High and Bi:
Covariation in Creak and COG Among Bisexual Stoner Women

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Why bisexual stoners?

We know little about **bisexual speech**, now clearly a need to study bisexual women separately from lesbian/gay women (Willis, 2023)

This provides an opportunity to study **covariation** with multiple sociophonetic variables with **overlapping indexical meanings**

Both **creaky voice** and **/s/ production** are associated with gender and sexuality - how do these covary with intersecting identities?

Literature review: creak

Creak is an **inconsistent indexical resource**

- One production study found no difference between straight women, bisexual women, and lesbian women's use of creak (Barron-Lutzross, 2018)
- Another found that femme lesbians use less creak than masc lesbians (Sulkin & Tighe, 2025)
- More creak can be perceived as generally lesbian (Barron-Lutzross, 2018)
- Less creak can be perceived as more queer for women (Herubin, 2025)

Literature review: creak, affect, and stance

High school boys in California who were self-described as “chill” or “stoners” used more creaky voice in comparison to the “high energy” boys (Pratt, 2023)



However, creak can also be used as a stance-taking device, particularly to show detachment (Lee, 2015)

Literature review: /s/

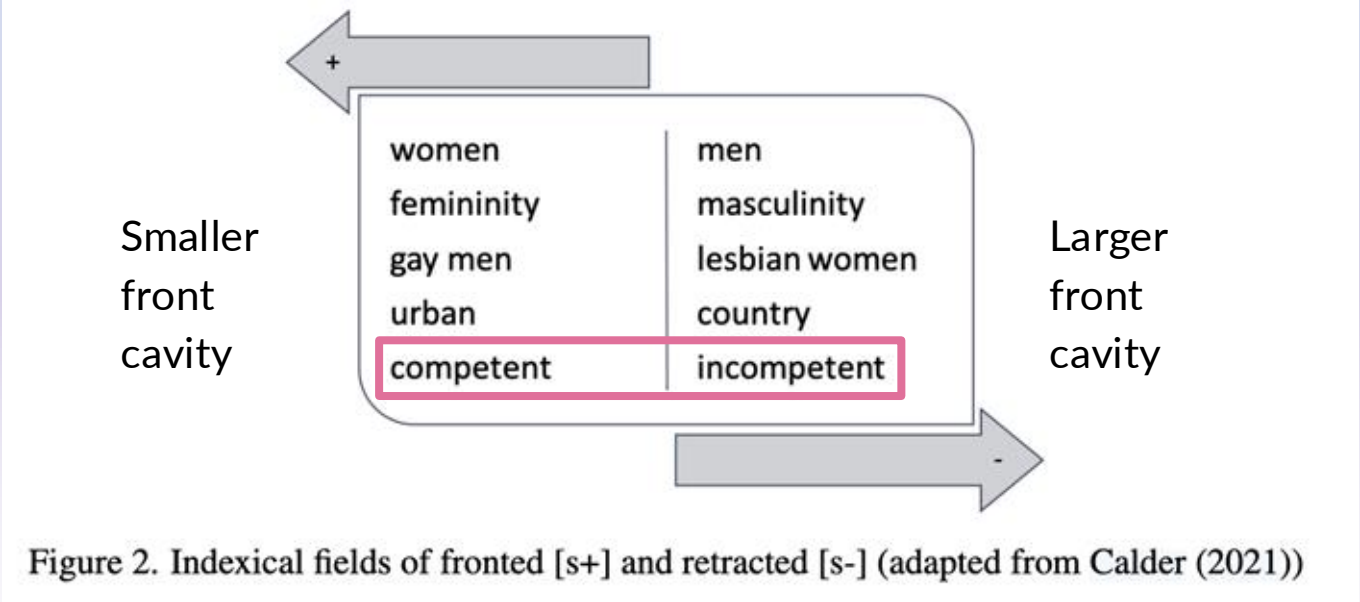


Figure 2. Indexical fields of fronted [s+] and retracted [s-] (adapted from Calder (2021))

Where do bisexual women fit?

Willis and Ben Youssef (2023)

Literature review: /s/



Figure 7. GENDER:SEXUALITY partial dependence co-plot

Willis and Ben Youssef (2023)

Participants

P #	Age	Gender Identity	Sexuality	Race/Ethnicity/ Nationality	Stoner Status	Primary State	Job
P1	22	Woman	Bisexual	Indian American	Casual user	California	Environmental policy
P2	22	Woman	Bisexual	White American	Stoner	Kansas	Secondary school teacher
P3	21	Woman	Lesbian*	White American	Stoner	Kansas	Student
P4	23	Trans Woman	Bisexual	White American	Stoner	Michigan	Student
P5	23	Woman	Bisexual	White American	Stoner	California	Primary school teacher

