

# Variation in glottalisation of (t) in Ipswich

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# *Descriptive aims:*

- Examine a range of glottal variation with (t)
  - for the Anglo population of Ipswich, as baseline
  - for study of Barbadian immigrants to Ipswich.
  - *[Bajan is distinctive in Caribbean for glottal (t) forms]*
- Explore diffusion of glottals within British Isles
  - Does Diffusion Pattern of following environment hold?
    - Following Consonant > Pause > Vowel
  - Are classic variants [ ? ], [ t? ], [ ?t ] sufficient? or...
  - do acoustic methods require reconfiguring variants?

# *Understanding Processes*

- Understand long-term accommodation, dialect acquisition and phonological change
  - due to contact between Caribbean migrants (and descendants) with local Anglo speakers of Br Eng.
- Advance creolist research into adaptations of Creole phonology transplanted to the metropole.
  - *Intermediate* linguistic proximity of Caribbean Creoles to British dialects of English (their 17<sup>th</sup> C lexifier).
  - E. Anglia & London as possible *sources* of Bajan features (glottal forms, PRICE/CHOICE overlap)?

# *Hypothesis*

- Distinctive ethnic dialects of British English are in process of emergence for Afro-Caribbeans.
  - Barbadians as a social group are
    - distinctive & prestigious among other West Indians
    - present in Ipswich in significant numbers.
- Local and salient phonological features, which are not heavily stigmatised, play a key role.
  - Glottal variation by Barbadians is a good candidate:
    - Glottal variation in British English is vernacular, widespread, acceptable in many environments, and said to be diffusing.

# ***Findings for (t) variable in British English***

- Glottal variants becoming most frequent realisation of (t)
  - London as source of diffusion (also Scotland? Norfolk?)
- Usually look at word-final (WF) and/or word-medial (WM)
  - We'll briefly consider both today
- Some studies focus on GS, others combine (GS + GZT)
- Syllable position and prominence constrain WM variation
- Influence of following segment considered crucial to WF
- Diffusion Pattern: environments for (t)-glottalling ordered
  - “Early”: Foll C > P, V      “Late”: Foll C, P > V
- Regular age & style effects, localised sex & class ones

# ***Terminology and Variants***

- Established distinction between “T-Glottalling”:
  - total replacement of [t] by a glottal stopand “T-glottalisation”:
  - preglottalisation or simultaneous oral & glottal closure
- Prejudging variants reduces/distorts linguistic variation and social patterning – cf. Newcastle:
  - “the articulatory basis of glottal variants diverges from the received wisdom... acoustic parameters subtle enough to prevent robust auditory discrimination enter into [complex] sociolinguistic patterns” (Docherty & Foulkes 1999:61)
- Need to expand envelope of variation for (t)

# 1. We identified 5 phonetic components:

- presence or absence of glottal occlusion
- duration of any gap
- presence or absence of laryngealisation
- location of laryngealisation relative to gap
- presence or absence of voicing irregularity

# 2. Located up to 15 event types in our data:

- e.g. glottal stops with creak, aperiodic noise with [t], creaky voice w/o a stop, fricated [t<sup>s</sup>] w/ or w/o glottalisation

# 3. Recomposed & summarised as 5 variants:

- ‘classic’ glottal stops (GS), all types of glottally-reinforced [t] (GZT), all other types of glottalisation (GZ), non-reinforced [t] (NGT), and deletions (no stops or glottalisation)

**NB:** For WF data we didn’t consider T-variants (GZT, NGT)

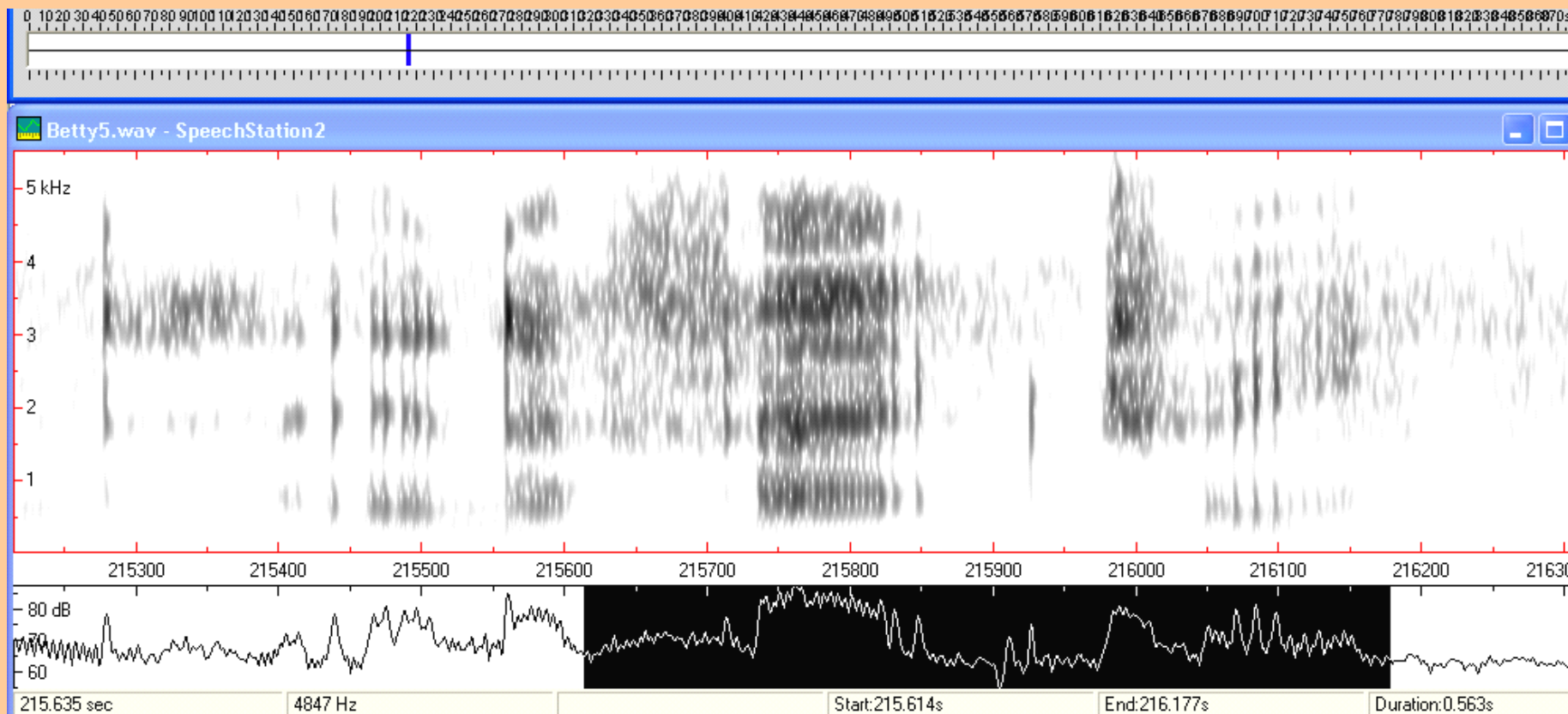
- We use “glottal variation” as cover term for GS, GZ, GZT

