Regional and Social Variation in Scottish T-glottaling

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1. INTRODUCTION

Glottal replacement, or T-glottaling, is well-studied in UK English and a known feature of Scottish varieties. Speaker age, gender, social class, and formality of talk are typical social predictors in community studies. While glottal replacement is favoured by a following consonant and disfavoured by a following vowel, the effect of a following pause on word-final /t/ varies by study, prompting the 'polygenetic' hypothesis (Schleef 2013; Smith & Holmes-Elliott 2017:2). Given Stuart-Smith's (1999) finding of variation within Glasgow, more comparisons between Scottish locales are needed.

Here we examine word-medial or word-final /t/ production among 17 Scottish women of varying ages, professions, and backgrounds, speaking in a range of different contexts. We find that the speaker's profession is the only social predictor, and that this is clearly explained by the indexical value of the /t/ variants and the performance of social personae. We also see that the effect of a following pause seems to differ between regions, especially the Central Belt versus the rest, but more data are needed and the polygenetic hypothesis is unresolved.

2. GROUP-LEVEL DIFFERENCES: Study 1

2.1 Methods

- Researchers: A class of 36 advanced undergraduate university students.
- Speakers: 17 famous Scottish women, regionally and socioeconomically diverse.
- Recordings: from 2010-2018, from publicly available sources (e.g., *YouTube*).
- Coding:
  - Groups of coders obtained 10min of continuous speech per speaker, including 2 styles.
  - Two variants: /ʔ/ and /t/. All other variants (N=230) excluded.
  - Total: 3,469 tokens, which were fully coded twice, auditorily.
  - Initial inter-rater agreement: 88%. Resolved to 100% through token-by-token consensus.
- Linguistic factors:
  - following phonological environment (*consonant*, *vowel*, *pause*)
  - number of syllables
- Speakers factors:
  - Year of Birth (continuous, 1955–1994), and Age (Older, Younger)
  - Socioeconomic Class (Working, WC; New Middle, NMC; Established Middle, EMC)
  - Region (greater Edinburgh, greater Glasgow, the Highlands, Angus/Fife, Stirling)
  - Occupation Type (Entertainment, Journalism, Politics, Writing, Other)
- Contextual factors:
  - Interlocutor Accent (Scottish, UK non-Scottish, North American, Other/Unknown)
  - Location (Scotland, UK non-Scotland, North American, Other/Unknown)
  - Formality (Formal, Informal)

