Intergenerational Transmission of Laterals in Punjabi-English Heritage Bilinguals

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Abstract

This chapter tracks the development of laterals across three generations of Punjabi-English bilinguals living in England. These speakers are hypothesized to speak a Punjabi-influenced contact variety of English that is typically called 'British Asian English.' In this study, we aim to understand the processes of phonetic and phonological transfer that led to the formation of British Asian English, and how phonetic variation is subsequently adapted and modified by a community. Our study finds that first-generation (Gen1) speakers produce phonetically similar laterals across languages and word positions, suggesting that they have a single cross-linguistic category. In contrast, second- (Gen2) and third- (Gen3) generation speakers show clear acquisition of allophony in English, yet these patterns do not resemble the system reported for the local monolingual accent. Gen3 speakers further show the greatest phonetic distinctions between their English and Punjabi. The results suggest that the English of younger speakers is developing into a distinctive accent that bears similarity to that produced by other British Asian speakers across the UK.

Keywords: British Asian English; Punjabi; laterals; allophonic contrast; phonetic detail

1. Introduction

This chapter investigates the development of cross-linguistic sound systems in the context of heritage language bilingualism. In particular, we focus on the intergenerational transmission of lateral consonants in three generations of Punjabi-English bilinguals living in the United Kingdom. In doing so, we aim to uncover some of the processes of cross-linguistic transfer that have led to the development of a long-term and stable contact variety, which we call 'British Asian English.' Our chapter first reviews relevant literature on the development of contact varieties out of heritage bilingualism, before addressing the specific details of our study.

2. Background

2.1 The development of new varieties out of heritage language contact

The emergence of new varieties out of bilingualism and language contact is well-documented, especially in the context of immigrant communities in large European towns and cities. For example, Cheshire et al. (2011) outline the development of Multicultural London English, a variety that is used by speakers from a range of diverse linguistic and ethnic backgrounds in London. Contact varieties that develop in immigrant communities are often hypothesized to

emerge out of contact between the majority language and one or more heritage languages spoken in the home or community (Cheshire et al., 2011). Many children in these contexts speak the heritage language at home and then learn the majority language via schooling, making it likely that new accents and variants of the majority language will emerge out of such contexts.

Contact between two languages increases the possibility of cross-linguistic transfer between them, and it is well documented that greater convergence between languages often occurs when there is greater phonological similarity between the sound systems of the two languages (Amengual & Chamorro, 2015; Kirkham & Nance, 2017). In terms of heritage bilingualism specifically, previous research suggests structural convergence towards the dominant language (Polinsky & Scontras, 2020). This convergence is often expected to be more pronounced when there is a community-based heritage language and a dominant language spoken in the broader community.

In the study of contact varieties, an important distinction must be made between individual-level bilingualism and long-term contact. Individual bilingualism represents the hypothesized cross-linguistic transfer that occurs within individual speakers as a consequence of maintaining two phonological systems (Chang, 2015; Flege, 1995). In contrast, long-term contact represents the cumulative effect of cross-language influence between two languages over multiple generations (Thomason, 2001). It is not always clear whether the speech patterns of an individual bilingual speaker can be explained with reference to individual-level bilingual transfer or having acquired an already L2-influenced variety from other speakers, particularly when contact between languages has occurred for longer periods of time. For example, Mayr et al. (2017) find no systematic differences in the vowels of English monolingual and Welsh-English bilingual speakers of Welsh-accented English. The potential transfer effects that we may expect

to see in the English of L1 Welsh speakers are confounded with the fact that such influences are already present in Welsh-accented English due to the long-term and intense contact between these two languages (see Mennen et al., 2020 for a similar finding on lexical stress).

2.2 British Asian English

In this study, we focus on a contact variety that is widely spoken across the United Kingdom: British Asian English. The term 'British Asian' is often used within the UK context to refer to individuals who can trace their family ancestry to the Indian subcontinent. The largest British Asian populations in the UK are typically from Pakistan, India or Bangladesh, and British Asians from these three backgrounds make up between 4.9-6.3% of the UK population, depending on how this figure is calculated. Blackburn, the location of our study, has one of the largest British Asian communities in the UK, with a 34.4% British Asian population according to the 2011 UK Census, with the broader British Asian community being approximately half Pakistani and half Indian.[1]

Previous research has documented a wide range of phonetic characteristics of British Asian English, and this dialect is a widely known variety in the UK, having been featured prominently in a number of TV shows about British Asian life and culture. Its characteristic phonetic features include retracted or retroflex realizations of coronal stops /t/ and /d/ (Alam,

[1] Census data available at: https://www.ons.gov.uk/census/2011census/2011censusdata and https://www.lancashire.gov.uk/lancashire-insight/population-and-households/population/demographic-dashboard/

2015; Alam & Stuart-Smith, 2011; Heselwood & McChrystal, 2000; Kirkham, 2011; Lambert et al., 2007; Sharma, 2011), very clear realizations of onset /l/ (Kirkham, 2017; Kirkham & McCarthy, 2020; Kirkham & Wormald, 2015; Stuart-Smith et al., 2011), and more peripheral and often monophthongal realizations of the FACE and GOAT vowels (Stuart-Smith et al., 2013; Wormald, 2016). Regional variants of British Asian English are well-documented, with most varieties sharing the above features but adapting them in regionally specific ways that appear to be related to the majority accent of the geographical region in question (Wormald, 2016).