*anyone but cis dudes

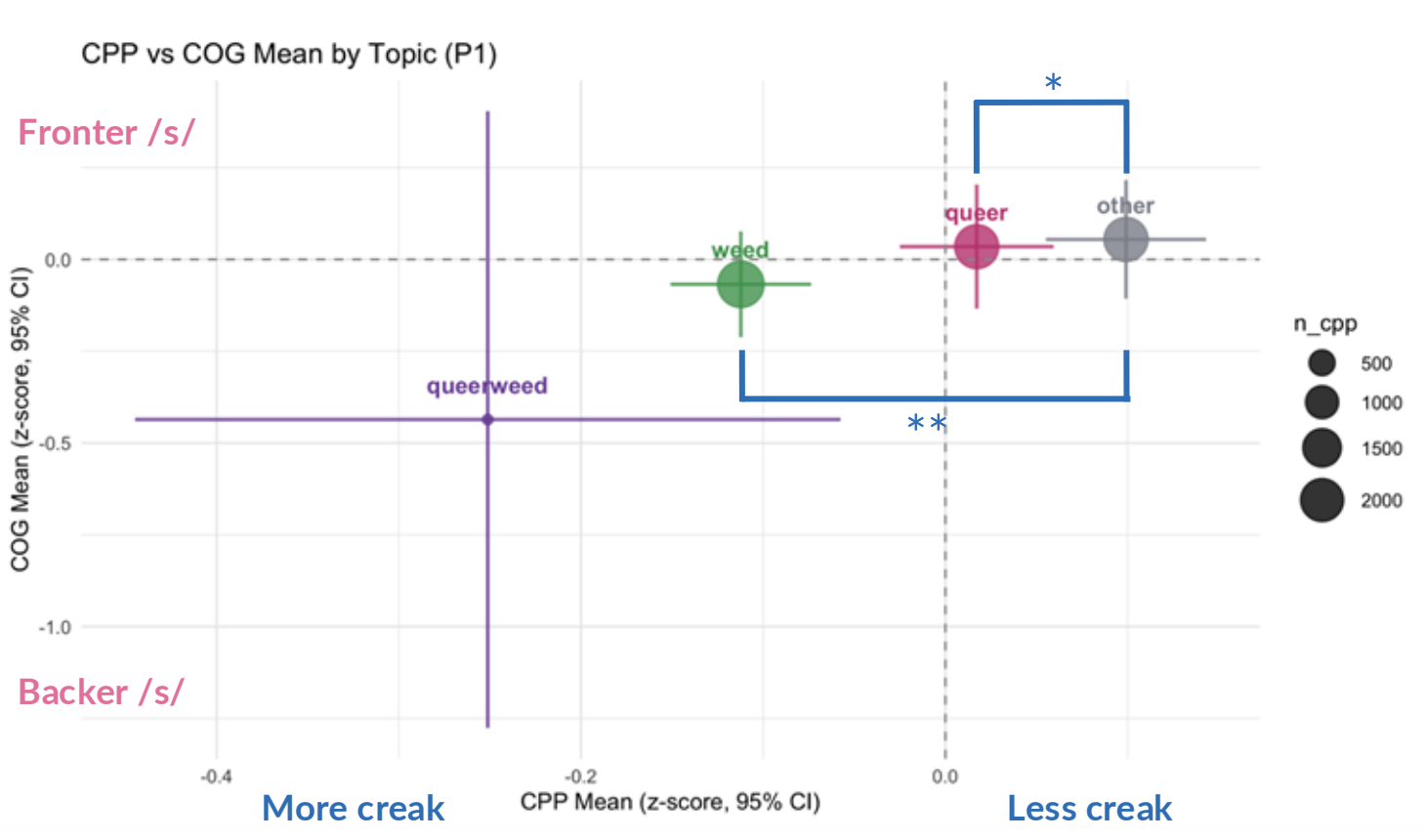
The current case study

- Sociolinguistic interviews of **two bisexual women** who identify with femininity, **aged 22**, from Kansas and the Bay Area of California
- Central **topics** elicited in this order:
  - childhood, queerness, weed, intersection of queerness and weed (referred to as queerweed here)
- **Stances**: experience vs inexperience (to replace competence vs incompetence), investment vs detachment