# *Frequency of variants (WM)*

- ‘Classic’ glottal stops (GS) are infrequent
  - only 10% of Ipswich data (18% of all glottal variants)
  - Rarely-reported glottalisation (GZ) = twice as frequent
- Glottally-reinforced oral stops are very common
  - 28% of all Ipswich data (48% of all glottal variants)
- ...but ‘classic’ pre-glottal cases [ʔt] are very rare
  - Ex. from ‘Betty’, older Anglo woman “factory” [ʔt]
  - Contrast ex. by ‘Gary’, older Bajan male “directors” [ʔ]
- Auditory methods may overestimate classic variants.

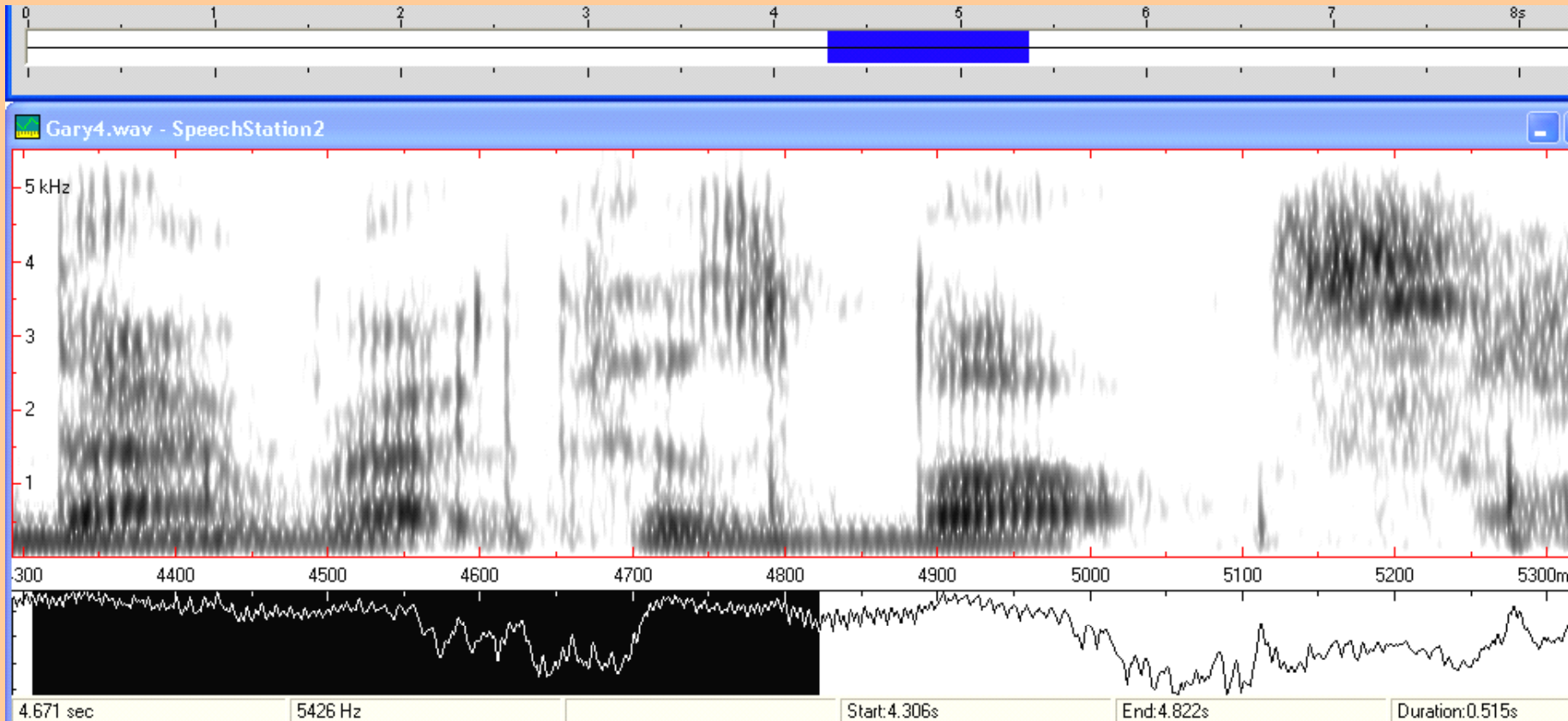


# (Old Anglo) *Betty*: “in a factory”





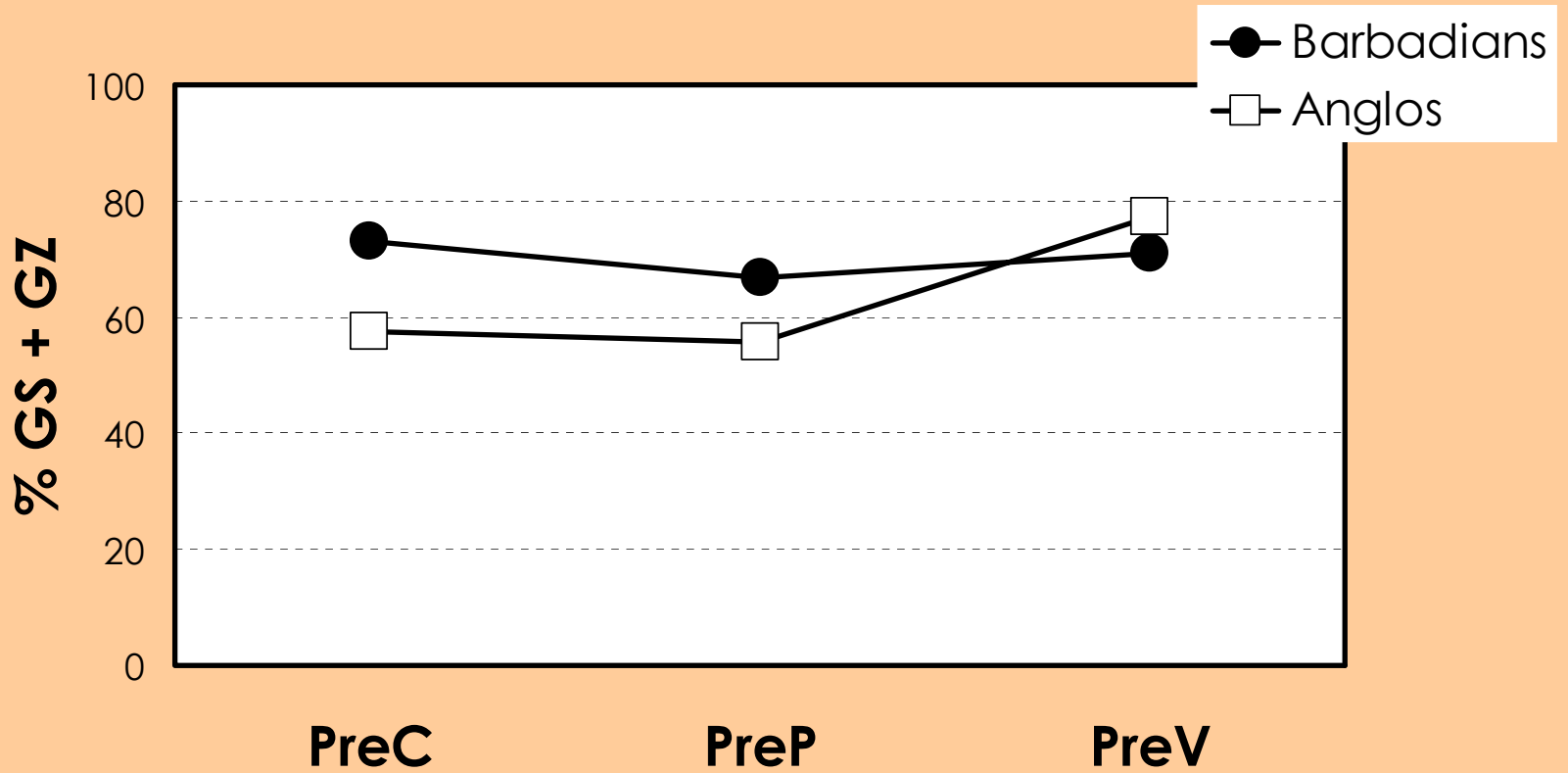
# (Old Bajan) *Gary*: “directors box”