One significant gap in studies of British Asian English is the general lack of data on the heritage languages of the speakers, which include Punjabi, Urdu, Gujarati, and Sylheti. The majority of studies focus only on speakers' English productions, with notions about the influence of the heritage language being based on broad descriptive claims rather than individual-level bilingual data. For some relevant bilingual contexts, however, there is a reasonable amount of data on the heritage language, such as the Sylheti of Sylheti-English child bilinguals (Kirkham & McCarthy, 2020; Mayr & Siddika, 2018; McCarthy et al., 2013, 2014). In contrast, data on the Punjabi spoken by British Asians are less frequent and typically come from small-scale studies (Heselwood & McChrystal, 1999; Stuart-Smith & Cortina-Borja, 2012).

2.3 Laterals in British English and Punjabi

Laterals are particularly fruitful for cross-linguistic study because there are at least two prominent and interacting kinds of variation involved in lateral production (Barlow et al., 2013). First, laterals typically differ according to syllable position; that is, onsets versus codas. The existence of some onset-coda differences can be partly explained as a biomechanical effect of the

demands of syllable position on tongue dorsum activity, given that laterals minimally involve an anterior and posterior lingual gesture, which are differentially coordinated with a vowel gesture (Gick et al., 2006; Sproat & Fujimura, 1993). However, many English varieties show a much bigger contrast between initial and final laterals than would be predicted by a purely biomechanical explanation, which is often termed 'lateral allophony.' Allophonic contrast in English laterals is evidenced when laterals show distinct variants according to syllable position, such as the presence of clear laterals in onsets and dark laterals in codas (Wells, 1982). There is considerable evidence that such patterns vary by dialect, with Kirkham et al. (2020) identifying English varieties with clear onsets and dark codas, varieties with intermediate onsets and dark codas, and varieties with dark laterals in all positions. There are also reported instances of clear laterals in all contexts (Wells, 1982). Notably, the lateral allophony of many English dialects is typically manifested as a much larger positional contrast than the simple phonetic effects of onsets versus codas and is, therefore, posited as a learned language-specific behavior.

In addition to positional allophony, laterals also vary in their phonetic quality in the same positional context, even between speakers who may share an otherwise similar system of positional contrast. For example, many British Asian speakers are reported to retain the onset-coda allophony common to many English dialects but produce hyper-clear laterals in word-initial position, thus significantly emphasizing the difference between positional variants (Kirkham, 2017; Kirkham & McCarthy, 2020; Stuart-Smith et al., 2011).

There are significantly fewer studies on laterals in Punjabi, which is perhaps why many previous studies have speculated on their production when discussing potential cross-linguistic influence between Punjabi and English. A recent description of the Lyallpuri variety of Punjabi, spoken in Faisalabad, Pakistan, proposes a place contrast between an alveolar and a retroflex

lateral approximant, with the retroflex lateral only occurring word-medially and word-finally (Hussain et al., 2019). Impressionistically, we predict that Punjabi does not show strong positional contrast between initial and final alveolar laterals, and previous research on Indo-Aryan languages has also reported a lack of positional contrast in laterals (Kochetov et al., 2020). Finally, it has been suggested that Punjabi laterals are typically very clear in terms of phonetic quality, which is often used to explain the very clear onset laterals found in British Asian English (Heselwood & McChrystal, 1999, 2000; Kirkham, 2017; Stuart-Smith et al., 2011).

2.4 The present study

The present study investigates lateral production across three generations of Punjabi-English bilinguals in Blackburn, UK. Blackburn is a large town in the county of Lancashire, which is located in the northwest of England. Its population in the most recently available UK census data (2011) was 117,963, and it is known to have one of the largest British Asian populations in the UK, partly as a result of large-scale migration in the 1950s and 1960s. The British Asian population in Blackburn is estimated to be 34.4%, with a roughly equivalent split between people whose families originate in what are now known as modern-day Pakistan and India. While the town has high levels of ethnic diversity, there have been a large number of media reports over the past 20 years pointing to low levels of inter-ethnic contact, with relatively high levels of segregation between some White and British Asian communities.

In terms of the dialectology of Blackburn, it shows many of the characteristic features of northern and northwestern English dialects, such as the lack of a FOOT-STRUT split, the lack of a TRAP-BATH split, and monophthongal realizations of vowels that are typically diphthongs in

many southern varieties, such as the vowels in FACE and GOAT (Hughes et al., 2012). Blackburn is particularly distinctive in the north of England for a comparably high use of postvocalic rhoticity, which is residual amongst many northwestern dialects but still attested in Blackburn (see Barras, 2011 for a review). In terms of laterals, we are not aware of any previous instrumental research on Blackburn laterals, but monolingual White speakers in this region are expected to produce very dark laterals in all positions, which would fit with the broader pattern found in many northwestern dialects of England (Kirkham et al., 2019; Wells, 1982).