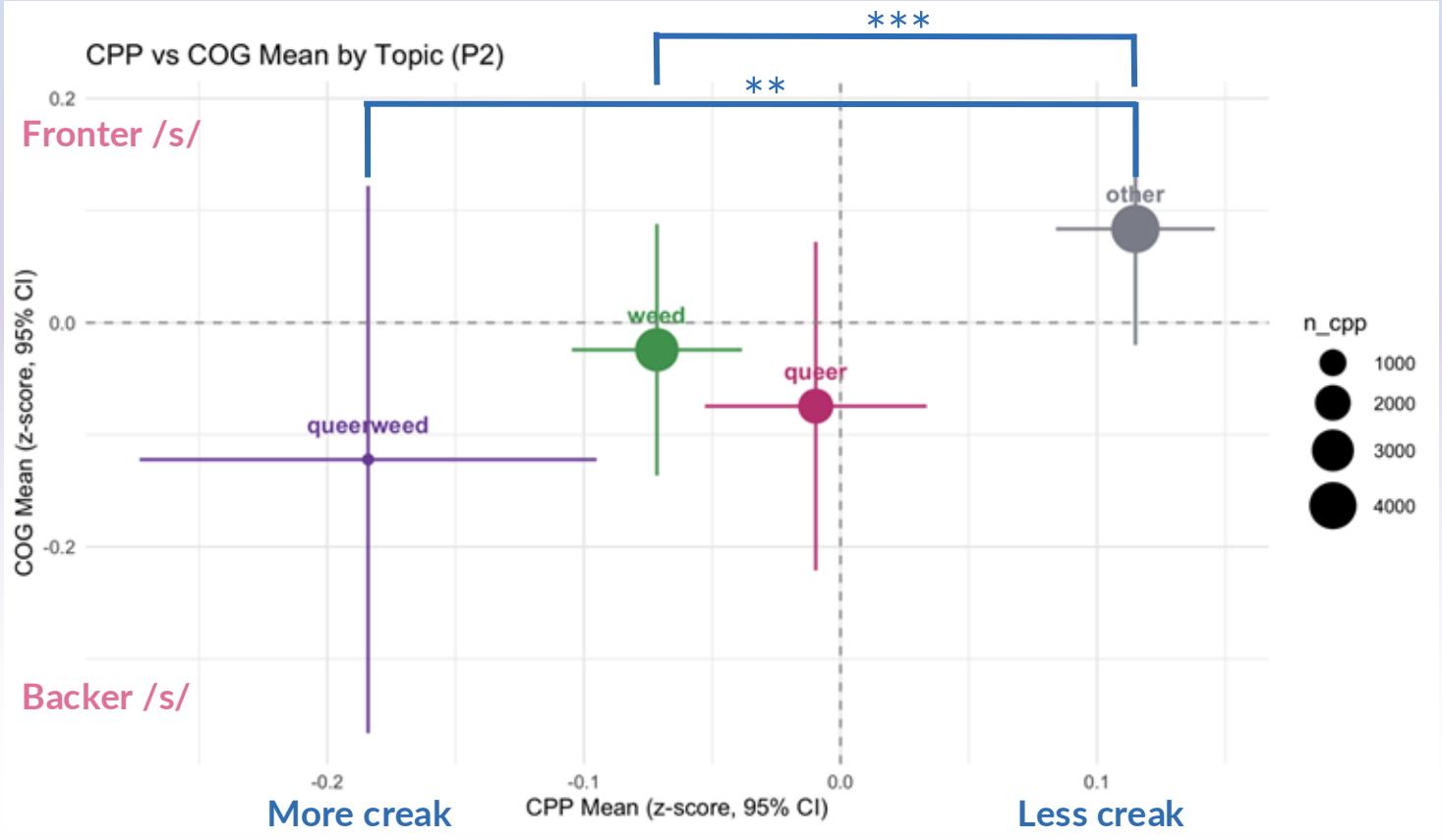
Methods

- **Creak** measurements:
  - Used PraatSauce (Kirby & Puggaard-Rode, 2025) to get measures of spectral tilt (H1-H2 and CPP) at 5 equidistant points for every vowel, then averaged all 5 points to have one value
  - **CPP** used in analysis because it doesn't include breathy voice like H1-H2 and confirmed to **match up with hand coding of creak** in 1 interview
- **Sibilance** measurements:
  - Spectral moments of **/s/** measured in Praat with 6 windows, 15 ms each then averaged to get **COG**, also logged duration (DiCanio, 2013)
  - **Tokens less than 56 ms excluded** from analysis so windows don't overlap

P1 - bisexual woman, casual user of weed from CA



P2- bisexual woman, stoner from KS



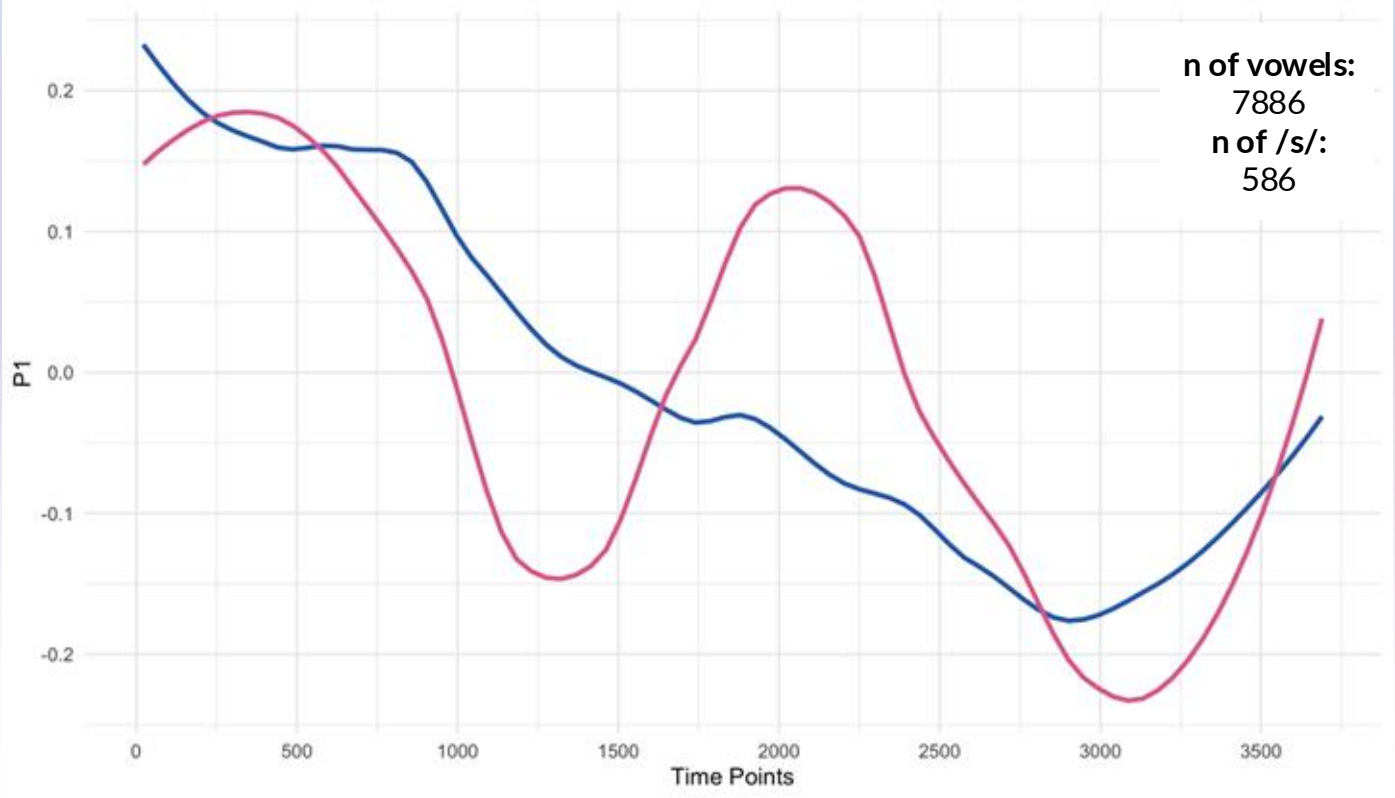
P1 - bisexual woman, casual user of weed from CA

