2015) praises Kate Winslets’ “pitch-perfect performance” in the 1999 film *Holy Smoke!* and sees nothing wrong with her getting voice training from a dialect coach. Again, actors are perceived as having a good reason to attempt Australian English when they are playing Australian characters.

These examples throw some light on the relationship between the notions of authenticity and legitimacy regarding speakers of a particular variety. Kramsch’s view (2012a: 487), mentioned above, is that legitimacy and authenticity are related concepts, and that: “One entails the other, as a legitimate speaker is assumed to be an authentic member of a group...” However, here we have seen that for immigrants learning English in Australia and actors playing Australian characters, speaking Australian English is perceived as legitimate, but they would not be considered authentic speakers of the dialect.

2.2.2 *Outsider views*

Outsider views of speaker authenticity and legitimacy with regard to dialect have a critical effect on D2 acquisition. These views can be examined from two different aspects: outsiders' reactions to what they perceive as others' views of dialect crossing, and their personal feelings about their own authenticity and legitimacy in using another dialect. Both these aspects can account for the lack of acquisition of Australian English by the North American participants in Foreman's (2003) study.

Reactions to the views of others

Going back to dialect acquisition in Norway, Unn Røynealand (p.c., 5 October 2017) refers to a recent PhD study by Rikke Van Ommeren (written in Norwegian):

[It] shows that bi-dialectals often find themselves in what they call situations of risk – where they risk to be labelled as inauthentic and where people get provoked by the fact that they may change dialects. People want to know “who they really are”.

And to return to the study of Sui clan dialects in China, mentioned earlier, Stanford (2007: 274) points out: “Sui people have very strong motivation to maintain their group membership since ridicule and admonition are the consequences of linguistically straying from one's original clan loyalty.” For example, one woman described what would happen if a woman from the South came to the North and spoke like people from the North clan: “[E]veryone would laugh. She'd feel embarrassed. She wouldn't speak that way any more” (Stanford 2008: 38). These studies demonstrate what can happen when dialect is intrinsic to social identity.

As we have seen in Foreman's (2003) study, the significant role of Australian English in projecting Australian identity was also a key factor in Australians' negative reactions to her North American participants speaking Australian English, and many of these participants picked up on these reactions.

First, some participants were aware of Australians' sensitivity to speakers of another English dialect using features of Australian English that might be interpreted as exaggerated or stereotyped. Thus, Foreman observed (p. 242) that the participants were “less likely to experiment with AusE [Australian English] pronunciation when they are not sure of the probable meanings that would be associated with its use, and when it might result in an unintended negative meaning.”

Second, the North American outsiders realised that they were not considered authentic Australians because of their first dialect. Foreman pointed out (p. 234) that some of them commented that they felt they were Australian but Australians did not feel the same because they talked differently. And because they were obviously not authentic Australians, they did not feel they had ownership of Australian English. As Norton (1997: 422) points out, if people cannot claim ownership of the language they want to acquire, they might not consider themselves legitimate speakers of that language. Thus, one of Foreman's participants commented (p. 240):

“I don’t even attempt it [i.e. speaking Australian English] cause I know I’ll be immediately detected.”

Third, because many of Foreman’s participants were aware that they were not considered to be legitimate speakers of the dialect, in trying to speak it they could be seen as “pretentious” or a “fraud” (p. 241). One participant remarked (p. 239) that when he tried to use typically Australian expressions, “people just sorta laugh at you and... I feel phony...” Foreman noted (p. 242) that many of the North Americans “may fear that others will negatively interpret their acquisition of a D2 and label them as fakes”. The “others” could also include their peers, as the participants were also aware of general negative attitudes to dialect crossing, as described above. As Blommaert and Varis point out (2013: 148): “Being qualified by others as a ‘wannabe’, a ‘fake’ or some other dismissive category is one of many people’s greatest anxieties.” Thus, Foreman concluded (p. 233): “Keeping the accent and language identity of the native country was less problematic than trying to approximate a language identity that they might never be able to fully appropriate as their own.”

Personal views

In earlier work (Siegel 2010: 148–151), I describe “folk views about identity”, pointing out that while social scientists affirm that people have multiple shifting social identities, most people believe is that there is only one “true self” and therefore, they can have only one true identity. This view is reiterated by Coupland (2014:19):

In the domain of personal identity, and however unfashionable it sounds in an intellectual climate where identities are said to be contingent, hybrid and socially constructed, we all have some serious investment in assessing and reassessing “who we really are”.

Many people believe that the way they talk is an intrinsic part of their authentic self – i.e. “who they really are” – and this includes their dialect or accent. As Silverstein (2014: 159) points out: “Indeed, ‘accent’ has become a naturalized – if not natural – fact about an ineffable inner identity...”

The common view is that to change one’s way or talking, or their accent, would be spurious or inauthentic. Again, evidence of this view is found on internet blogs, for example:

[P]eople consider accent to be a part of one’s identity, and if they deviate from that, then they’re seen as not being true to themselves, not “keepin’ it real”. We know the reasons why someone would speak another language, but for what reason would someone want to speak another accent/dialect if they are already understood in their native accent/dialect?¹⁰

10. Chris S, 17 July 2006: http://en.wikipedia.org/wiki/Wikipedia:Reference_desk_archive/Language/2006_July_17 (accessed 13 October 2017).

The novelist Zadie Smith (2009: 41) expressed similar sentiments:

We feel that our voices are who we are, and that to have more than one, or to use different versions of a voice for different occasions, represents, at best, a Janus-faced duplicity, and at worst, the loss of our very souls.

In Australia, although the Scottish-born commentator, Caroline Duncan (2015), acquired Australian English as a child, she affirmed that speaking Scottish English was her “real voice”, and continued to use it with her family. And when Kristina Keneally was asked if rumours were true that her political party put her through voice training to sound more Australian, she replied:

If people think I have either the time or the inclination to stand around practising vowel sounds and dropping ‘r’s – no. My voice is as much a part of me as my eye colour, or my heart. (Salusinszky 2009)

Such views provide a further explanation for the lack of D2 acquisition by the North Americans in Australia in Foreman’s (2003) study. She observed (p. 241) that “there is a feeling among these people that to modify one’s accent is indicative of some kind of inauthenticity” – in other words, speaking Australian English evoked a feeling of imposture in themselves (Kramsch 2012a). Foreman continued (p. 241):

[T]he sentiment seems to be that changing one’s accent is an attempt to belong somewhere one does not really belong or to be someone (an Australian) that one is truly not; thus it is fake.