3. Methodology

In order to investigate accent development in the British Asian community in Blackburn, speech production data were collected from 21 speakers by the second author. After data collection, each speaker's data was screened for suitability, sufficient productions, and similar language background to the other speakers in their generational group. This led us to exclude seven speakers on the basis of either having different language backgrounds (i.e., a different L1, such as Gujarati) or not being able to complete a sufficient amount of the word lists in both languages (which was more common for children). In total, the data set comprises five first-generation (Gen1; 1 female, 4 male) Pakistan-born speakers, four second-generation (Gen2; 3 female, 1 male) English-born speakers, and five third-generation (Gen3; 3 female, 2 male) English-born speakers, giving 14 speakers in total. All Gen1 speakers were born in Pakistan, moved to the UK as adults between the age of 18 and 27, and were between 38 and 74 years old at the time of data

collection. All Gen2 speakers were born in the UK or arrived in the UK before the age of 3, and were between 29 and 33 years old at the time of data collection. All Gen3 speakers were born in the UK and were 7 years old at the time of data collection, except for one speaker who was 14 years old. All of the Gen3 children had at least one Gen2 parent (usually the mother) and one Gen1 parent or grandparent. We call them Gen3 for the purpose of convenience but note that these designations are multifaceted, with simple categories rarely fitting the complex reality perfectly. Data collection was carried out with a small group of families, so the current data set represents multiple generations within four different families.

All speakers produced a set of words in English and Punjabi, which were elicited by the second author via a picture naming task. However, not all speakers were able to complete the word list in both languages, with one Gen1 and 1 Gen3 speaker unable to complete the English task, and one Gen2 and two Gen3 speakers unable to complete the Punjabi task. The tasks involved reading words with laterals in word-initial, word-medial, and word-final position alongside a large number of other words that were designed to target other sounds, such as vowels and stops. In this study, we only focus on word-initial and word-final laterals because we struggled to elicit a meaningful number of word-medial tokens in Punjabi from all speakers, which rendered any analysis of retroflex laterals in Punjabi impossible. As a result, we only focus on the initial~final contrast in non-retroflex laterals in both languages. All laterals were adjacent to one of five vowels (i.e., /i a ɒ ɔ u/), which were balanced across languages as much as possible. In total, 245 tokens of initial and final /l/ were analyzed. [2]

[2] More detailed information on the sample, including token counts per group*position and individual-level data, as well as all data and code used for the analysis, can be found at: https://osf.io/ewk25/

Audio files were recorded using a Zoom H4n Pro portable recorder at 44.1 kHz with 16-bit quantization. Target words were identified in each sound file and lateral consonants were labeled using Praat (Boersma & Weenink, 2021) as follows. A steady portion of F2 was segmented during an unambiguously lateral phase of each syllable containing a lateral. We made no attempt to make this label correspond to any segmental boundaries and instead aimed to capture a portion that clearly corresponded to a lateral consonant. Previous research has found that such an approach effectively captures lateral quality (Carter & Local, 2007; Kirkham et al., 2019), and this has also been used in previous studies of similar communities (for a more detailed outline and labeling examples, see Kirkham, 2017; Kirkham & McCarthy, 2020). The first two formants were then extracted from the midpoint of the labeled lateral steady-state for each token. We used an optimized formant estimation procedure using Praat and the speakr R package (Coretta, 2021), which we used to automate a high number of formant settings for each speaker. We then used a combination of means, standard deviations, and visual inspections of patterns to choose an optimally accurate set of formant measurements for each speaker. We calculated F2–F1 as a proxy for lateral quality, with clear laterals having a low F1 and a high F2, and dark laterals having a high F1 and a low F2 (Sproat & Fujimura, 1993). We present two analyses: (1) Initial-final contrast, which uses by-speaker *z*-scores to examine the difference between each speaker's initial and final /l/. This allows us to examine the production of within-speaker contrast and then compare the magnitude of within-speaker contrast across different ages and genders. (2) Phonetic detail, which examines the phonetic differences between laterals in each speaker's English and Punjabi productions using formant ratios, thus providing some degree of within-group normalization while still examining phonetic detail.

The current data set is relatively small and contains a reasonable amount of missing data, as the children in particular did not know every word in the Punjabi word list. As a consequence, we use a non-parametric classification and regression technique that is more robust to small data sets and interactions: conditional inference trees (Breiman, 2001). This method has previously been used in similar phonetic analyses of laterals (Kirkham et al., 2020) and provides a flexible and versatile method for data exploration and hypothesis testing. We visualize these models as conditional inference tree plots, which are comprised of significant variables ordered from top to bottom in order of importance, as well as terminal in nodes, which represent the data distribution for the combination of variables in that given branch of a tree.