Less creak

Fronter /s/

More creak

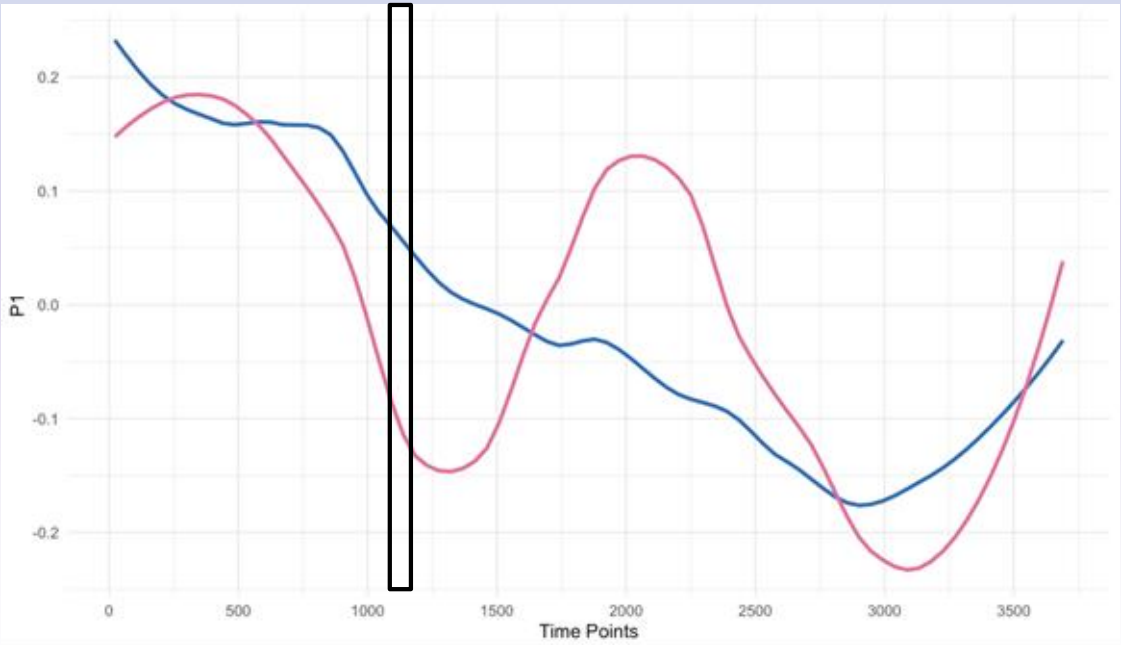
Backer /s/



P1 - bisexual woman, casual user of weed from CA

Less creak

Fronter /s/



More creak

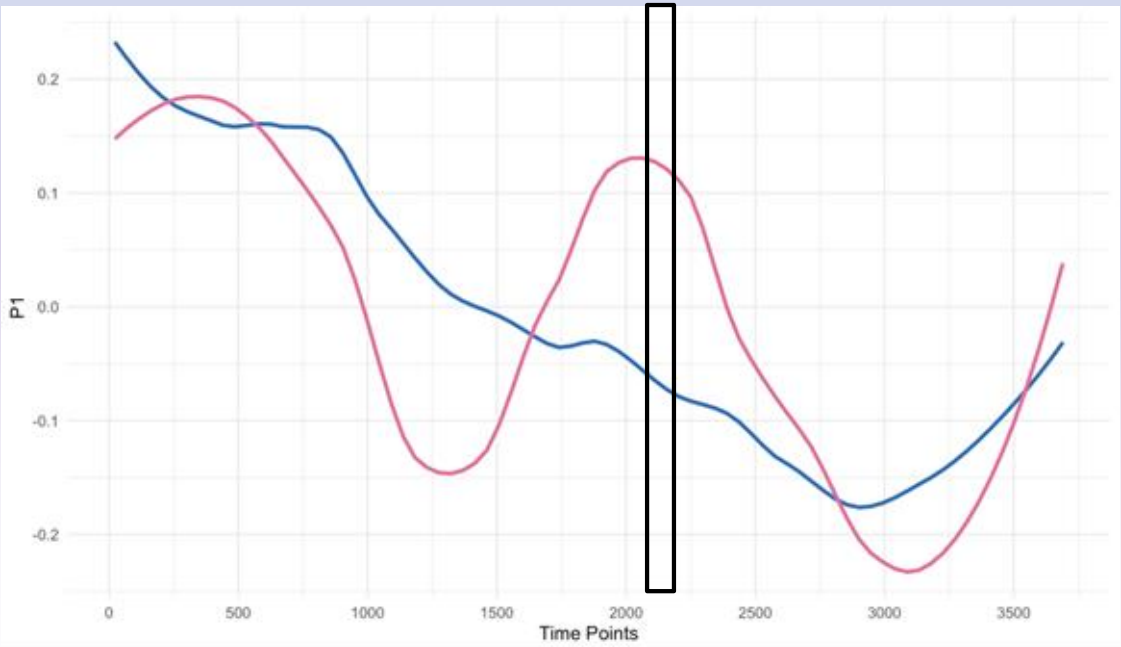
Backer /s/

1156-1175
Really unsure about sexuality in high school
(inexperience)