The importance of these attitudes to the outcome of Foreman’s study is reflected in the title she gave it: “Pretending to Be Someone You’re Not. A Study of Second Dialect Acquisition in Australia”.

3. Conclusion

This examination of Australian English has shown how a dialect can be an integral component of national identity and an essential emblem of authentic social group membership, as has been demonstrated previously for ethnic and regional dialects. It has also illustrated the obstacles for outsiders acquiring a dialect that is emblematic to insiders’ identity, helping to explain why second dialect acquisition in such situations may be more difficult than second language acquisition.

Second dialect acquisition appears to be most difficult in cases when speaking a particular dialect is the only attribute, or at least the most obvious one, that distinguishes one social group from another among speakers of the same language,

and when no other group has the same dialect. In such cases, feelings of ownership for the dialect are much stronger than those for a language, which may be used by several social groups. Therefore the view exists, consciously or subconsciously, that the insiders' dialect belongs only to those who can speak it, something outsiders (speakers of other dialects) are not entitled to do.

Furthermore, dialect, more than language, is felt to be an intrinsic characteristic of one's "true self". It is seen as a personal attribute – a distinct way of speaking, like a way of dressing – rather than a distinct means of communication. And while using another person's language may be necessary for communication, using another person's dialect is not. Since outsiders' own dialect would be understandable to insiders, there appears to be no communicative reason for outsiders to try to speak a dialect that belongs to the other social group. When such crossing of dialect boundaries occurs, then, observers may ascribe ulterior motives, such as imposture or mockery. This normally does not occur when people try to speak another language, as pointed out by Foreman (2003: 244–5): "[I]f someone learns to speak Spanish, their friends and family will probably not accuse them of 'trying to be/appear/pretend to be Spanish', of being pretentious or fake." Similarly, while people may feel they are not being true to themselves by learning another dialect, it is unlikely they would feel the same about learning another language.¹¹ Thus, in contexts such as Australia obstacles to trying to acquire a second dialect, but not a second language, are that people run the risk of appearing pretentious or fraudulent to others and of feeling inauthentic to themselves.

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11. Note, however, that feelings of inauthenticity or imposture may arise among bilinguals who have already acquired another language (Kramersch 2012b).

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Adult learners' (non-) acquisition of speaker-specific variation

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This study is concerned with understanding how learners acquire sociolinguistic variation. It examines the possibility that learners gain entry into socially-conditioned variation by first associating patterns with particular speakers. Adult participants were exposed to a miniature artificial language spoken by two different speakers, each exhibiting a different variable pattern of determiner usage. After exposure, participants were tested to see if they had acquired the speaker-specific patterns using production and judgment measures. The data show no evidence that participants had learned the speaker-specific patterns. How then do learners acquire sociolinguistic variation? I suggest that learners need a more socially relevant variable to index variation to, that is, that sociolinguistic variation really is social at its core.

Keywords: sociolinguistic variation, artificial languages, acquisition

Introduction

From a learning perspective, sociolinguistic variation is not trivial; it involves learning probabilities, often over multiple interacting linguistic variables that also may vary by speaker-associated social characteristics. Take the well-known case of -t/-d deletion in English, for instance. /t/s and /d/s at the ends of words are often deleted or unrealized in production. But this deletion is not random, rather, /t/s and /d/s are more likely to be deleted in particular phonological and grammatical environments, and there are different likelihoods of deletion associated with each context (Labov 1989). The particular likelihood of deletion also varies for speakers from different communities (Guy 1980). Furthermore, deletion is affected by the context in which the speech as a whole is produced, with more formal speech situations leading to less deletion than more casual situations (Labov 1994). Speakers have to learn all of these interacting probabilities in order to be a competent member of their particular

speech community. That is, it is not enough to produce more /t/s and /d/s before words beginning in vowels than words beginning in consonants, nor is it enough to produce more in formal contexts than casual contexts, you must do so at a rate that is appropriate to the linguistic and social context. (Note that this is equally true whether one thinks of knowledge of variation as comprising knowledge of multiple grammars or a single grammar containing all of the conditioning information.) This is just one example among many of well-described variable phenomena in languages throughout the world.

Despite the ubiquity of sociolinguistic variation, and the apparent challenge it poses for learners, we do not yet know much about its acquisition. Thankfully, studies of the acquisition of sociolinguistic variation are becoming more common (see, e.g., Nardy, Chevrot and Barbu 2013; Regan 2013; Shin 2016; Smith, Durham and Richards 2013, and the papers in this volume). To date, most studies on the acquisition of variation have focused on establishing which aspects of variation are known by learners when. *How* learners acquire sociolinguistic variation has not received much attention, but this too is changing. Hudson Kam (2015), for instance, examined the acquisition of conditioned versus unconditioned variation in adults and children using a miniature artificial language (MAL) methodology, where unconditioned meant the probabilistic occurrence of determiners with nouns and conditioned meant probabilistic occurrence where the probabilities differed with the noun's syntactic context. Specifically, although all participants were exposed to a language in which determiners occurred probabilistically with nouns at a specific rate, for some participants (conditioned variation) the probability of determiner occurrence differed for nouns occurring in subject versus object positions in a sentence. For participants in the other condition (unconditioned variation), there were no subpatterns of variation; the probability of occurrence did not differ by syntactic position or any other linguistic or non-linguistic factor. At test, participants produced utterances they had not been given during exposure to the language and their usage of determiners with nouns was analyzed. Despite the fact that conditioned variation is more complicated – it requires learning multiple probabilities rather than a single one – both adults and children (to a lesser degree) were able to learn the conditioned variation within the short time span of the experiment (8 exposure sessions for adults, 6 for children). These data show that linguistically-conditioned probabilities are quite easily learned despite their apparent complexity.

But what about socially-conditioned variation? It is different, at least logically, as it involves associating probabilities of linguistic items with factors in a different conceptual domain. Moreover, the social categories associated with the variation are not directly apparent in the learner's experience, but rather, are (at least partially) socially constructed, and often are categories that young children do not have a good understanding of (e.g., things like socio-economic status). Work on

language and conceptual development has demonstrated that language often pushes learners to create novel categories or expand their conceptual abilities (Casasola 2008; Waxman and Markow 1995), suggesting that the very presence of socially conditioned variation might be, at least partly, what pushes learners to create the relevant social categories. But how would this work?