4. Results

4.1 Descriptive patterns

Figure 1 shows *z*-scored F2–F1 values comparing the initial~final contrast for each generation in each language. For English, we see that Gen1 produces very similar initial~final values, whereas Gen2 and Gen3 both appear to produce the robust initial~final contrast that we would expect to see in some varieties of monolingual English (although notably, not the contrast traditionally proposed for White monolingual speakers in Blackburn). For Punjabi, both Gen1 and Gen3 show rather similar patterns, with a high degree of overlap between initial and final laterals, whereas Gen2 appear to produce a strong degree of initial~final contrast that is highly similar to their

English pattern. In order to unpack these results in greater detail, the following sections more explicitly test the relationship between position, generation, and language on lateral realization.

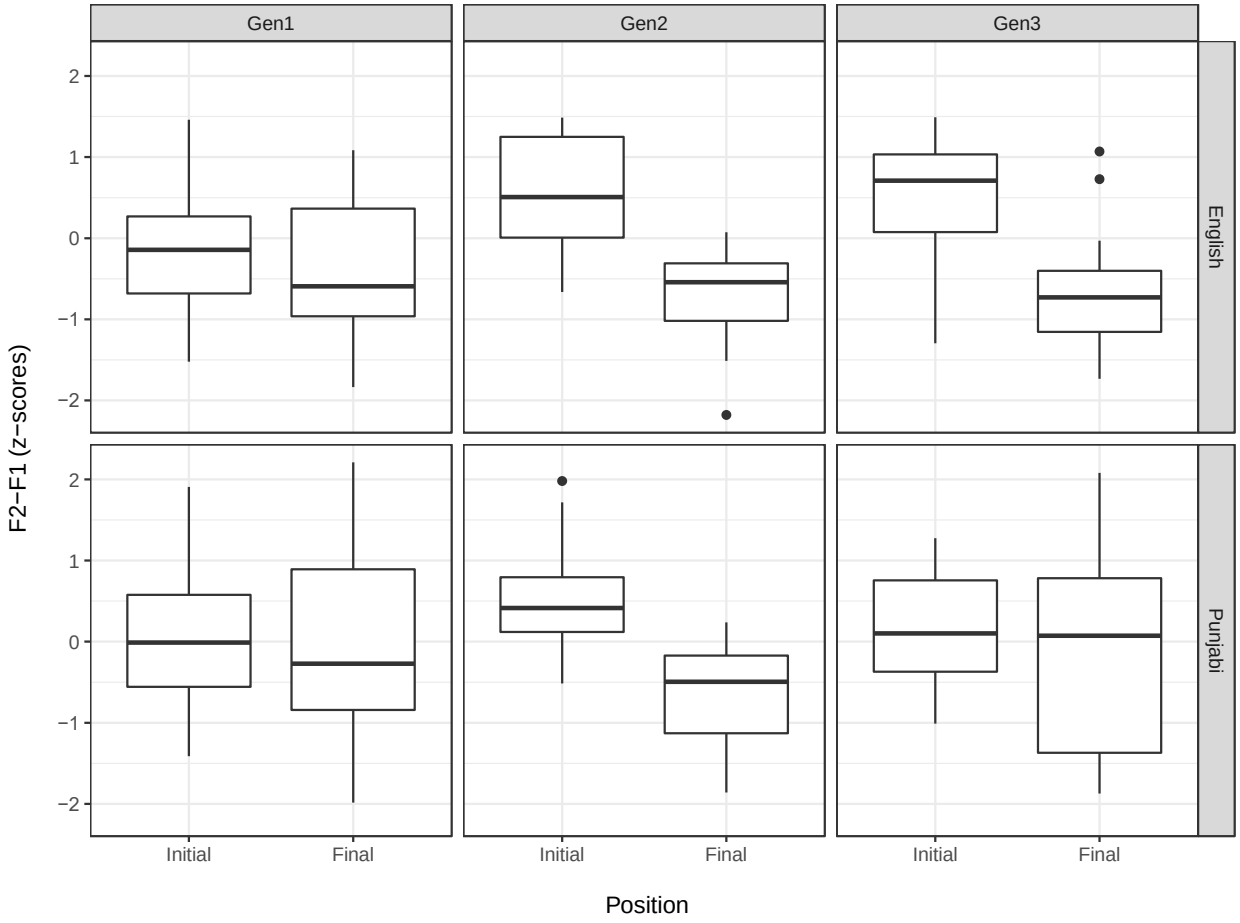

Figure 1. Boxplot of *z*-scored F2–F1 values by-position for each generation*language combination.

4.2 Positional contrast

We first examine the effects of generation and position in laterals for each language separately. This allows us to focus entirely on within-language effects and avoid some potential problems of

cross-linguistic comparison (i.e., different word lists with unbalanced vowel contexts). Note that this section entirely focuses on the *z*-scored formant values, which express the difference between each speaker's initial and final laterals. It does not tell us anything about the specific absolute phonetic quality of the laterals, which is addressed in Section 4.3.

Figure 2 shows the effect of position and generation in Punjabi laterals. Notably, there is no significant effect of generation, which can be seen in the lack of a generational split in the data. This contrasts with the observable generational differences in Figure 1, which are undoubtably due to within-group variation in Gen1 and Gen3 in particular, which is likely to explain the lack of a generational effect in our model.[3] Instead, there is only a significant effect of position, with initial laterals having a slightly higher F2–F1 than final laterals. Given the patterns shown in Figure 1, it is likely that this effect is largely due to the Gen2 speakers producing a large initial~final contrast in Punjabi, given that Gen1 and Gen3 both seem to produce very similar values in initial and final contexts.