P1 - bisexual woman, casual user of weed from CA

Less creak

Fronter /s/



More creak

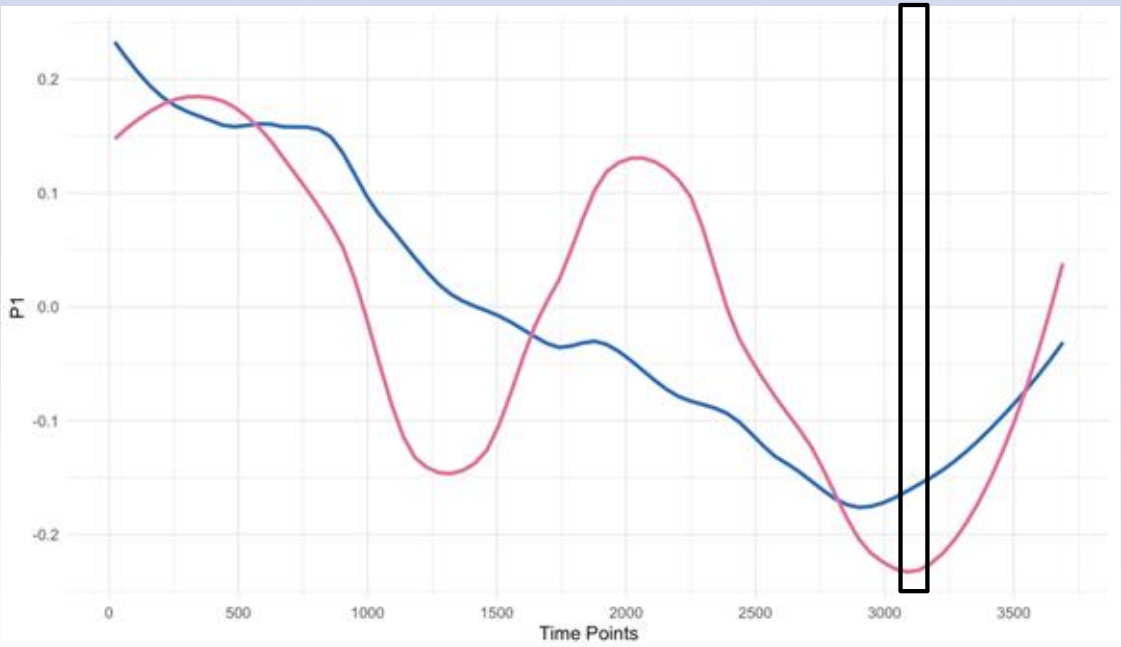
Backer /s/

2130-2141
Queer pop artist
Chappell Roan
popularity
(experience)

P1 - bisexual woman, casual user of weed from CA

Less creak

Fronter /s/



More creak

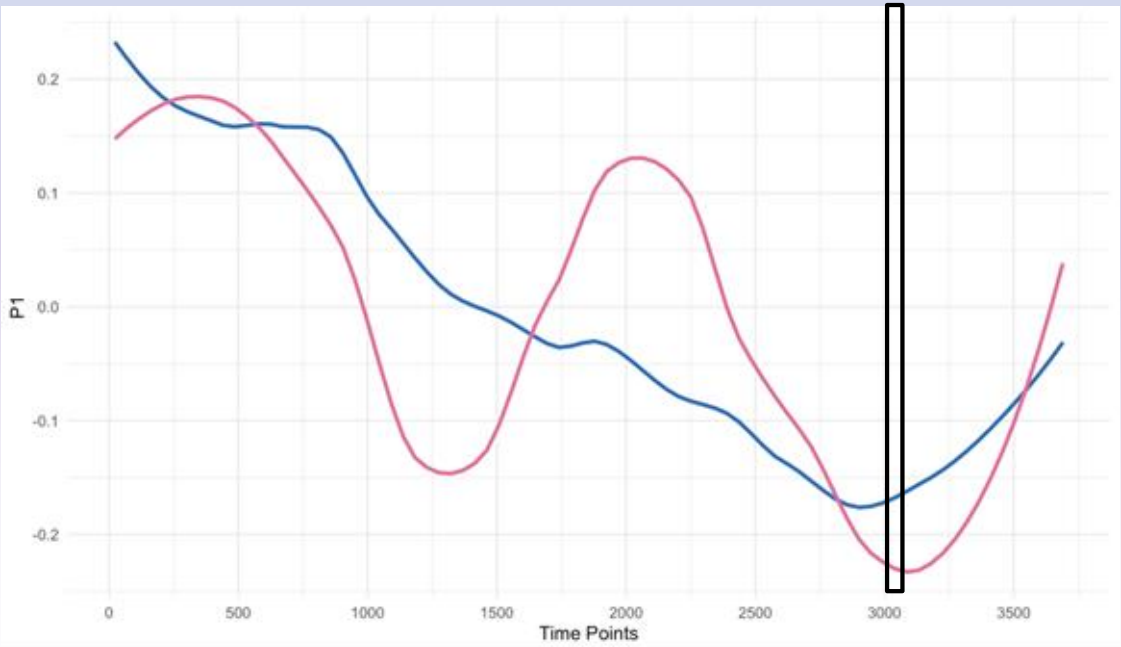
Backer /s/

3128-3138
Unsure about who can get stoner label (inexperience) (detachment from stoner identity now)

P1 - bisexual woman, casual user of weed from CA

Less creak

Fronter /s/



More creak

Backer /s/

3011-3015
Times she was accused of being a stoner without being one in high school, negative social evaluation (detachment)