One way learners might gain entry into socially-conditioned variation, especially before they have a good understanding of the social categories that are indexed by that variation – as may be the case with young children – is that learners initially associate patterns with particular speakers, and over time come to notice the *social* similarities between speakers who use that pattern in the same way, at which point the probabilities (i.e., the variation) could come to be associated with a social category. This is consistent with proposals put forward by Nardy, Chevrot, and Barbu (2013) and Foulkes and Hay (2015). The current study examines whether this is a logical possibility, by asking about whether the first step in this process occurs; specifically, it examines whether learners can acquire speaker-specific patterns of morpho-syntactic variation.

There is by now a great deal of evidence showing that listeners can track speaker-specific phonetic information. For instance, listeners are better at identifying words in noise when they are spoken by familiar, as opposed to unfamiliar voices, where familiar means previously experienced in the experiment (Nygaard and Pisoni 1998). This indicates rapid learning of the phonetic characteristics of individual voices. Such learning has been shown at the lexical level (Creel, Aslin, and Tanenhaus 2008), as well as the level of properties of individual sounds (Allen and Miller 2004). Importantly, it appears to generalize beyond the specifically experienced exemplars, even as far as other sounds of the same general type (e.g., speaker-specific VOT profiles learned on one stop will generalize to another stop sound, Theodore and Miller 2010).

Whether listeners track speaker-specific information at the level of syntax or morphology has received much less attention, but there is some evidence that they can. Kamide (2012), for instance, found that listeners learned to parse (or interpret) structurally ambiguous sentences according to a speaker's previous production tendencies. She presented participants with sentences like the one in (1) (example 2b in Kamide 2012: 68). This sentence is ambiguous as to who will ride the motor-bike, the niece or the man. (This is called a syntactic ambiguity, because it reflects two different syntactic structures that can map onto the same surface word order. Different parses yield different interpretations.) Sentences were presented alongside illustrations that made the correct parsing clear to the participants. There were multiple speakers in the input, one who consistently produced sentences that resolved one way (e.g., to uncle), another who consistently produced the opposite pattern (i.e., for them it would resolve to girl), and a third speaker who showed no bias for

either resolution in their speech. Kamide (2012) found that after brief exposure to the three speakers and their syntactic tendencies, listeners interpreted novel sentences produced by the speakers in line with the biases that the three speakers had exhibited in the training sentences. That is, when listening to a speaker for whom sentence (1) had resolved to niece, they would interpret sentence (2) (example 3a from Kamide 2012: 68) as meaning the uncle will taste the beer, and when listening to a speaker for whom (1) had resolved to the man, they would interpret (2) as meaning the girl will taste the beer, and they showed no parsing preference when listening to novel sentences produced by the speaker who had showed no bias in the training sentences.

- (1) The niece of the man who will ride the motorbike is from France.
- (2) The uncle of the girl who will taste the beer is from France.

Although Ryskin, Fine, and Brown-Schmidt (2017) failed to replicate this finding, Ryskin, Qi, Duff, and Brown-Schmidt (2017) found listeners can learn speaker-specific patterns for a different syntactic ambiguity (instrument vs. modifier, e.g., in 'hit the bunny with the feather' where the feather can be something used to do the hitting or something the bunny has), suggesting that it is possible to learn some speaker-specific grammatical patterns. Thus, tracking speaker-specific patterns appears to be a potential way for learners to break into sociolinguistic variation across aspects of linguistic knowledge.

Other evidence suggests that speaker identity might be a particularly good way to learn multiple patterns from what could be considered a single input source. This is, in some sense, what sociolinguistic variation is; different patterns that are embedded in the same language. The evidence for this comes from studies of statistical word segmentation. In these kinds of studies, learners are presented with a speech stream created by concatenating multisyllabic word-like units (words) into one continuous auditory stream. The words are only segmentable from the stream as units via statistical computations (involving the likelihood that particular syllables follow each other). Specifically, the transitional probabilities (TPs) between syllables that are within the same word are high and the TPs between syllables that are not in the same word are low. Listeners can only segment out the words from the speech stream if they can compute the TPs (Saffran, Aslin and Newport 1996). Testing usually consists of asking people to judge multisyllabic sequences that are words in the MAL and sequences of the same length that have also occurred in the input, and so were experienced by the listeners, but which are not words (e.g., the final two syllables of one word + the first syllable of another).

Weiss, Gerfen, and Mitchel (2009) presented learners with input in which there were two distinct sets of words (i.e., two distinct MALs). The two MALs included overlapping sets of syllables, and the languages were interleaved with each other

in presentation. This interleaving, in combination with the overlapping syllable inventories, created a situation where the words were not segmentable if participants were tracking statistics associated with syllables. However, in one condition each MAL was produced by a different speaker and if participants tracked the statistics of the syllables independently for each voice, then the words were segmentable. They found that learners could extract the words associated with both languages in this condition, showing that learners can track multiple sets of specific statistics, not just broad patterns, as in the parsing studies previously discussed. This ability is fundamental to the idea that learning speaker-specific patterns might serve as an entryway into learning sociolinguistic variation.

Although Weiss et al. (2009) did not compare speaker identity to other possible cues, a comparison of their results to those of Gebhart, Aslin, and Newport (2009) suggests that speaker might be a particularly strong cue. Gebhart et al. examined adults' ability to learn multiple, sequentially presented patterns. In some conditions the switch from the speech stream in which set 1 was embedded to the speech stream in which set 2 was embedded was cued, in others it was not. They found that participants only learned both sets of words when the switch was made explicit; specifically, when participants were told in advance there were two languages and there was a pause at the switch point. In contrast, when participants were not told in advance about there being two languages and the switch was marked implicitly (by a noticeable pitch change similar to a change in voice), participants did not learn the two sets of words. Taken together, then, the two studies suggest that multiple patterns associated with individual voices are learnable.