[3] See the supplementary materials at: https://osf.io/ewk25/

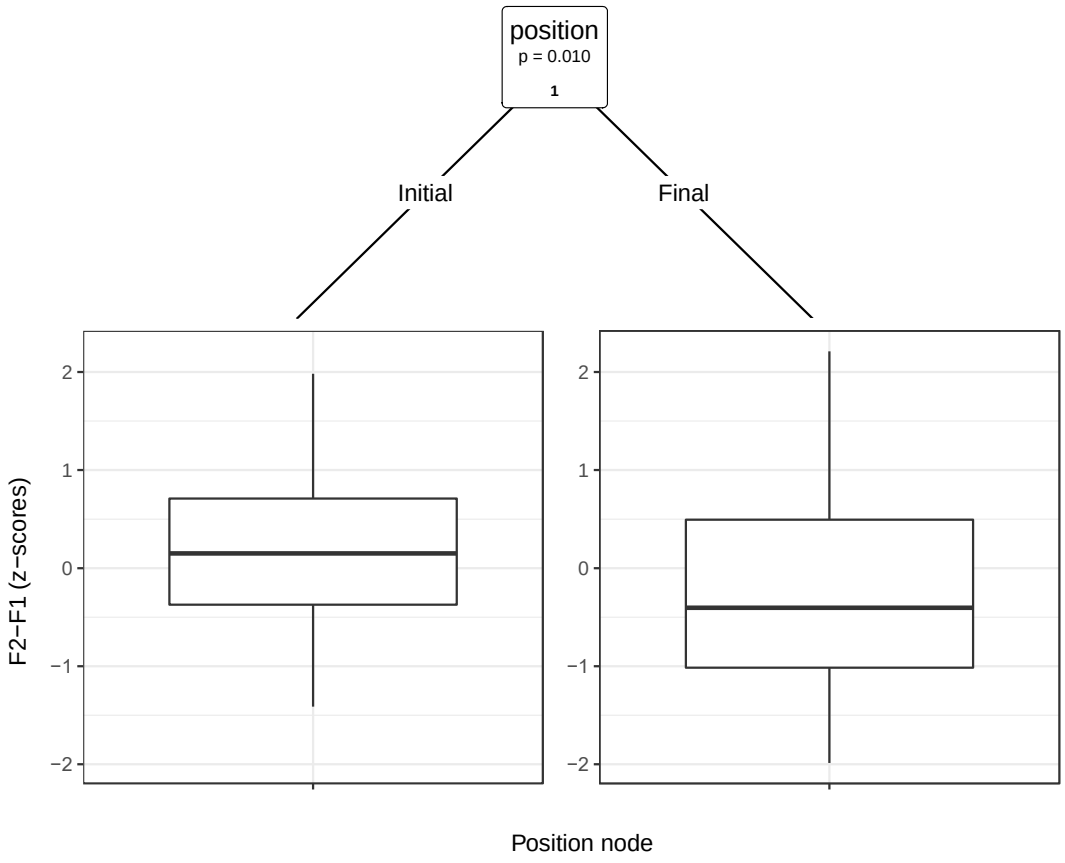

Figure 2. Conditional inference tree fitted to *z*-scored F2–F1 Punjabi data with the predictors 'position' and 'generation' (there is no significant effect of generation, which is why this predictor is absent from the plot).

Figure 3 shows the same analysis applied to the English data. The model shows a significant effect of position, with initial laterals having a higher F2–F1 than final laterals. In addition to this, there is also a generational effect within initial laterals, whereby Gen2 and Gen3 have higher F2–F1 values relative to final laterals, suggesting that they produce a larger initial~final contrast than Gen1 speakers in English.