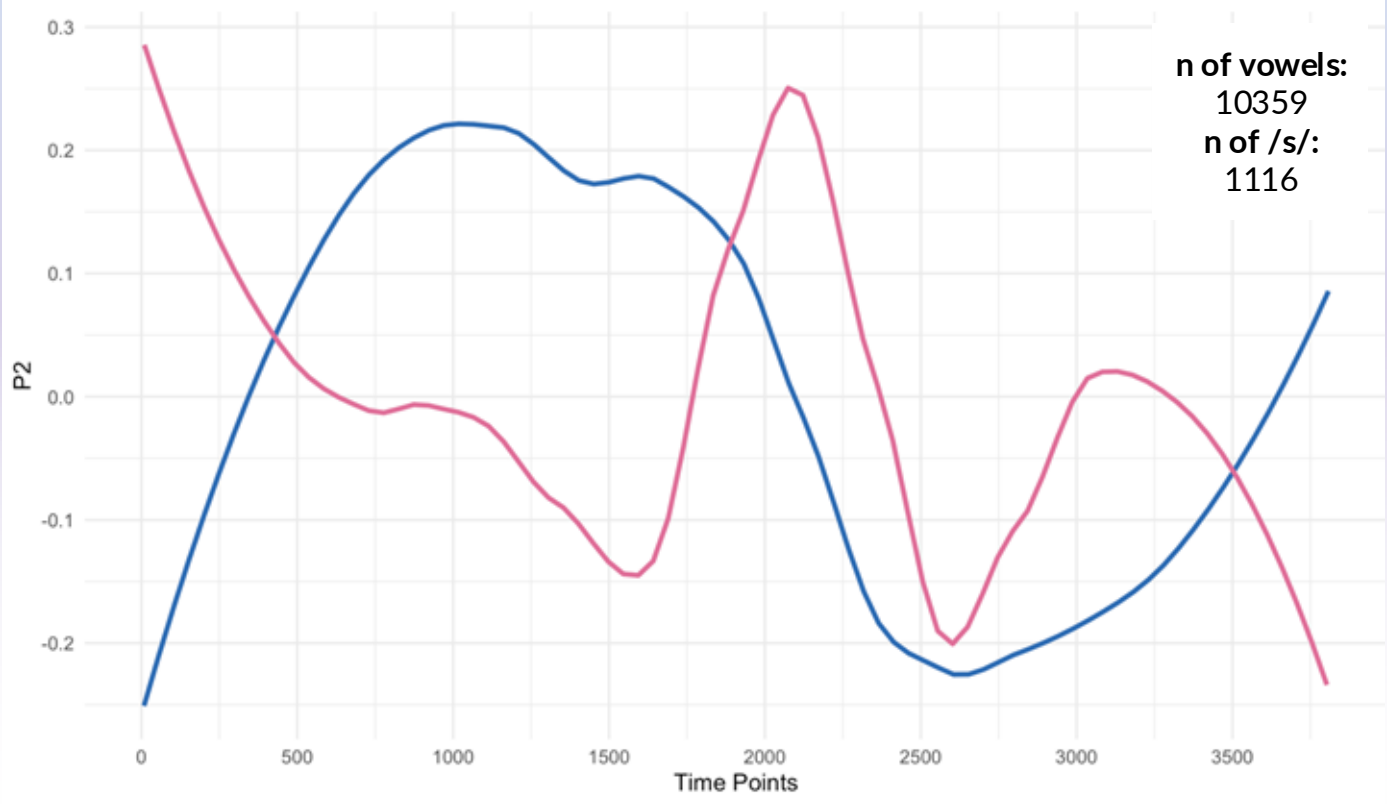
P2 - bisexual woman, stoner from KS

Less creak

Fronter /s/

More creak

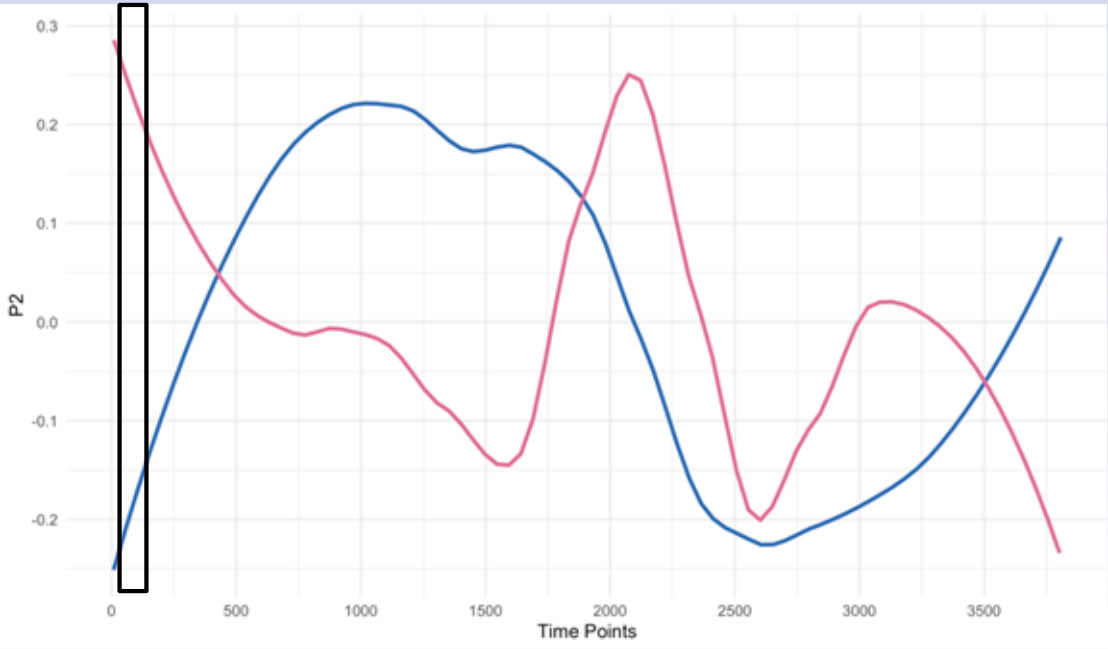
Backer /s/



P2 - bisexual woman, stoner from KS

Less creak

Fronter /s/



More creak

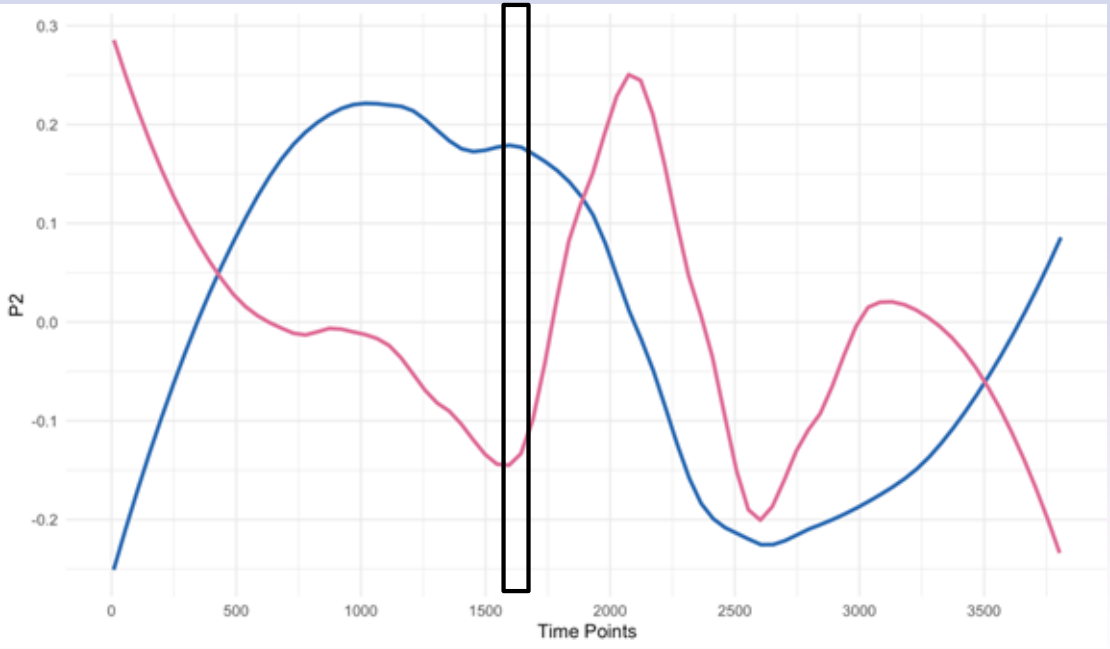
Backer /s/

63-68