The present study examined whether it is logically possible for learners to gain entry into socially-conditioned variation by first associating patterns of variation with particular speakers, that is, speakers as individuals, not members of social categories. Over several days, participants were exposed to a MAL containing syntactic variation like that used in Hudson Kam (2015) (determiner usage dependent on syntactic role, explained in more detail below) which is known to be learnable with several days of exposure. Input sentences were produced by two speakers, and each speaker evinced a different pattern of variation. Everything else the two speakers did was the same (e.g., how they pronounced the words). The question was whether participants could learn the speaker-specific patterns of variable determiner production, and match them (i.e., the patterns of variation) in their own speech. If participants can learn speaker-specific variation then it suggests that this is at least a plausible mechanism for transitioning into sociolinguistic variation.

Based on the literature on statistical learning discussed previously, two factors were varied in the exposure: whether participants heard both voices on each day of training or not (mixed vs. blocked exposure), and whether participants were explicitly told that they would hear two speakers. Both were between-subjects

manipulations. Recall that Weiss et al. (2009) found learning of multiple patterns associated with distinct voices when the patterns were interleaved in contrast to Gebhart et al. (2009) who failed to find evidence for learning of different patterns cued by voice in a blocked design. The exposure variable gets at one difference between the studies (blocked vs. interleaved presentation), and the instructions variable gets at the other (affecting participants' potential awareness of the two speakers). Although telling people there are two speakers (as was done in the current study) is not explicitly telling them there are two patterns, as was done in Gebhart et al., it does draw their attention to the underlying variable that is correlated with the two patterns, and so is more explicit than not telling them. Because the two factors may interact, both factors were varied independently, resulting in four conditions. (These manipulations were not done with the direct aim of testing the effects of these factors, but rather, to see if I could create conditions more conducive to learning, as explained further below.)

There was an additional manipulation involving all participants that further assessed what participants were learning; at test, people were prompted to speak by either a familiar (i.e., exposure) voice or a novel voice. The familiar voice assessed speaker-specific learning, the primary question being addressed in this research. A known speaker produced a word and participants were asked to use that word to produce a novel sentence corresponding to a novel video. As the prompt was part of the to-be-produced utterance, it should have activated any associated probabilistic knowledge associated with how sentences should be produced by that speaker (since even background language can also activate specific linguistic knowledge, e.g., in bilinguals, see Marian and Spivey 2003). Because of this, participants were expected to produce determiners in a way that was consistent with the prompt voice in these test items. The novel voice assessed the generality of learning. If participants had only extracted speaker-specific probabilities, then the novel voice should cause them difficulty. Alternatively, if participants were tracking patterns that held in the language overall as well as speaker-specific probabilities, then we might expect them to respond to novel voice test items in ways consistent with the overall probabilities.

It is possible that participants might learn the associations between speakers and their particular patterns but not be able to reproduce them in their own speech in a short experiment due to issues with production. Thus, knowledge was also tested using a judgment task. Participants heard sentences spoken by the same voices used in the production test and they were asked to judge their acceptability. Sometimes the determiners were present, other times they were absent. If participants learn the speaker-specific probabilities, relative ratings of sentences with and without determiners occurring with nouns in specific positions should be different depending on the test voice, and should reflect the probabilities associated with that voice.

Methods

Participants

Nineteen adult native-English speakers (defined as having learned English by 3 years of age according to self-report) (14 women) participated. Mean age was 21.6 years (min = 18, max = 30, sd = 3.6). They were recruited from a pool of people who had expressed interest in participating in studies in our lab, or after having responded to recruitment posters. They were paid for their participation.

The language and exposure stimuli

The MAL used was based on that used by Hudson Kam (2015), the study showing that people can learn syntactically conditioned variation. The language comprised 28 nouns, 10 verbs (six intransitive and four transitive), one negative, and two determiners. The nouns were divided into two noun classes, similar to masculine and feminine in French or Spanish. As in natural languages, the classes were not equal in size: there were 13 nouns in one class and 15 in the other. Each of the two determiners uniquely associated with a single noun class, and this was the only indicator of noun class. Nouns included animate and inanimate objects as well as labels for substances, and nouns of all three types occurred in both classes. Verb meanings included meanings associated with English adjectives (e.g., 'be little'), and prepositions (e.g., 'be under'), in addition to verbs (e.g., 'move'). Sentences in the language had a (Neg) VS(O) order, and determiners followed the nouns in the noun phrases. This ensured that participants had to learn novel syntax and semantics, not just lexical forms. (The words used are a subset of those in Hudson Kam and Newport, 2009.)

Example sentences are presented in (3) and (4). (Note that participants never saw anything written. These are the written versions provided to the person who produced the recordings. They were designed to lead to the desired pronunciations.) Example (3) is a negative intransitive sentence. Example (4) is a transitive, and the nouns in (4) are in a different noun class than the noun in (3).

(3) *sig slubb rungmawt poe*
neg blue bowling ball det

(4) *flimm mauzner kaw mernot kaw*
hit boat det boy det

The exposure set consisted of 120 scenes and their accompanying sentences in the MAL. Half of the exposure sentences were intransitive, the other half were

transitive. Thus, participants were exposed to exactly the same number of intransitive subjects, transitive subjects, and transitive objects. There was variability in the number of times individual nouns occurred in the input. Overall, each noun occurred 4–12 times in the entire exposure set, and these occurrences were distributed across the three syntactic positions such that each noun occurred in each position at least once. That is, there was no noun that did not occur in every syntactic position at least once. Verbs also varied in how frequently they occurred in the exposure set: each intransitive verb occurred 8–12 times, and each transitive verb 10–17 times. Negative sentences, which were primarily included to assist participants in figuring out the meanings of words, were uncommon: there were only two negative transitive sentences and 15 intransitives. Sentences in the set were ordered based on meanings, also to facilitate the learning of word meanings. For example, there is a series of sentences about big and little things, and a series in which objects go from being on top of another object to under that same other object (to exemplify how subjects and objects work for those verbs).

Experimental procedure

Participants were exposed to the MAL via videos shown on a computer monitor for 8 25–30 minute sessions. Participants were told that they were in a language-learning experiment and that we were interested in differences between child and adult language learners (something that is true of much of the work in our lab). They were told to imagine that they were stranded on an island and that they had to learn the local language just by listening to the island's inhabitants speak it. They were aware that at the end of the experiment they would be tested to see what they had learned, and that the testing would include having to speak the language.

The 120 sentence exposure set was presented six times over the course of the exposure sessions, with each session containing approximately 90 of the 120 sentences in the exposure set.