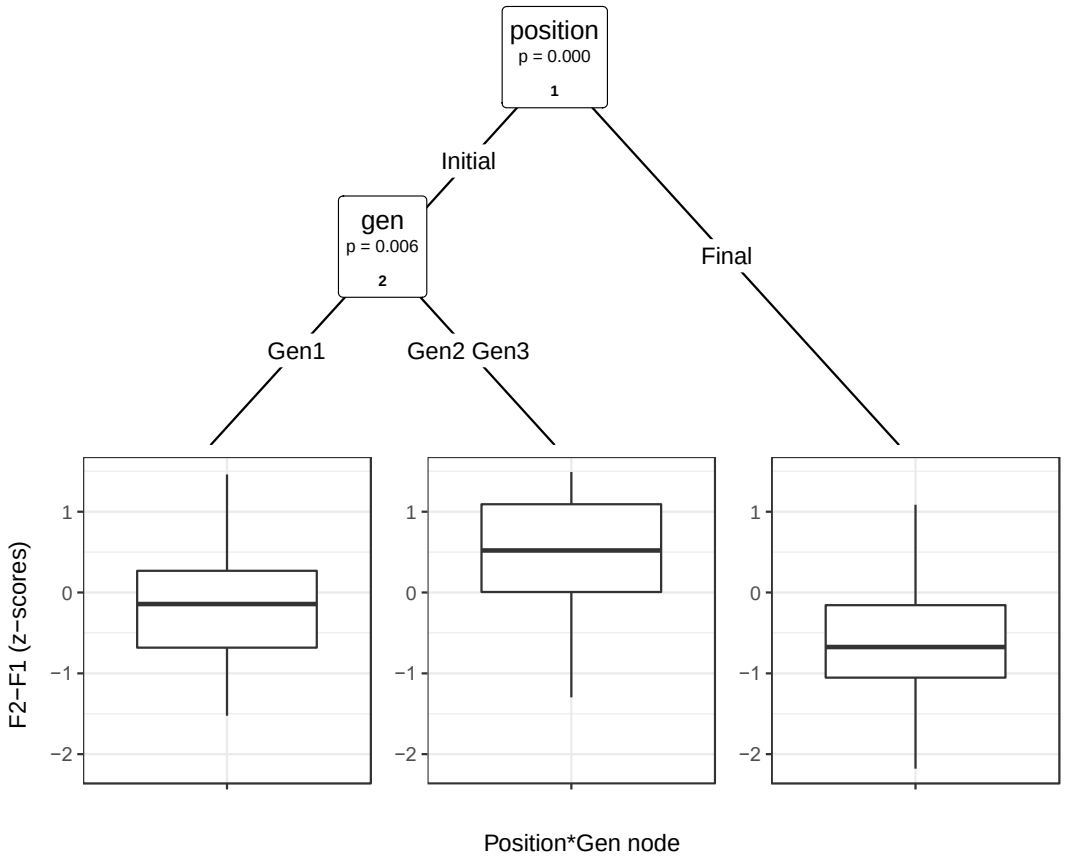

Figure 3. Conditional inference tree fitted to *z*-scored F2–F1 English data with the predictors 'position' and 'generation.'

So far, the results for positional contrast suggest that Punjabi shows a small distinction between initial and final laterals, which is largely caused by Gen2 speakers (although we note that 'generation' was not a significant predictor in the Punjabi model). The English results show a robust positional contrast, but this is much larger for Gen2 and Gen3 speakers; in fact, Gen1 speakers show a very similar pattern between contexts. It is likely that this very small contrast in Gen1 speakers represents a phonetic effect of onsets versus codas rather than the more robust allophonic contrast produced by Gen2 and Gen3. While we note that Gen2 and Gen3 speakers

produce a larger initial~final difference, this analysis does not tell us anything about the absolute clearness or darkness of laterals' phonetic quality. In order to examine this, we now turn to an analysis of phonetic detail.

4.3 Phonetic detail

This section examines cross-language phonetic productions within generational groups by focusing on raw F2–F1 hertz measurements. For this analysis, separate models were fitted to each generation in order to avoid comparing young children to adults, given the known age effects on formant frequencies, which would confound any between-group differences. We note that the use of formant ratios, such as F2–F1, should somewhat mitigate any within-group anatomical differences between speakers, as within each generation group there remains some age and gender diversity.

Figure 4 displays a conditional tree fitted to unnormalized hertz measurements of F2–F1, examining the effects of position and language within each generational group. The model shows no significant effects of position or language in Gen1, suggesting that this group broadly has a single lateral production. This suggests that our previous finding of positional contrast in Punjabi (Figure 2) is likely being caused by the Gen2 group only and not the Gen1 speakers. Gen2 shows a clear distinction between initial and final /l/, but with no differences between languages, suggesting that their English and Punjabi productions overlap substantially.