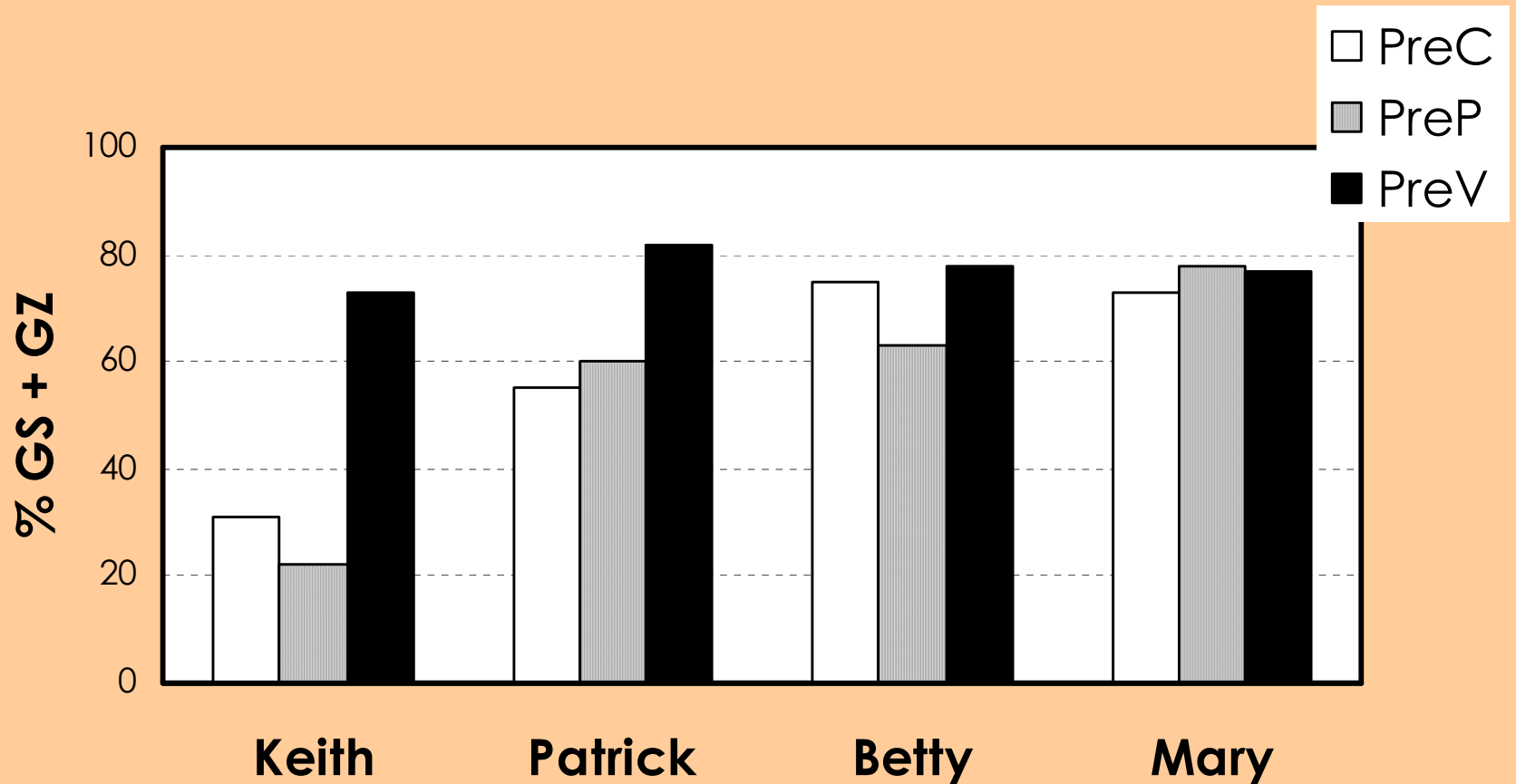
# *Ipswich speaker characteristics*

<i>Ethnicity</i>	<i>Sex</i>	<i>Pseudonym</i>	<i>Age</i>	<i>Arrived Ips.</i>
Anglo	f	Betty	Ret.	born there
Anglo	f	Mary	Mid	born there
Anglo	m	Keith	Ret.	born there
Anglo	m	Patrick	Mid	born there
Bajan	f	Margaret	Ret.	adult
Bajan	f	Michelle	Mid	14
Bajan	m	Gary	Ret.	adult
Bajan	m	Edward	Mid	9

# *Both groups: WF glottals, all types*



# *Anglos: WF glottals, all types*



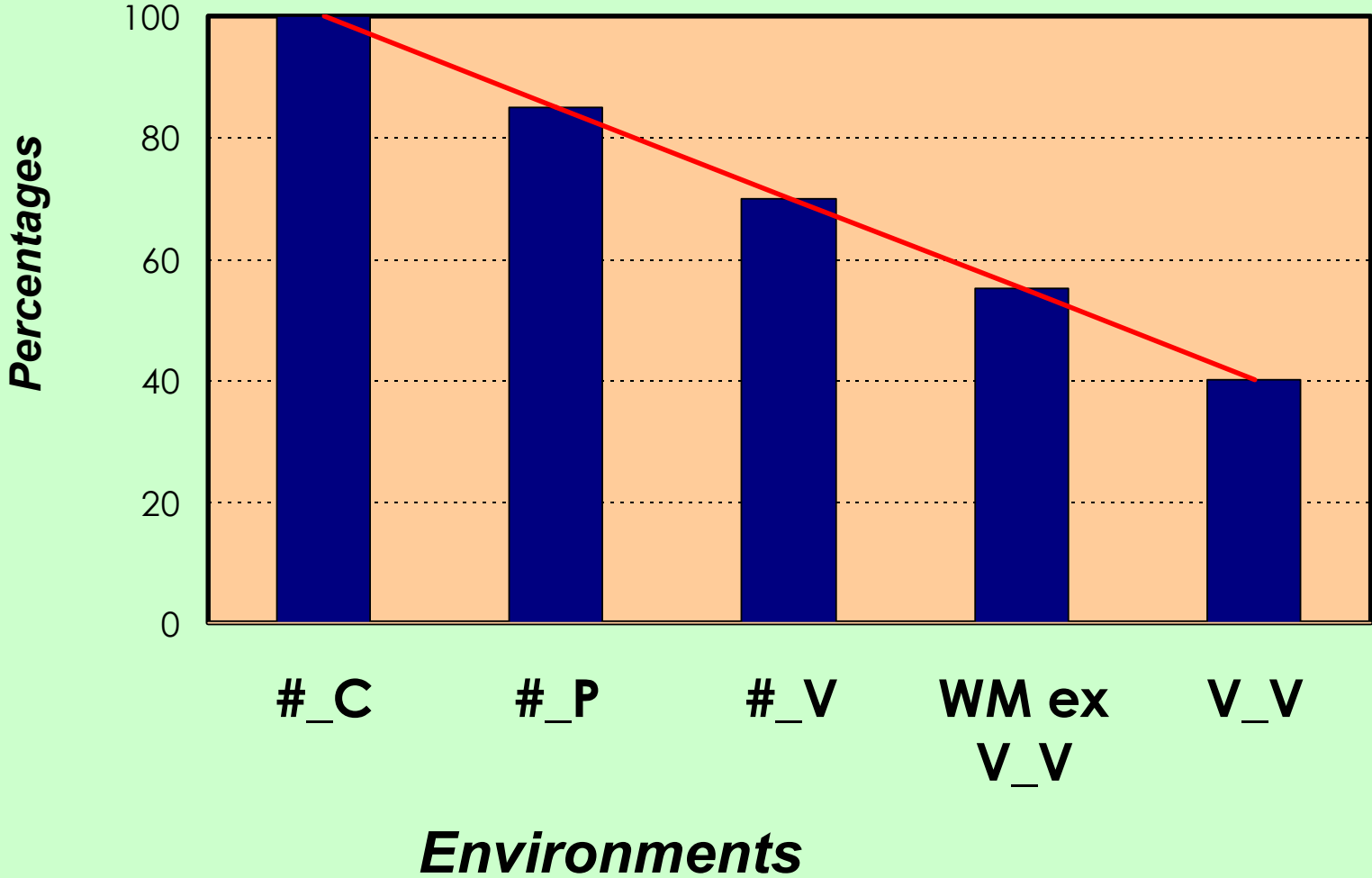
# ***Ipswich Anglo Word-final data***

- Definitely not showing a *Diffusion Pattern*
  - I.e., not Foll. C > P > V (with WM even lower)
- Rather an *Ipswich Pattern*: high-frequency of glottal variants before following Vowels
  - This has not been reported before