There was no explicit instruction in any aspect of the language. Whatever they learned they had managed to figure out themselves. Participants were asked to repeat each sentence after they heard it. They were told that this practice would be helpful when they later had to produce their own sentences during testing. There was no monitoring of this, however, anecdotally, all participants seemed to follow this request. Participants were run individually in a quiet room. The experimenter was present at the beginning of each session but left the room as the video started to play. The entire experiment took nine sessions (eight exposure sessions and an additional, i.e., separate, test session), and participants completed it over 11–13 days. After testing was complete, participants were asked if they had noticed that there were two voices.

Experimental manipulation

All participants were exposed to two different versions of the language. The two versions had different patterns of determiner usage. In one version, determiners were used 80% of the time with the subject of the sentence and 20% of the time with the object of the sentence. The other version had the opposite pattern: determiners occurred 20% of the time with the subject and 80% of the time with the object. These patterns have both been shown to be learnable in a previous MAL study (Hudson Kam, 2015). In the present study, the two versions or varieties of the languages were each spoken by a different speaker, and all participants heard both versions and so both speakers. The two speakers were both female, and a norming study showed that listeners could reliably distinguish between the two voices.¹ Participants were exposed to the two varieties, and so voices, equally: Each speaker produced each base sentence (from the 120 sentence exposure set) an equal number of times. Thus, participants had entirely equivalent evidence for the two patterns.

There were two experimental manipulations. Exposure Type relates to how the two voices were split across the exposure sessions. One group of participants ($N = 12$; Blocked ET) heard different speakers on different days. For example, session 1 was Speaker A, session 2 Speaker B, session 3 Speaker A, etc. The other group of participants ($N = 7$; Mixed ET) heard both speakers in each session, for approximately half the sentences in the session. For example, one session consisted of Speaker A for the first half and Speaker B for the second. The switch between speakers occurred at a natural break between groups of sentences. For this condition, the order was reversed half way through the exposure sessions, so a participant heard Speaker A first during the session for the first four sessions and Speaker B first during the session for the last four sessions. For both conditions, the order of speakers was reversed for half the participants.

I also varied whether people were made explicitly aware that there were two voices. One group of participants was explicitly told that they would hear two different speakers in the videos ($N = 7$; explicit condition). Other participants received no such information ($N = 12$; implicit condition). The two manipulations were crossed, resulting in four conditions. The number of participants in each condition is shown in Table 1.²

1. A small group of (different) participants listened to two sentences from the MAL and had to say whether the same person was saying both things. Performance was over 90% correct on this test.

2. Participants were assigned to condition randomly, but we ended up with uneven numbers for a variety of reasons, e.g., drop-outs. Due to the fact that these studies take a great deal of time and money to run, in combination with the nature of the results, it was decided not to try to even up the conditions, as the data pattern was clear.

Table 1. Number of participants in each condition

Exposure type	Instructions	
	Explicit	Implicit
Blocked	$N = 4$	$N = 8$
Mixed	$N = 3$	$N = 4$

The input data contain several possible patterns participants could learn. First, if they cannot track variation by speaker, but instead track the overall probabilities, then they should learn an overall probability of determiner occurrence of 50%; that is the percentage of nouns overall occurring with determiners in the input. It is also the percentage of subjects and objects occurring with determiners, so tracking by syntactic position but not by speaker will lead to the same percentage as tracking just the overall percentage. If participants can track variation by speaker, but not speaker and position simultaneously, they will learn a slightly higher production probability for Speaker A than Speaker B. (Because the speaker who uses more determiners with subjects than objects also uses more determiners overall.) Finally, if they can track speaker and position, then they should learn the speaker-specific position-dependent patterns associated with each voice.

Learning might be mediated by the two manipulated variables. If interleaving makes the difference between the two voices more noticeable, then participants exposed to mixed input might learn the two patterns more easily than participants exposed to blocked input. And if more explicit cuing of different streams makes the two patterns more learnable, then participants who are explicitly told that there were two voices might do better than those who were not given this information.

Tests

Vocabulary

Participants saw twelve objects, one at a time, on a video monitor and were asked to say the name of the object in the MAL. If they got at least 5 correct, they moved on to the Sentence Completion task. This was done to ensure they could produce enough of the nouns in the production test; the nouns tested in this test were the same ones needed for the production test.

Sentence production

In this test participants were asked to produce 24 novel sentences in the MAL in response to seeing a novel scene. Productions were prompted using a single word – the verb – to ensure that participants produced the intended meaning. (This is relevant for scenes showing an object on top of another one, for instance, which can be described as X being on top of Y or Y being under X.) There were 12 transitive target sentences followed by 12 intransitive target sentences. The same twelve target nouns each occurred three times in this test, once in each of the three syntactic positions (It Subj, Tr Subj, Tr Obj).

The prompt words were produced by one of two voices: the exposure voice that had produced more determiners with subjects than objects, and a novel female voice. Half of each sentence type occurred with each voice prompt. For example, a subject might hear the first 6 transitive sentences prompted by Speaker A (familiar), the last 6 transitive sentences prompted by Speaker C (novel), the first 6 intransitives prompted by Speaker A, and the last 6 intransitives prompted by Speaker C. Half the participants received the reverse order. Participants were told to indicate where a word they could not remember should go in the sentence. This enabled the analysis of transitive sentences even when participants only produced the subject or object noun. All responses were video recorded for later analysis.³

Determiner judgement

In the determiner judgment test participants heard 27 MAL sentences and were asked to rate how much each one sounded like something they'd heard during learning using a 4 point scale (by pointing to one of four happy or sad faces). Sentences were pre-recorded and presented via computer speakers. Participants had 3 seconds to respond. An experimenter recorded the responses on paper. This test was done twice, once voiced by Speaker A (familiar) and once by Speaker C (novel), for a total of 54 test items. The order of presentation was reversed for half the participants.