Routine, rehearsed version of where she grew up
(experience)
(detached feeling from moving around)

P2 - bisexual woman, stoner from KS

Less creak

Fronter /s/



More creak

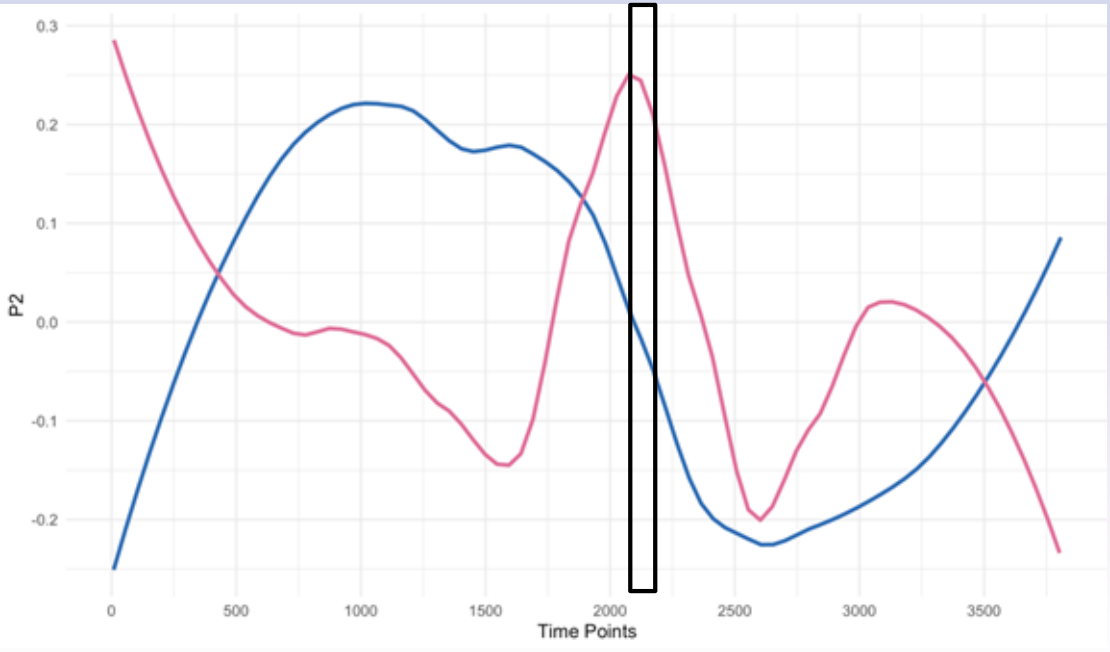
Backer /s/

1641-1660
Early experience with weed and dating a girl (inexperience) (invested in showing she is part of community)