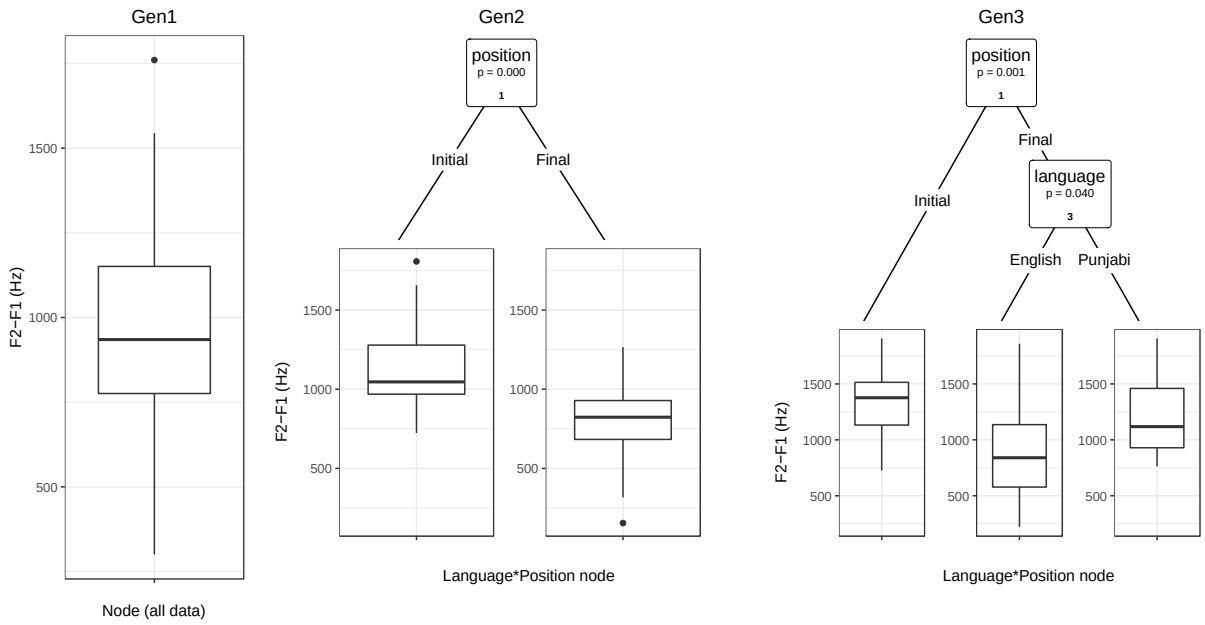

Figure 4. Conditional inference trees fitted to raw F2 – F1 (Hz) data with the predictor variables 'position' and 'language.' Separate models are fitted to each generation group (Gen1/Gen2/Gen3). Note that there are no significant effects of position or language in Gen1, and no significant effects of language in Gen2, which is why these predictors do not appear for these groups.

Gen3 is the only group to show significant effects of both position and language on raw F2–F1 values. Figure 4 shows that initial /l/s are clearer than final /l/s. However, the Gen3 speakers' English final /l/s have a substantially lower F2–F1 than their Punjabi final /l/s. This suggests that Gen3 speakers are producing a robust contrast between positions in English, but that the positional differences in Punjabi are much smaller and, again, likely to be a biomechanical or phonetic effect rather than a robust allophonic distinction. Importantly, the Gen3 children appear to be the only group who produce any of their laterals differently between the two languages, with a much darker coda lateral in English than in Punjabi. Notably, Gen2

also produce a darker coda lateral in English, but they produce a similarly dark coda in Punjabi, which is not seen in either Gen1 or Gen3 speakers.

5. Discussion and conclusion

5.1 Language-specific contrasts

Our analysis suggests that Punjabi laterals are produced in a similar way by all generational groups, but that initial laterals have a slightly higher F2–F1 than final laterals. It must be stressed that while there was no significant generational effect in the model, Figure 1 shows that it is really only Gen2 speakers that show different distributions for initial and final laterals. In contrast, Gen1 and Gen3 speakers produce a large degree of overlap between positional contexts, with any differences being attributable to phonetic effects of onsets and codas rather than robust positional allophony. Previous research on Punjabi does not mention positional contrast as a feature of the language's alveolar laterals, and previous research on other Indo-Aryan languages also finds no evidence of positional contrast in laterals (Kochetov et al., 2020). We must exercise caution in comparing these data to monolingual descriptions of Punjabi as spoken in Pakistan or India, given the existence of distinctive variants of 'British Punjabi' that differ from Indian or Pakistani Punjabi (Stuart-Smith & Cortina-Borja, 2012). However, it would appear that the Gen1 and Gen3 speakers' Punjabi is broadly in line with what we would expect to see in monolingual

Punjabi, whereas the greater positional contrast in Gen2's Punjabi laterals suggests convergence between both languages towards a more English-like pattern.

In terms of the English data, we find some evidence for positional contrast, with initial laterals having a higher F2–F1 than final laterals. In addition to this, we find generational differences in word-initial laterals, with Gen2 and Gen3 speakers producing higher F2–F1 values in initial laterals when compared with their final laterals. Remember that because we *z*-scored the data, this represents within-speaker contrasts and cannot be explained with reference to the Gen3 children having smaller vocal tracts. Instead, it suggests that Gen2 and Gen3 speakers produce positional contrast in a way that resembles the lateral allophony found in many southern dialects of British English, with clear onsets and dark codas. The Gen3 data in particular supports previous research showing that bilingual children can acquire monolingual-like allophonic patterns (Burrows et al., 2019; Kirkham & McCarthy, 2020). However, we must note that this allophonic pattern is not what we would expect to see in White monolingual speakers in Blackburn, who are predicted to show darker laterals in all contexts (Wells, 1982). Unfortunately, we do not have comparable data from this community, but the current discussion does raise the question of how Gen2 and Gen3 speakers are acquiring such allophonic patterns if they are not widely attested in the surrounding monolingual community. Historically, Blackburn has been reported to have fairly high levels of ethnic segregation, with contact between different communities being fairly limited in some parts of the town. It is, therefore, entirely plausible that these speakers have not adopted local monolingual norms and may instead be orienting towards supralocal youth norms (Cheshire et al., 2011), possibly through interaction with other British Asian family members from across the UK. We hope that future research can help to better understand how these complex community dynamics interact with language use.