There were 9 base sentences, 3 intransitive, 3 transitive focusing on subjects, and 3 transitive focusing on objects. Each base sentence occurred 3 times during the course of the test. In one version the noun phrase in question contained a determiner, in another the determiner was missing, and in the third, the determiner occurred in the wrong place relative to the noun (it preceded the noun as

3. Only one input voice was tested in the interests of time. Adding the other voice would have meant either decreasing the number of items associated with each voice which is undesirable from a measurement perspective, or increasing the number of test items so that the test sessions couldn't be completed within the allotted amount of time.

in English). In transitive test sentences, the other noun (e.g., the object noun in the case of the subject noun test sentences) always occurred with the determiner. The sentences with the determiner in the incorrect location served as a measure of grammar learning, whereas responses to the two other sentence types are measures of sensitivity to the patterns of variation in the input. If participants have learned the patterns associated with the speakers in the input, for test sentences spoken by the familiar voice (who produced determiners 80% of the time with subjects and 20% of the time with objects), they should rate intransitive sentences with determiners higher than those without (as intransitive sentences with determiners were more frequent in the input than those without), and sentences with determiners in subject position higher than sentences with no determiner in subject position, but sentences without determiners for object nouns should be rated higher than sentences with the determiner present in the object noun phrase. It is not clear what the predictions are for the sentences presented in the unfamiliar voice (Speaker C), other than that they should rate sentences with the determiner in the wrong location low compared to the other two types.

Results

Vocabulary test

The average number of vocabulary items produced correctly out of a possible total of 12 was 9.84 (min = 7, max = 12, sd = 1.77). The means across the conditions were: ExplBlocked = 8; ImplBlocked = 10.63; ExplMixed = 10.33; ImplMixed = 9.75.⁴

Sentence production

Figure 1 shows the percentage of nouns produced with determiners by syntactic position for items prompted by the familiar voice, for participants in each of the 4 conditions. The input percentages produced by that speaker are also shown for comparison. It is clear from the figure that learners did not produce determiners in the same probabilistic pattern as the known speaker. This was true for participants who received blocked as well as mixed input. Instructions likewise had no consistent effect; the same production patterns are present in those were explicitly

4. Due to the small sample sizes and uneven Ns, no statistical analyses are presented. Given the nature of the to-be-learned patterns, however, it is easy to see from the figures whether or not participants are qualitatively approximating them.

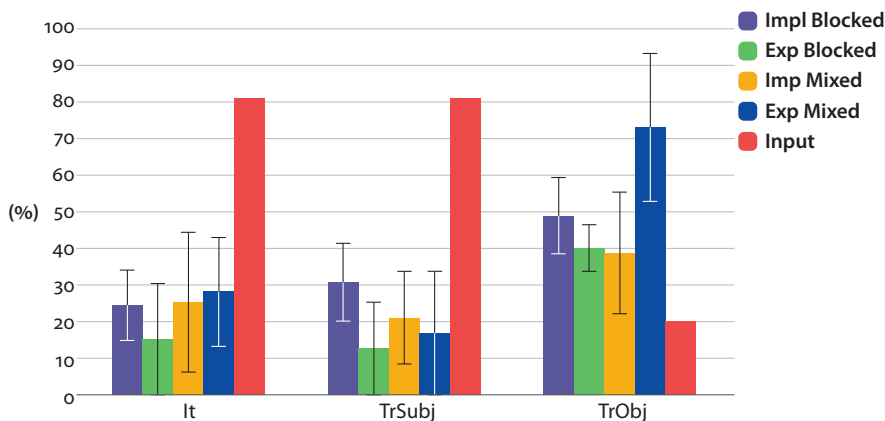


Figure 1. Mean production of determiners in response to Input Speaker A voice prompts by syntactic position and condition*

*In this and all other figures, error bars represent standard error.

told that there were two voices and those who were not. Because only one known speaker was tested, we cannot assess whether participants learned a different overall probability for Speaker A than for Speaker B, but it is clear from the figure that they are not matching the overall probability associated with Speaker A (60%) either.

Next I examine whether productions differ by participants' awareness of having heard two voices. It is possible that participants who were consciously aware that there were multiple speakers (whether or not they were told) are more likely to match the input probabilities of the tested speaker. Responses to the question of awareness were sorted into 4 categories: aware, vaguely aware, aware at test only, not aware. Figure 2 presents the production data by awareness categories. These data show the same pattern as the overall data; participants are not matching the speaker-specific determiner production rates, and this is true for aware and unaware participants alike. Interestingly, two of the not aware participants were in the Explicit Instructions conditions, and only two of the seven participants who had been told there were two speakers said they were aware there were multiple speakers at the end of the study.⁵

5. On the one hand, this suggests that the explicit instructions did not have the desired effect. On the other, it means that participants had a fairly similar experience of the input regardless of condition, functionally erasing the distinctions between conditions and lending more weight to the overall conclusion.

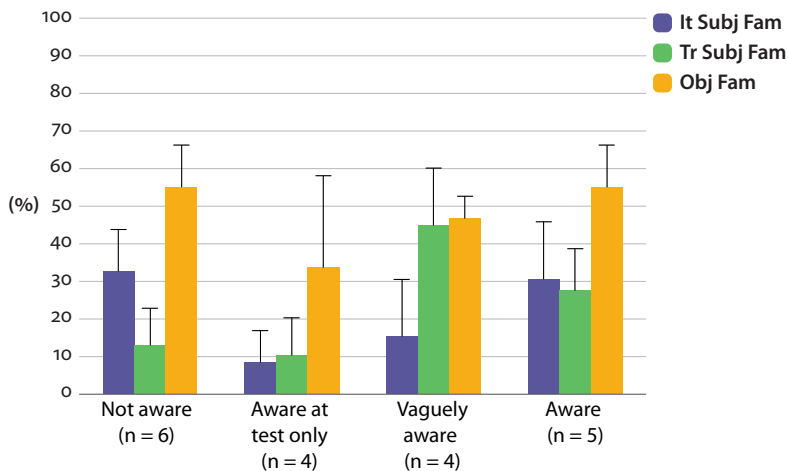


Figure 2. Mean production of determiners in response to Input Speaker A voice prompts by syntactic position and reported awareness

Figure 3 shows the percentage of nouns produced with determiners for the items prompted by the unfamiliar voice. The overall input percentage is shown alongside the bars for each syntactic category in this figure, as the expectation was that people would most likely default to the overall percentage in response to the novel voice. Here, there is less difference between determiner production rates for the three syntactic positions. Instead, participants appear to be matching the overall rates fairly well. They undershoot the actual input probability, but this is quite typical in these kinds of studies (see Hudson Kam and Newport 2005). Again, the two variables manipulated across the four conditions do not appear to have any consistent effects.