2.2 Results

For both word-medial and word-final /t/, the only significant predictors were number of syllables, following phonological environment, and speaker profession.
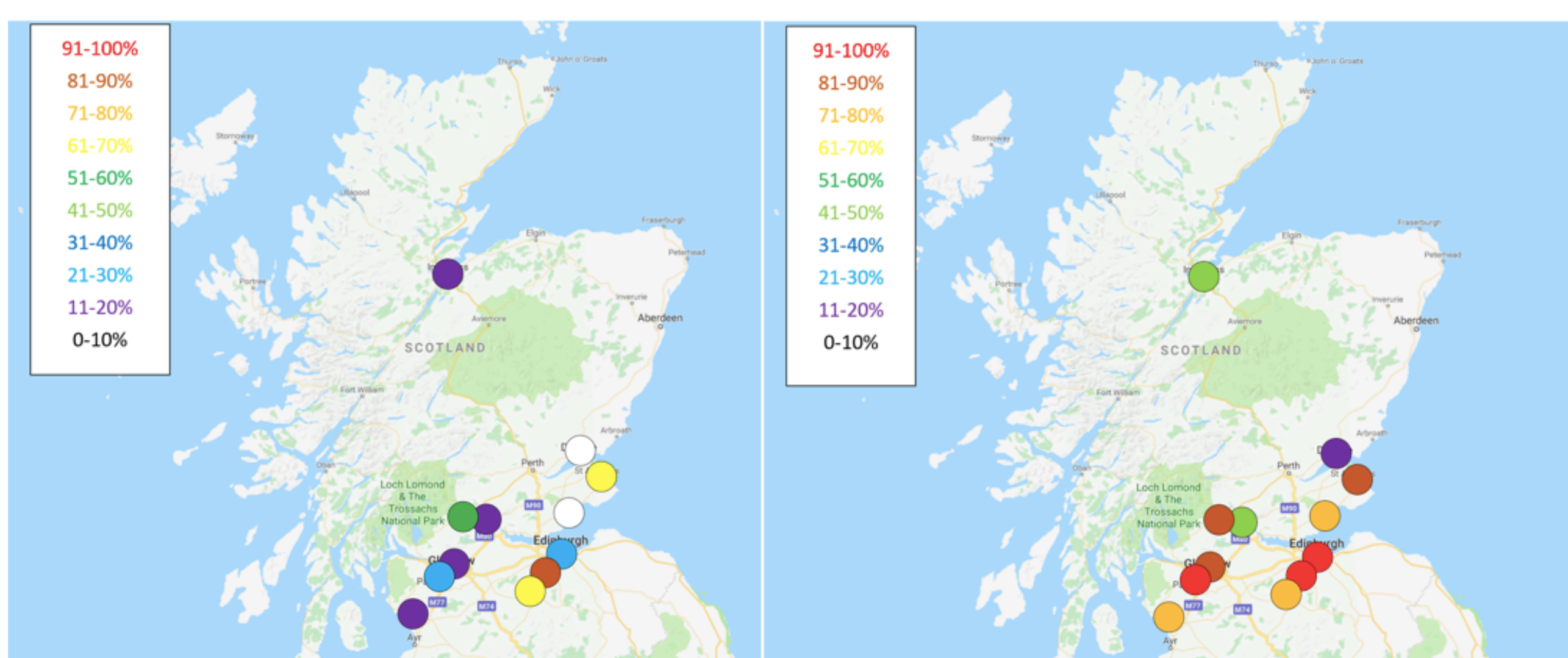

Figure 1 – No effect by Region on T-glottaling: word-medial (left) and word-final tokens (right)
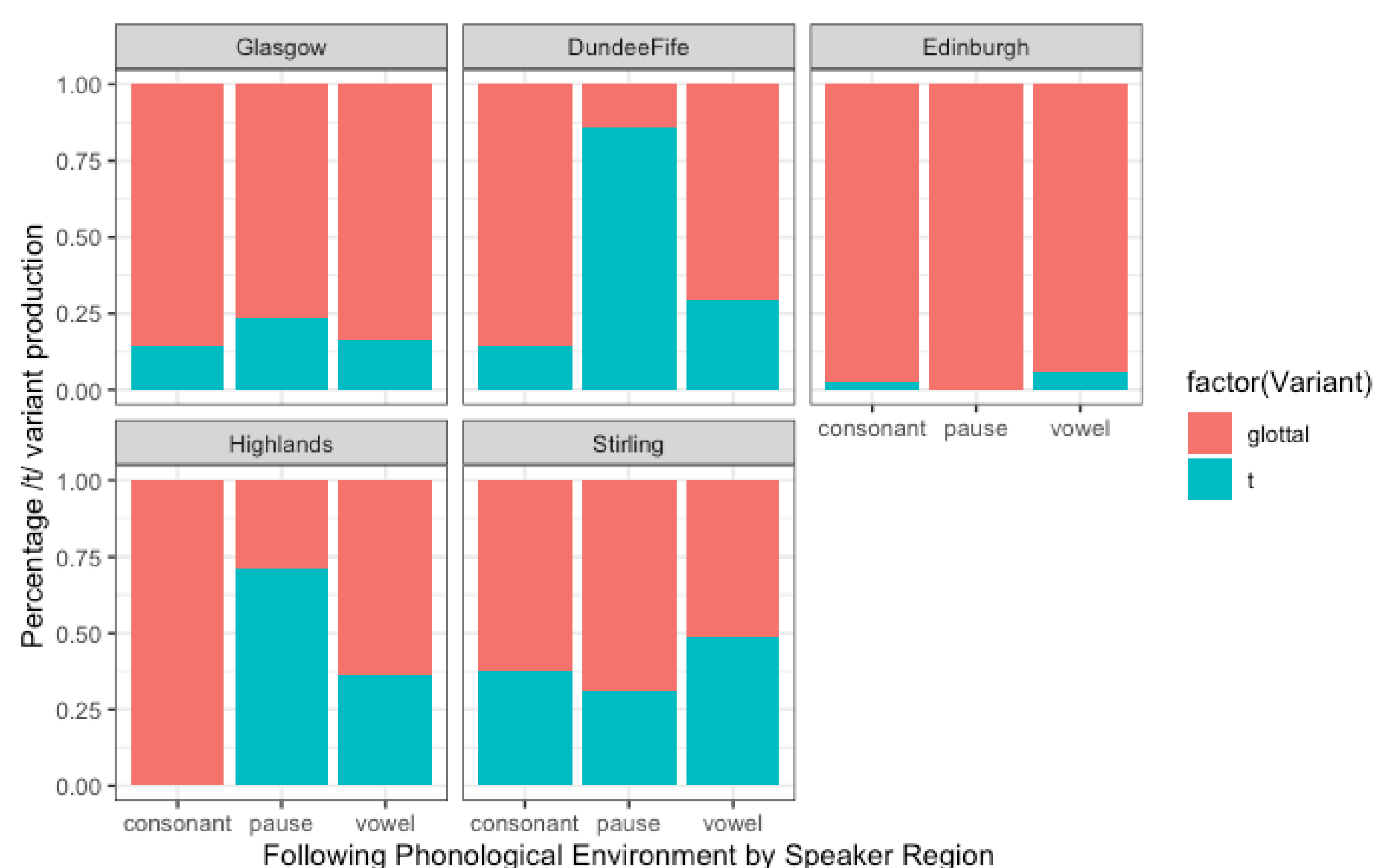