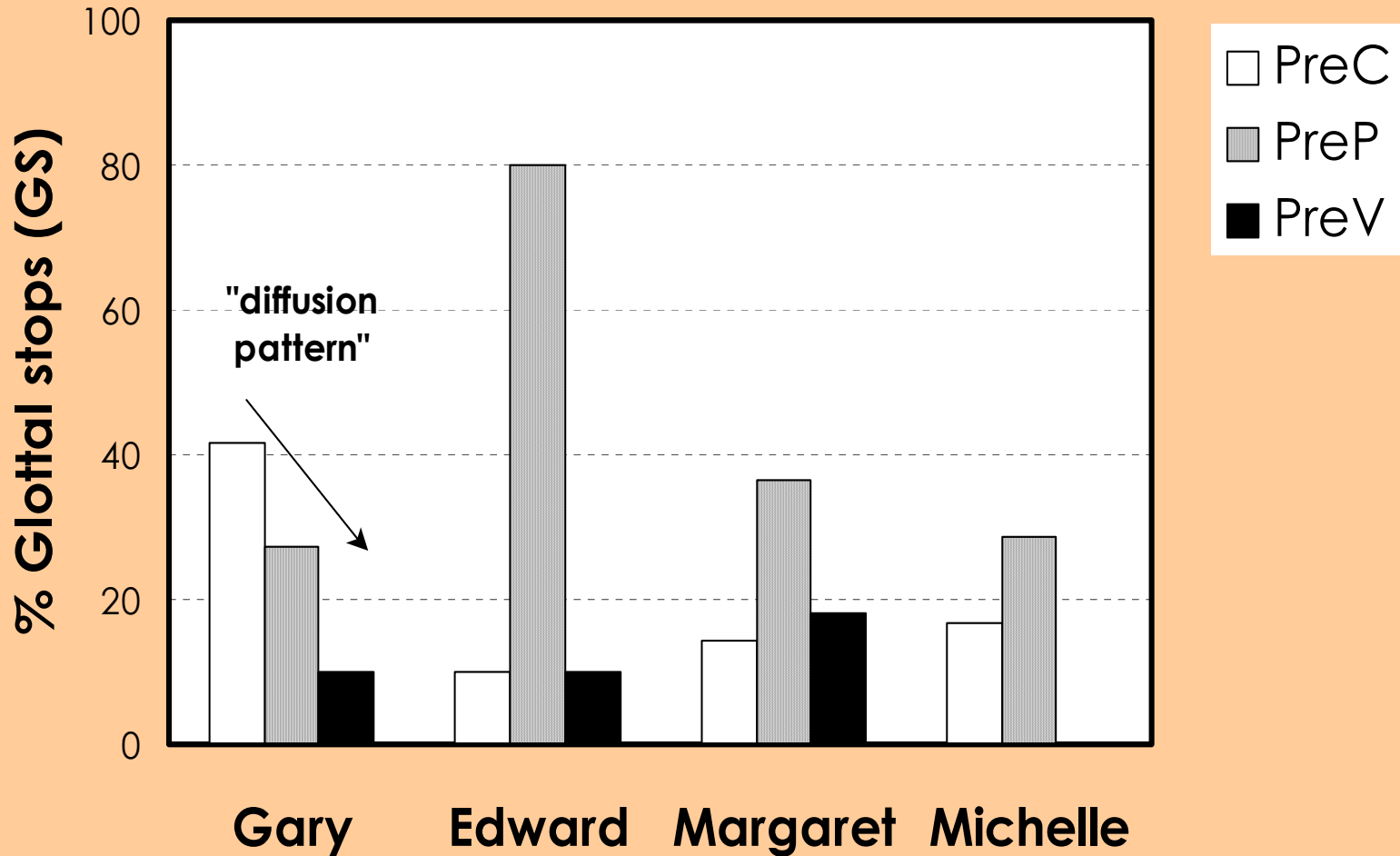
## ***What are Barbadians doing in WF?***

Here we separate GS from GZ tokens, because unlike the Anglos, the Bajans show very distinct patterns...

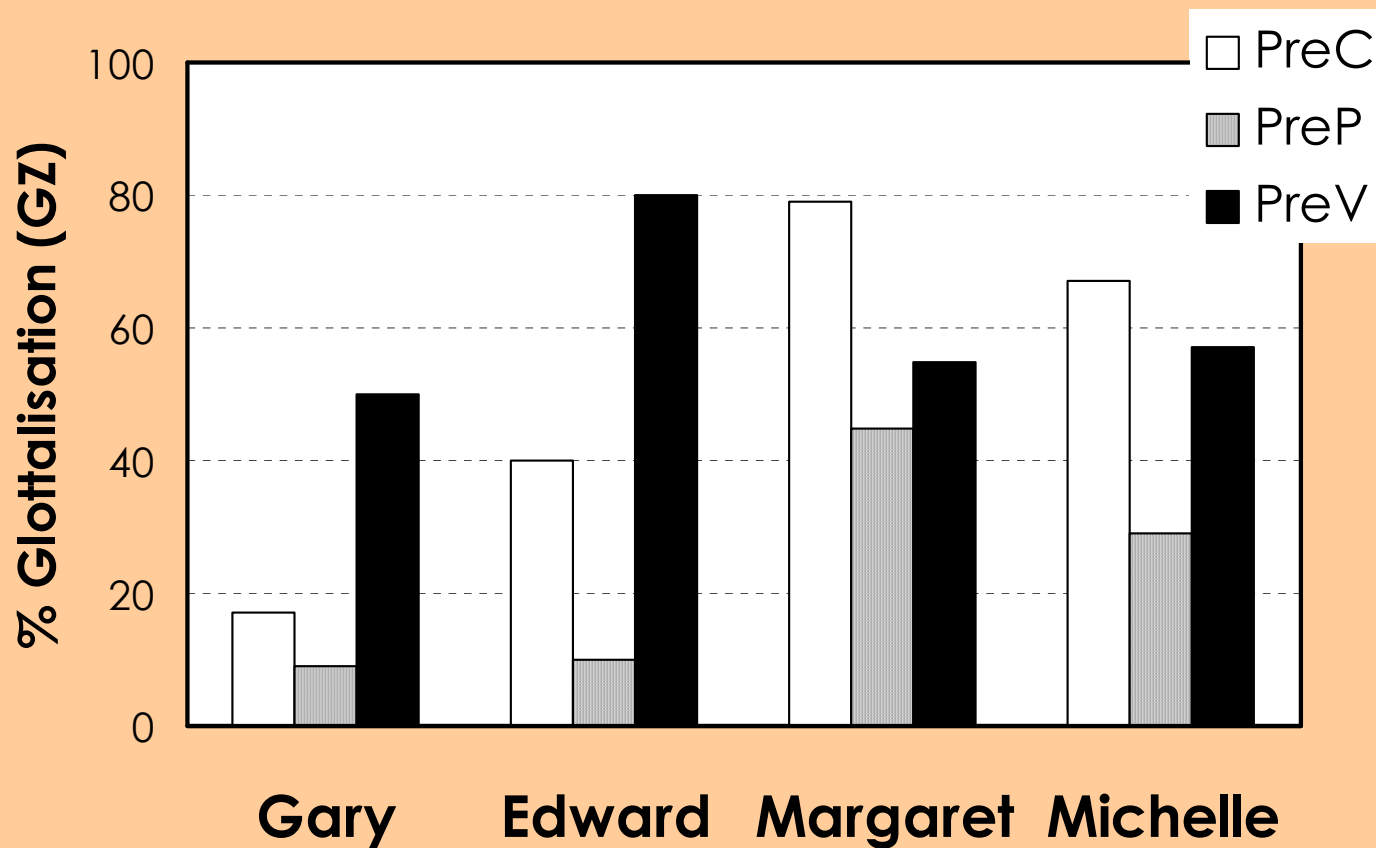
# Predicted Diffusion Pattern for (t)-glottalling