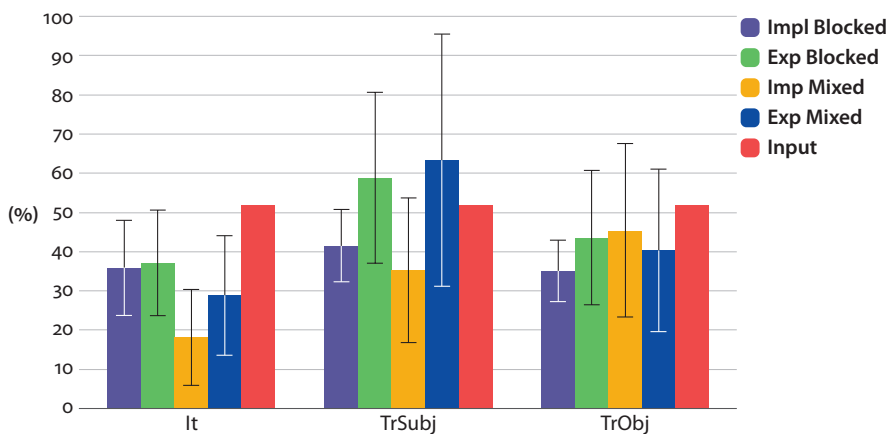


Figure 3. Mean production of determiners in response to Novel Speaker voice prompts by syntactic position and condition (overall input percentage shown in solid bars for comparison)

Determiner judgement

Figure 4 shows the ratings given to sentences produced by the familiar speaker (who produced more determiners with subjects than with objects). The data are shown separately for the four input conditions. The six bars for each condition show the data by syntactic position (Intransitive (=subject), Transitive Subject, and Transitive Object) and whether the determiner was present or absent for the noun in that position in the test sentence. Sentences with the determiner present are shown with darker coloured bars (e.g., dark green), and sentences with the determiner absent are shown with lighter coloured bars (e.g., light green). For visual simplicity the ratings given to sentences with the determiner in the incorrect location are not shown, but they were uniformly low (mean = 1.83), much lower than the ratings given to the sentence types actually present in the participants' input, demonstrating that participants had learned this aspect of the language.

If participants' judgements are reflecting their input, we would expect higher ratings for intransitive sentences with the determiner present than the determiner absent. The same should be true for transitive sentences testing subject nouns. For transitive sentences testing object nouns, in contrast, participants should rate sentences without determiners higher than those with them. Thus, for the It and TrSubj bars the darker bars should be higher than the lighter ones, and for the TrObj bars it should be the reverse, the lighter bars should be higher than the darker bars. This is not what we see. There is variation in the ratings, but it is not a function of the specifics of the input, nor is it consistently affected by the two factors that were manipulated.

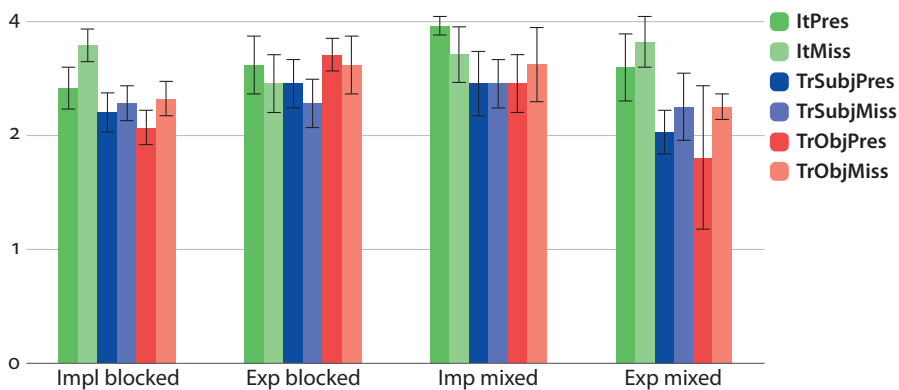


Figure 4. Mean ratings (1=very unlike a sentence from the language, 4=very much like a sentence from the language) for sentences produced by Input Speaker A by determiner manipulation type (syntactic position x presence/absence) and condition

Figure 5 presents the ratings given to sentences produced by the unfamiliar (novel) speaker. As in the previous figure, no ratings for the sentences with determiners in the incorrect location are shown, but they were again low (mean = 2.2). There were no predictions for ratings given to these sentences, although one might expect the ratings to be similar across all sentence types in these data. Again, there is variation in the ratings, and it looks quite similar to the variation in the ratings given to the known voice, suggesting that whatever is affecting known-voice ratings, they are not a reflection of the pattern of variation in the input.

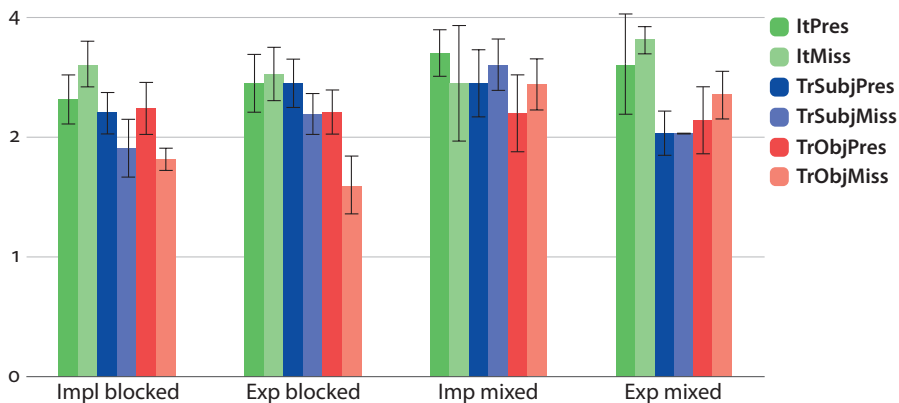


Figure 5. Mean ratings for sentences produced by the Novel Speaker by determiner manipulation type (syntactic position x presence/absence) and condition

Discussion and conclusion

Participants were exposed to a MAL which exhibited variation in the occurrence of determiners accompanying nouns. There were two speakers, and each evinced a different pattern of variable determiner usage; one used determiners more with subjects than with objects, the other produced the opposite pattern. After eight exposure sessions participants were asked to produce novel sentences and to judge a different set of novel sentences. In the production test, they were prompted by one of the input speakers (the one that had used determiners more with subjects than with objects) or by an unfamiliar voice of the same gender as the two input speakers. The judgment test was similar; participants heard sentences in which the determiner did or did not occur spoken either by the same familiar voice or the unfamiliar voice. The question was whether participants' productions would match the determiner production patterns associated with the familiar voice in response to prompts in that voice. I was also interested in whether they would match the overall

probabilities (flat across position) in response to the novel voice. The judgment task was another way to assess participants' knowledge of the speaker-specific patterns.