Figure 2 - T-glottaling by Following Phonological environment (sig.), and Speaker Region (n.s.), for word-final /t/
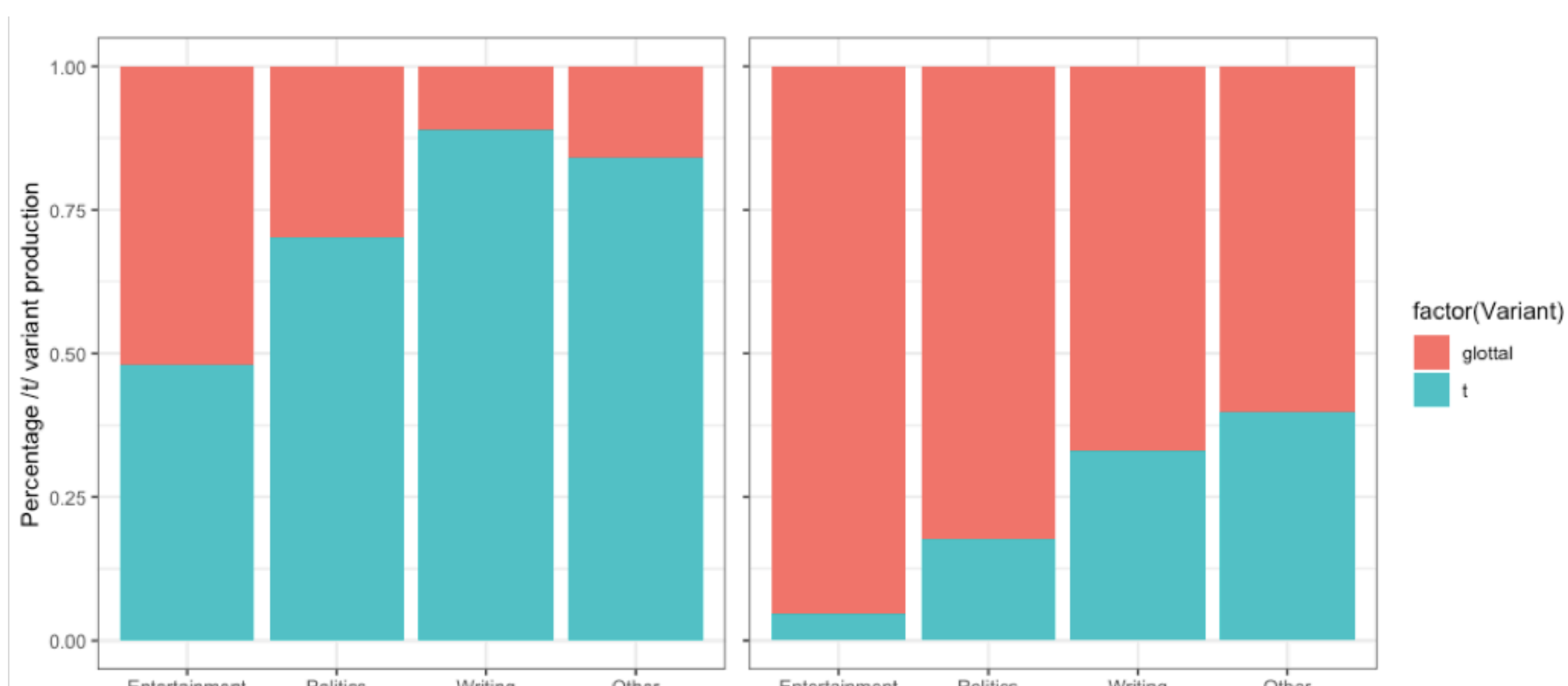