# *Bajans, WF Glottal Stops only*



# *Bajans, WF Other Glottalisation*




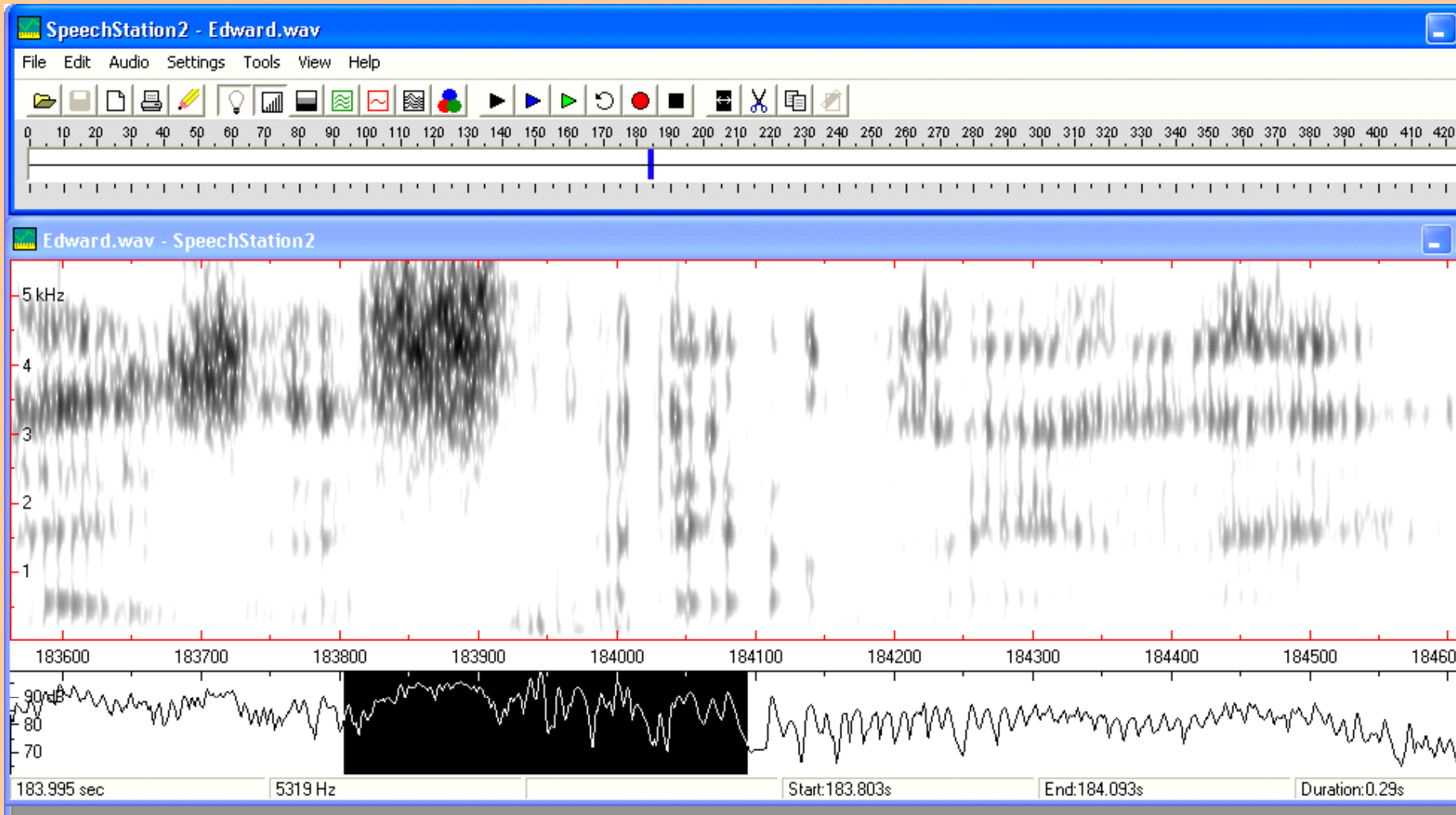
# *Ipswich Bajan Word-final data*

- Shows no Diffusion Pattern either
- Glottal stops concentrated in Pre-pausal
  - in contrast to Anglo speakers
- Other glottal variants prominent pre-Vowel
  - which resembles the Anglo local pattern,
  - even down to fact that women appear less distinctively local, closer to expected pattern