There is little evidence in any of the data that participants learned the speaker-specific patterns of variation. The productions elicited by the known voice did not match the determiner probabilities associated with that voice. In fact, the productions in response to the familiar voice prompt showed a pattern more like that of the non-tested input speaker, with more determiners being produced with objects than subjects. It is unclear why this is, but the possibility that this was due to an error in the materials (specifically, that the familiar voice prompted was actually the other speaker, i.e., the one who produced more determiners with objects than subjects), was checked and ruled out. Another possibility is that this is a result of production processes that make the ends of longer sentences easier to produce. Speakers have more time between planning and execution of production for the end of a transitive sentence than they do for either the intransitive noun or the transitive subject. This extra time could mean they are more likely to actually produce something. There is some evidence for this from child language development. When children are asked to repeat a sentence they are more likely to repeat syllables or sounds that are targets for deletion (e.g., pronouns in particular metrical positions) when they occur later in a sentence than when they occur early (Gerken 1991; Song, Sundara and Demuth 2009). Thus, it looks like participants learned that determiner production is variable in the MAL, but did not learn a particular pattern of variation. The production data from the Novel Speaker prompts are consistent with this, as they are close to the overall probabilities.

The ratings data likewise do not reflect the input probabilities associated with the known speaker. In past studies using this methodology (e.g., Hudson Kam and Newport, 2005, 2009) relative ratings reflect the frequency of similar sentences in the input. However, that was not the case in the present study; for example, participants did not rate sentences with determiners present in the subject position higher than those without a determiner when the sentences were spoken by the input speaker who had evinced that pattern.

The number of participants in each condition was small, so it is difficult to make any firm conclusions about the effects of the manipulated variables. However, given the fact that the data from all four conditions show the same trends, it seems that the manipulations had little effect on learning outcomes; participants learned the overall probability but not the speaker-specific syntactically-conditioned patterns. It is possible that with longer exposure people would learn the speaker-specific patterns, although longer learning does not necessarily improve learning in artificial language studies (Finn & Hudson Kam, 2008). Moreover, in previous work on this topic work people generally learn quite complicated patterns with about this

amount of input (Hudson Kam and Newport 2009, Experiment 2; Hudson Kam 2015), suggesting that exposure amount is unlikely to be the issue.

This result is somewhat surprising given the evidence that people can easily track speaker-specific phonetic information. It may be that speaker-specific tracking is less automatic for morpho-syntactic aspects of language. This makes sense, as individual voice qualities affect speech recognition and so, in some sense, need to be tracked to facilitate the identification of the target sounds. Voice quality is not inherent to morpho-syntactic form, by contrast, and so there is no inherent processing reason to track the relationship between speaker and form.

Assuming that this null finding is true, how do children learn sociolinguistic variation that is morpho-syntactic in nature? I suggest that learners may need a more socially relevant variable to index variation to. Humans seem to assume that differences in form should be associated with differences in meaning (Clark, 1990), and where there are no differences in referential or basic meanings between variants, learners will look to other kinds of meaning to associate with the variation (see Poplack and Cacoulios, 2015). Most previous studies showing speaker-specific learning (even of phonetic information), have used speakers of different genders (e.g., Creel et al. 2008; Weiss et al. 2009), and gender (or sex – the two are usually conflated in studies of speaker-specific learning) is an important social distinction. The speakers used in the current study, however, were both women. Moreover, learners only ever heard their voices, so there were no visual cues to suggest that the two input speakers were socially distinct (nor was there anything in the way they pronounced words to suggest a social difference). Put simply, there was no reason for the learners in this study to think that the two input speakers were from different social groups. Thus, there was no reason to treat the speakers as distinct. Given a social reason to track the speaker-specific variation, that is, a social meaning to associate with the variation, maybe participants would have learned it.

Another possibility is that it is a two-step process. Learners first learn the options that exist in the language, and only then are able to associate options (and/or their likelihood) with specific speakers. This idea is consistent with the studies showing that adults can learn speaker-specific parsing preferences (Kamide 2012; Ryskin et al. 2017), because in those studies the variants were syntactic possibilities participants already had in their grammars.⁶ On this story, learners would be associating known variants with individuals, not learning the variants whilst learning whom they are associated with.

6. Another possibility is that participants learned the speaker-specific patterns but did not match the probabilities in their productions due to a lack of social information: why match a speaker's pattern unless you see yourself as a member of the same group? If this were the case, however, the judgment data should have shown sensitivity to the patterns.

In summary, this study tested the plausibility of the hypothesis that learners break into sociolinguistic variation by first tracking the patterns associated with particular speakers, later generalizing over properties of the individual speakers to the categories they belong to (at which point it becomes sociolinguistic variation). The study tested the first step in this process – the learning of speaker-specific patterns. The data suggest that this is unlikely to be the way morpho-syntactic sociolinguistic variation at least is acquired. I suggest, instead, that it must be social from the very beginning.

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This volume provides a broad coverage of the intersection of sociolinguistic variation and language acquisition. Favoured by the current scientific context where interdisciplinarity is particularly encouraged, the chapters bring to light the complementarity between the social and cognitive approaches to language acquisition. The book integrates sociolinguistic and psycholinguistic issues by bringing together scholars who have been developing conceptions of language acquisition across the lifespan that take into account language-internal and cross-linguistic variation in contexts of both first and second language acquisition as well as of first and second dialect acquisition. The volume brings together theoretical and empirical research and provides an excellent basis for scholars and students wanting to delve into the social and cognitive dimensions of both the production and perception of sociolinguistic variation. The book enables the reader to understand, on the one hand, how variation is acquired in childhood or at a later stage and, on the other, how perception and production feed into one another, thus building up our understanding of the social meanings underpinning language variation.

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