Figure 3 – T-glottaling by Speaker Profession, for word-medial /t/ (left) and word-final /t/ (right)
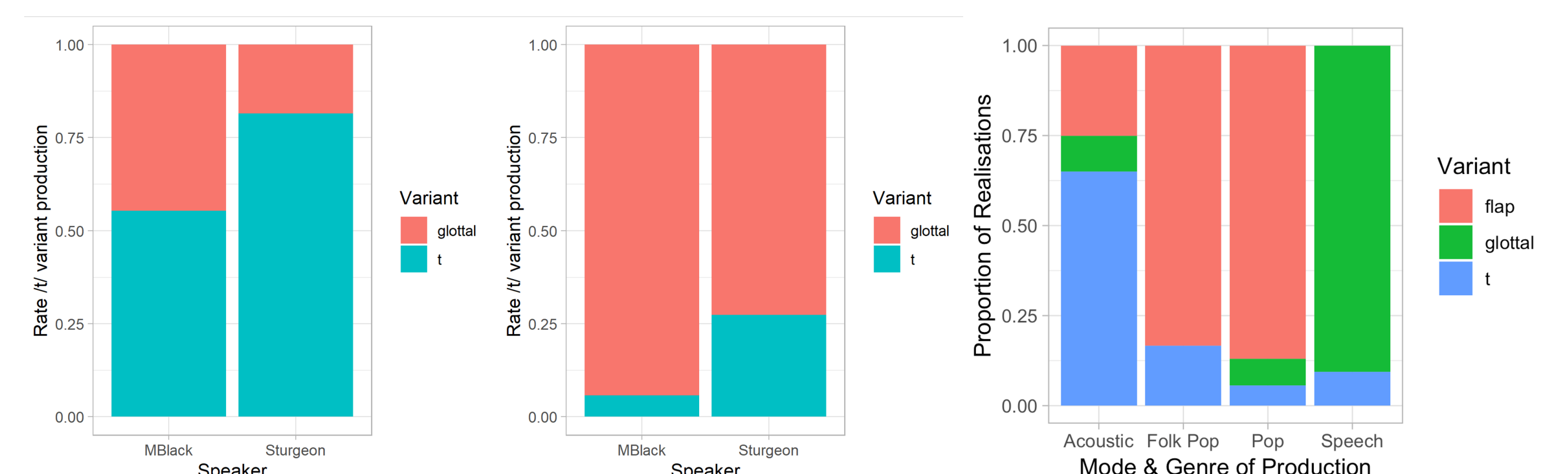
3. INDIVIDUAL DIFFERENCES: Study 2a & 2b