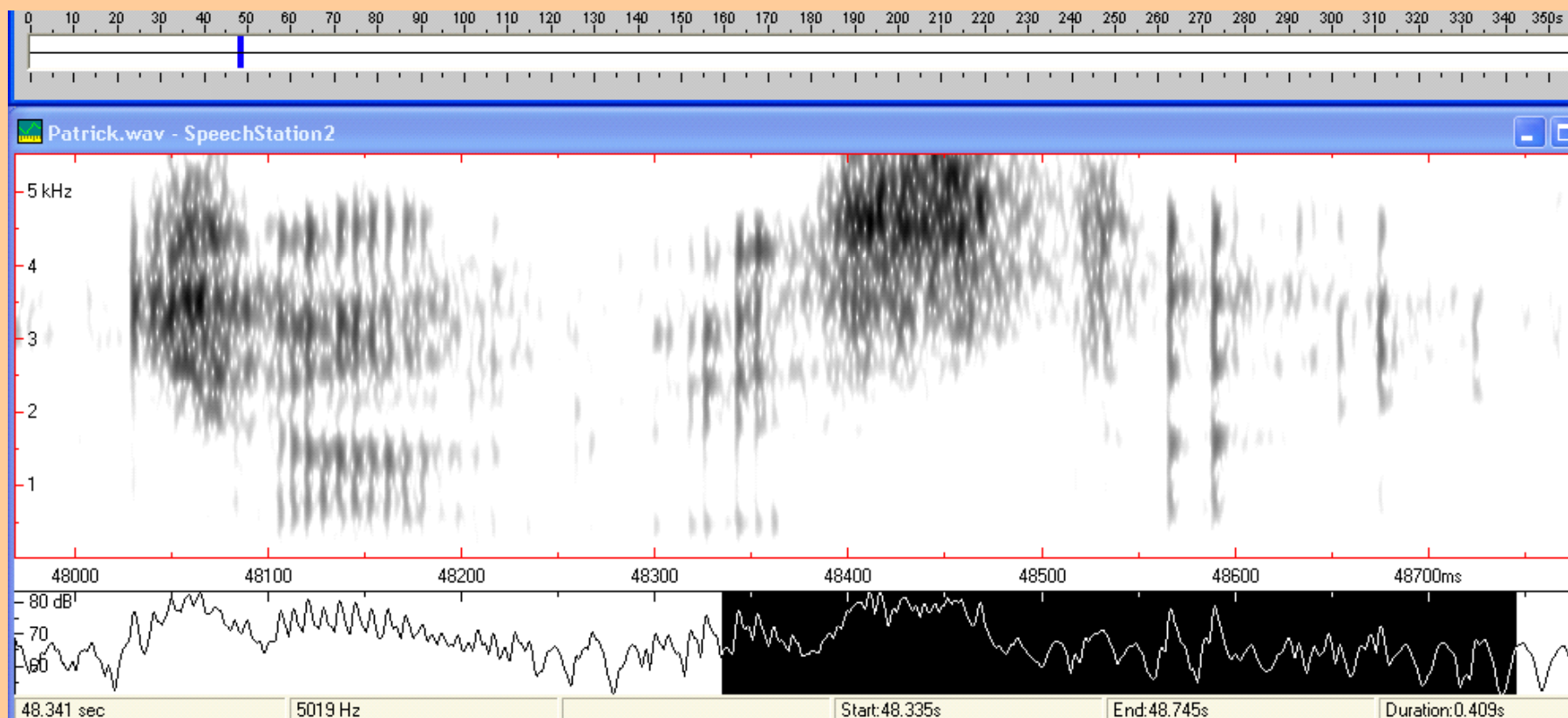
# *Constraints on WM glottals*

- Lit.: glottals only allowed syllable-final (Wells), or blocked in foot-initial onset position (Tollfree), ie, **between a less- and a more-stressed syllable.**
  - at'**t**end, par'**t**icular
- True in Ipswich but only GS is blocked:
  - all speakers but one (Gary) have (T)GZ in this env't.
  - Ex. from Edward, midage Bajan male, in “estate**t**e” =GZ
  - Compare Patrick, midage Anglo male in “estate**t**e” =TGZ
- Prominence constraint trumps segmental ones.

(Young Bajan) *Edward*: “housing estate on their” 



(Young Anglo) *Patrick*: “Chantry estate”