5.2 The role of cross-language influence

The descriptive patterns in Figure 1 show that Gen1 and Gen2 speakers both appear to use fairly similar phonetic productions between their two languages, whereas Gen3 speakers show more distinct patterns between their Punjabi and English. In order to examine this in more detail, we analyzed the phonetic realization of laterals within each generational group separately. Our model showed that Gen1 produce a single distribution with no significant splits for language or position, suggesting that this group has a single alveolar lateral phoneme with no allophonic or cross-language differences. Remember that we did not analyze any retroflex laterals in Punjabi, so we are not claiming that these speakers necessarily only have a single lateral phoneme in Punjabi. In addition to this, the model confirms that Gen2 shows a positional contrast between initial and final laterals, but with no cross-language differences, suggesting convergence between languages. It is Gen3 that shows the more complex pattern of between-language differences in word-final laterals. In particular, their word-final laterals have a much lower F2–F1 in English compared to Punjabi, suggesting that they produce a relatively dark final lateral in English but a potentially clearer final lateral in Punjabi.

One critical dimension we have not addressed here is the role of language mode (Grosjean, 1998), which refers to the level activation of each of a bilingual's language in a given context. Khattab (2002) finds that Arabic-English bilingual children maintain language-specific productions of /l/ in separate language modes and only show cross-language interactions in the bilingual mode. Our data collection was very much done in a bilingual language mode, with both language tasks occurring in the same session. It is likely, then, that our data only represent one

dimension of these speakers' bilingual experience and, accordingly, that we have likely found more cross-language influence than may be found in separate language modes.

5.3 Intergenerational transmission and the development of new varieties

In their study of the English spoken by three generations of Punjabi-English bilinguals in London, Sharma & Sankaran (2011) find that Gen2 speakers broadly mirror Gen1 language patterns, whereas Gen3 show a lower frequency of non-native accent traits but use them in functionally different ways from Gen1/2. Similar to Sharma & Sankaran (2011), our Gen1 speakers produce a pattern that we anticipate is broadly in line with that of monolingual speakers of Punjabi. Furthermore, Gen1 English laterals appear to be very similar to Gen1 Punjabi laterals, suggesting a relatively straightforward cross-linguistic transfer for this group. Gen2 speakers, however, show a much more surprising pattern, with their English laterals showing a pattern that broadly matches an English monolingual system, which, in turn, is also applied to their Punjabi. This suggests that both Gen1 and Gen2's cross-linguistic systems have undergone substantial convergence, with no discernible differences between the two languages. Gen3, by contrast, is more Gen1-like in Punjabi and more Gen2-like in English. This pattern in English is relatively predictable, with previous studies showing that Gen3 children are typically monolingual-like in English (Mayr & Siddika, 2018).

It initially seems surprising, however, that Gen3 children are more like Gen1 speakers in Punjabi. One reason for this pattern could be the role of parental and grandparental input. The majority of the children in this study actually have one Gen2 parent (usually the mother) and one

Gen1 parent (usually the father). This means that the children are still likely to be receiving Gen1 input, in addition to further input from grandparents and other L1 Punjabi speakers. The Punjabi community in Blackburn is large and diverse and still attracts Gen1 incomers, meaning there is always a steady influx of L1 Punjabi speakers into the community. This means that L1 input still plays a strong role in many Gen3 speakers' lives. This scenario is not unusual for many large British Asian communities, but it is not inevitable. For example, Mayr & Siddika (2018) report on a Sylheti-English community in Wales that is not experiencing ongoing in-migration, meaning there is not a continuing influx of L1 speakers in the community, thus increasing the influence of UK-born bilinguals. Another possibility is that the differences we see between Gen2 and Gen3 are age-related, and we cannot discount the possibility that Gen3 speakers' Punjabi will converge towards their English as they age and potentially become more English-dominant.

One final note regarding Gen3 is that while they evidence a monolingual-like allophonic system, their initial laterals in English are also likely to be phonetically clearer than those of monolingual British English speakers. This is particularly true of monolingual White speakers in Blackburn, who typically have very dark initial laterals, but this would also be the case if we compared the Gen3 British Asian speakers to a variety with more robust clear/dark allophony, such as London English. The Gen3 speakers still produce very clear onset laterals in English, which is likely to represent influence from the clearer laterals of Punjabi. In this way, we can see the development and consolidation of a distinctive variety. Gen2 speakers begin the process of acquiring monolingual-like allophony in English but apply this to their Punjabi as well, while Gen3 acquire a canonical (if non-local) English allophony and retain the Punjabi-influenced clear laterals in English, while simultaneously producing a monolingual-like realization of Punjabi laterals. This supports previous research on the variety (Kirkham, 2017; Stuart-Smith et al.,

2011) but also highlights how allophonic contrast and phonetic realization vary across generations in both languages in complex ways.

In our future research, we would like to expand this study to a larger sample of speakers so that we can account for more complex patterns of migration, identity, and bilingual language usage. It will also be important to compare these patterns to variation in the local monolingual community in order to examine the degree to which British Asian English exhibits convergence or divergence with respect to the local monolingual accent.

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