Name	Region	YOB	Occupation	SEC
Sue Black	Highlands	1961	Forensic Anthropologist	NMC
Susan Boyle	Edinburgh	1961	Musician	WC
Karen Gillan	Highlands	1987	Actor	EMC
Gail Honeyman	Stirling	1972	Writer	EMC
Jackie Kay	Glasgow	1961	Writer	EMC
Lorraine Kelly	Glasgow	1959	TV Presenter	NMC
Laura Kuenssberg	Glasgow	1976	Journalist	EMC
Lesley Lokko	Angus/Fife	1964	Architect	EMC
Shirley Manson	Edinburgh	1966	Musician	EMC
Lauren Mayberry	Glasgow	1987	Musician	EMC
Mhairi Black	Glasgow	1994	Politician	WC
Val McDermid	Angus/Fife	1955	Writer	NMC
Christina McKelvie	Glasgow	1968	Politician	NMC
Judy Murray	Stirling	1959	Tennis Coach	EMC
Nina Nesbitt	Edinburgh	1994	Musician	NMC
Nicola Sturgeon	Glasgow	1970	Politician	NMC
KT Tunstall	Angus/Fife	1975	Musician	EMC

3.1 Methods

- Study 2a: 531 tokens produced by **Nicola Sturgeon** during three 2018 First Minister's Questions and 205 tokens produced by **Mhairi Black** during a speech at the SNP conference (2017) and interviews with journalists Owen Jones (2016) and Emma Barnett (2015)
- Study 2b: 283 word medial, intervocalic tokens produced by **Nina Nesbitt**; 203 taken from a set of five interviews, and 80 from her musical discography; in addition to /ʔ/ and /t/, /ɾ/ was also coded for

3.2 Results

- Study 2a: Comparing within one profession we find individual differences apparently depending on age, status and their distinct roles in the Scottish and British political contexts: newly elected, 23-year-old SNP MP Mhairi Black produces higher rates of glottal replacement than the 48-year-old leader of the Scottish government.
- Study 2b: Comparing within a single speaker, we find that stylistic differences apparently depending on register and genre. Nesbitt has high rates of t-glottaling in speech, but low rates in singing. Nesbitt has no instances of /ɾ/ in her speech, but high rates in singing, along with /t/. These two variants correlate with song genre; she produces /t/ most frequently on acoustic tracks, whilst /ɾ/ occurs on folk-pop and pop-style tracks.

Figure 4 – Individual differences as explored in two case studies: Black and Sturgeon (l) and Nesbitt (r)

4. DISCUSSION

Politicians and writers use higher rates of alveolar stops compared to entertainers, possibly to index qualities such as "learnedness" (Benor 2004; Bucholtz 2001), "articulateness" (Podesva et al. 2015), competence and reliability (Kirkham & Moore 2016). Glottal replacement has only recently started to spread into formal styles and varieties such as political speeches (Fabricius 2002; Kirkham & Moore 2016, both in RP) where it has been found to invoke relational themes such as "solidarity" and "familiarity" (Kirkham & Moore 2016). While external social factors such as age and status influence variation among Black and Sturgeon, this dissemination is now also documented in Scottish Standard English, potentially with similar indexical values (see Markl 2018). These indexical meanings are present in intraspeaker variation as well, as seen in Nina Nesbitt's intervocalic /t/ productions, which tightly linked to her constructions of coherent musical identities, reflecting apparent associations between supralocal pop /ɾ/ and the careful acoustic style /t/ (see Papineau & Hall-Lew forthcoming). A degree of regional variation is also observed (see Sung 2018), but larger quantities of diachronic and synchronic data are needed to comment confidently with regard to the origin of T-glottaling in Scottish English, especially in the north of Scotland.

References available upon request