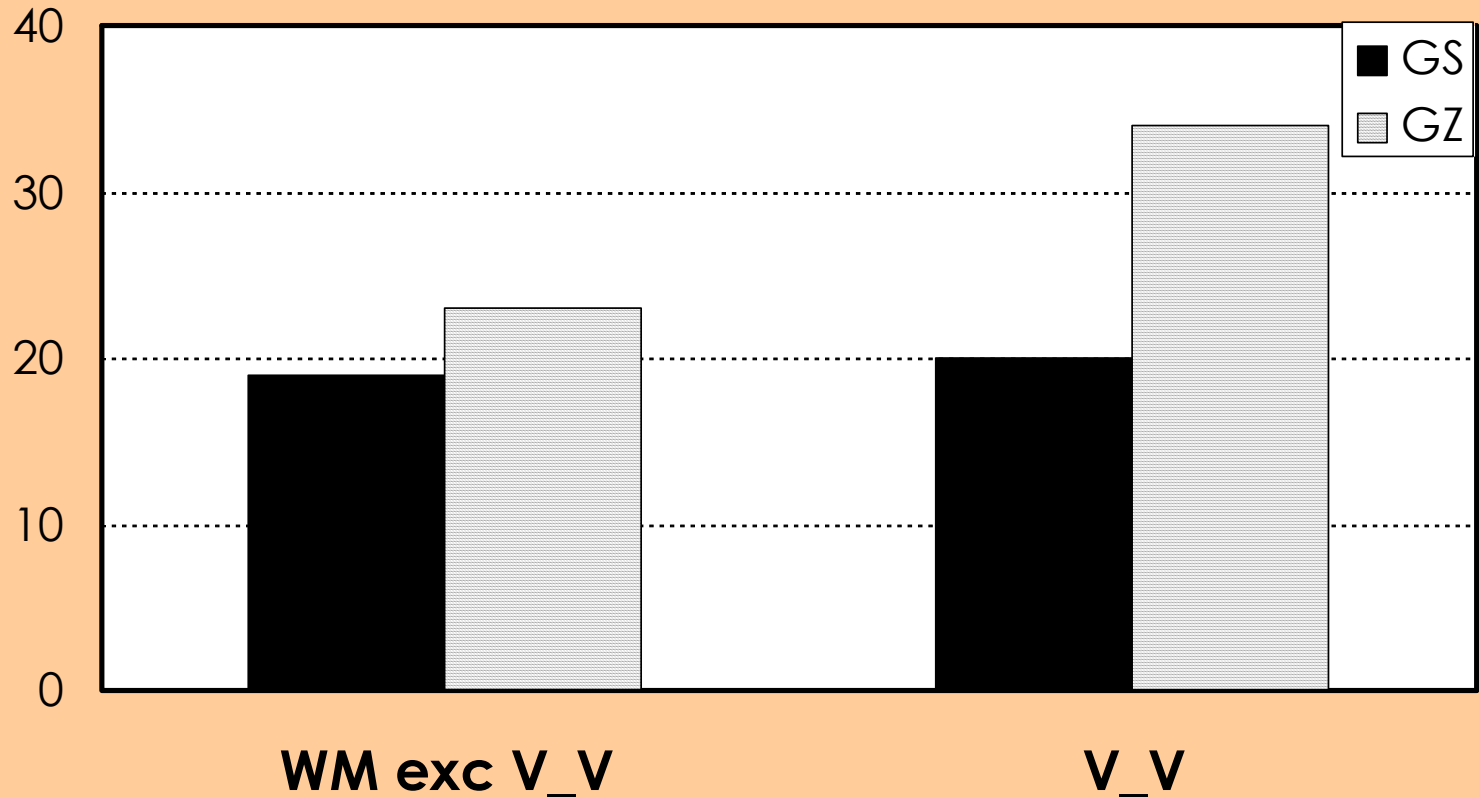


# *More constraints on WM*

- Wells: classic glottals licensed to occur word-medially only after vowels, liquids and nasals.
  - Tollfree (London): blocked after non-resonant coda-position consonant (e.g. *sister*, *chapter*).
- Doesn't apply to Ipswich data since variable has been expanded (due to rarity of classic cases).
  - Thus we have new TGZ environments, including Foot-initial, Preceding Fricative, Prec. other Non-sonorant.
  - Exs. *seven' ʔeen*; *sisters*, *after*; *factory*, *direʔor* with even a few GS variants appearing.

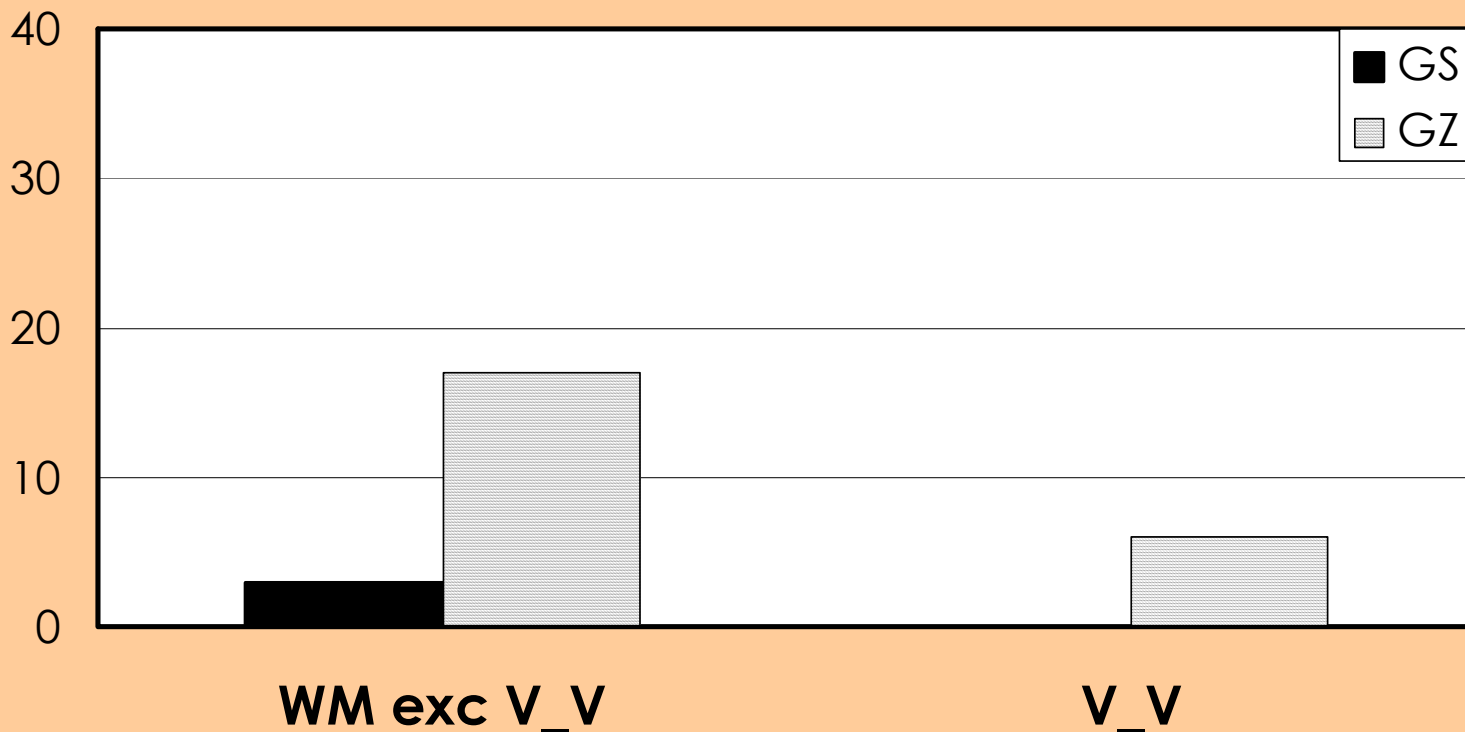
# *Anglos, WM glottal replacement*

**% GS + % GZ**



# *Bajans, WM glottal replacement*

**% GS + % GZ**



# *Patterns of WM glottal variants*

- Glottal WM variants are more frequent for Anglos in intervocalic (V\_V) position
  - they should be least frequent here
- But glottal stops are still not very common
  - no more than 20% of all tokens
- For Bajans, they are vanishingly rare in WM
  - Even other glottalised tokens are rare in V\_V, because non-reinforced (t) variants are the norm
  - In this respect, Bajans better match the literature on British English dialects than Ipswich Anglos do.

# *Summary of results: Anglos*

- Ipswich Anglos are surprisingly distinct in their patterning of glottal variants from other communities in SE England
- Diffusion Pattern does not appear to apply to Ipswich
- Frequencies of key variants are lower in absolute terms; proportions by phonological environment are unexpected
- Expanded envelope of variation violates old constraints
- This may be explained several ways:
  - Ipswich retains earlier distinct pattern despite London & Norwich
  - Reconfiguring of variants and use of acoustic methods leads to a more precise/complex picture than previous work has produced

# *Summary of results: Bajans*

- Ipswich Barbadians don't have Diffusion Pattern
  - but do have the Ipswich Pattern (high pre-V in WF),
  - and appear to show similar sex effects.
- Yet in both WF and WM positions some patterns clearly differentiate them from local Anglos.
  - they prefer non-reinforced [t] to glottals in V\_V, and
  - concentrate WF glottal stops before following pause.
- It seems they may be able to integrate closely with the variable phonology of local English, yet support maintenance of separate identities.
- We plan to study their vowel systems next year.