P2 - bisexual woman, stoner from KS

Less creak

Fronter /s/



More creak

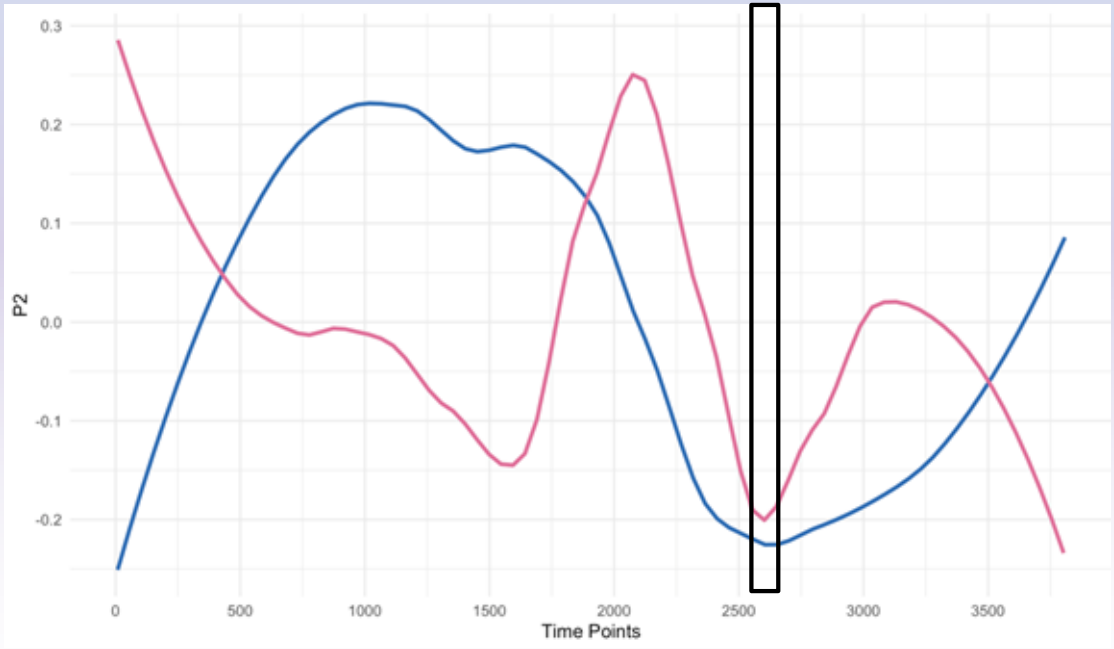
Backer /s/

2123-2135
Valuing continuing education and writing after college (experience) (investment but physically detached from college)

P2 - bisexual woman, stoner from KS

Less creak

Fronter /s/



More creak

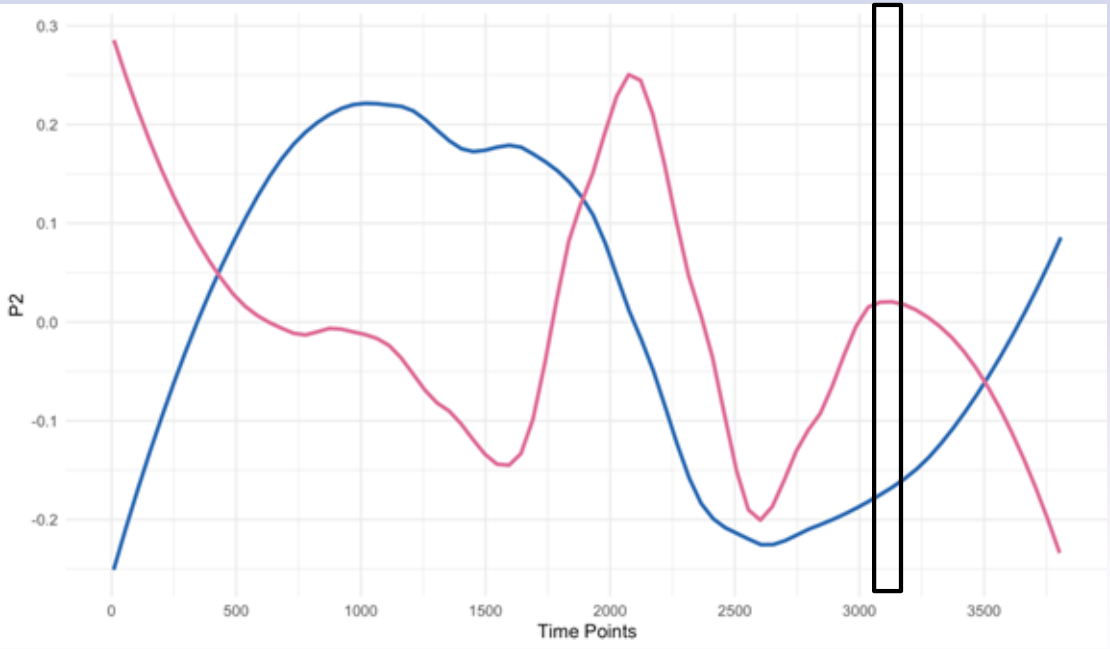
Backer /s/

2589-2595,
2596-2606
Talking about family's religious trauma (detachment)

P2 - bisexual woman, stoner from KS

Less creak

Fronter /s/



More creak

Backer /s/

3127-3143
Queer students can tell she is queer (experience)

Conclusion

- Creak is a more reliable predictor of topic than COG
- Orientation towards topic better explains the range of /s/ production through competence (production of perceptual associations found in Campbell-Kibler 2011)
- Studies of covariation in the individual help complicate some of the indexical relationships previously found (especially to better understand bisexual language)

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