

Educational attainment and the actuation of sound change

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THE ACTUATION PROBLEM

The Actuation Problem

“Why do changes in a structural feature take place in a particular language at a given time, but not in other languages with the same feature, or in the same language at other times?”

-Weinreich, Labov, & Herzog 1968:102

The Actuation Problem

- Social causes:
 - Labov 2001: the building of the Erie Canal as catalyst for the NCS
 - Herold 1997: immigration & the low-back merger in PA
 - Tuten 2010: The loss of Spanish *-udo* participles as a problem of actuation.
- Linguistic causes:
 - Labov 2001: the low-back merger as triggering event for the Canadian Shift, Pittsburgh Shift
 - Baker, Archangeli, & Mielke 2011: Variability in American English s-retraction suggests a solution to the actuation problem
 - Bergs & Stein 2001: The role of markedness in the actuation and actualization of linguistic change.

The Actuation Problem in Philadelphia

- Labov et al. 2013 identify a number of changes in the Philadelphia dialect which have occurred in the past century
- The question is, why did **these** specific changes happen **when** they did in Philadelphia?

SOUND CHANGE IN PHILADELPHIA

One Hundred Years of Sound Change in Philadelphia

- In their 2013 *Language* paper, Labov, Rosenfelder, and Fruehwald report on sound changes in progress in Philadelphia
- Analysis of 264 white adults born between 1888 and 1991 in the Philadelphia Neighborhood Corpus reveals linear incrementation of some changes, but reversal of others

Sound Change in Philadelphia

Two of the patterns Labov et al. identify are examined here:

Continued incrementation:

- raising of (eyC) = checked FACE
- raising of (ay0) = pre-voiceless PRICE

Withdrawal from:

- tense (aeh) = traditional Philadelphia split short-a system
- raised (oh) = THOUGHT

Actuation of Philadelphia Changes

- According to Labov et al., these reversals:
 - begin during the same period, by speakers born in the 1940s
 - lack a clear linguistic cause, as they don't "maximize the functional economy of the system" and generally run counter to the principle of maximal dispersion (p. 48)
 - can be seen as a realignment towards Northern dialects, reversing Philadelphia's early 20th century position as the "northernmost of Southern cities" (p. 49)
- However, there's no evidence of dialect contact or an influx of North Midlands speakers to explain this realignment...
- Therefore changes likely due to changing social evaluation

Evaluation of Philadelphia changes

- There is indeed evidence that these changes are subject to social evaluation in Philadelphia:
 - 1970s subjective reaction tests found negative evaluation of (aeh), but none for (eyC), or (ay0)
 - overt commentary by interviewees reveals traditional Philadelphia tense quality of (aeh) and (oh) to be stereotyped

However, the question remains –

“What happened in the period 1945-1960 that reoriented Philadelphians toward a Northern realization of their vowel system?”

(Labov et al. 2013:60)

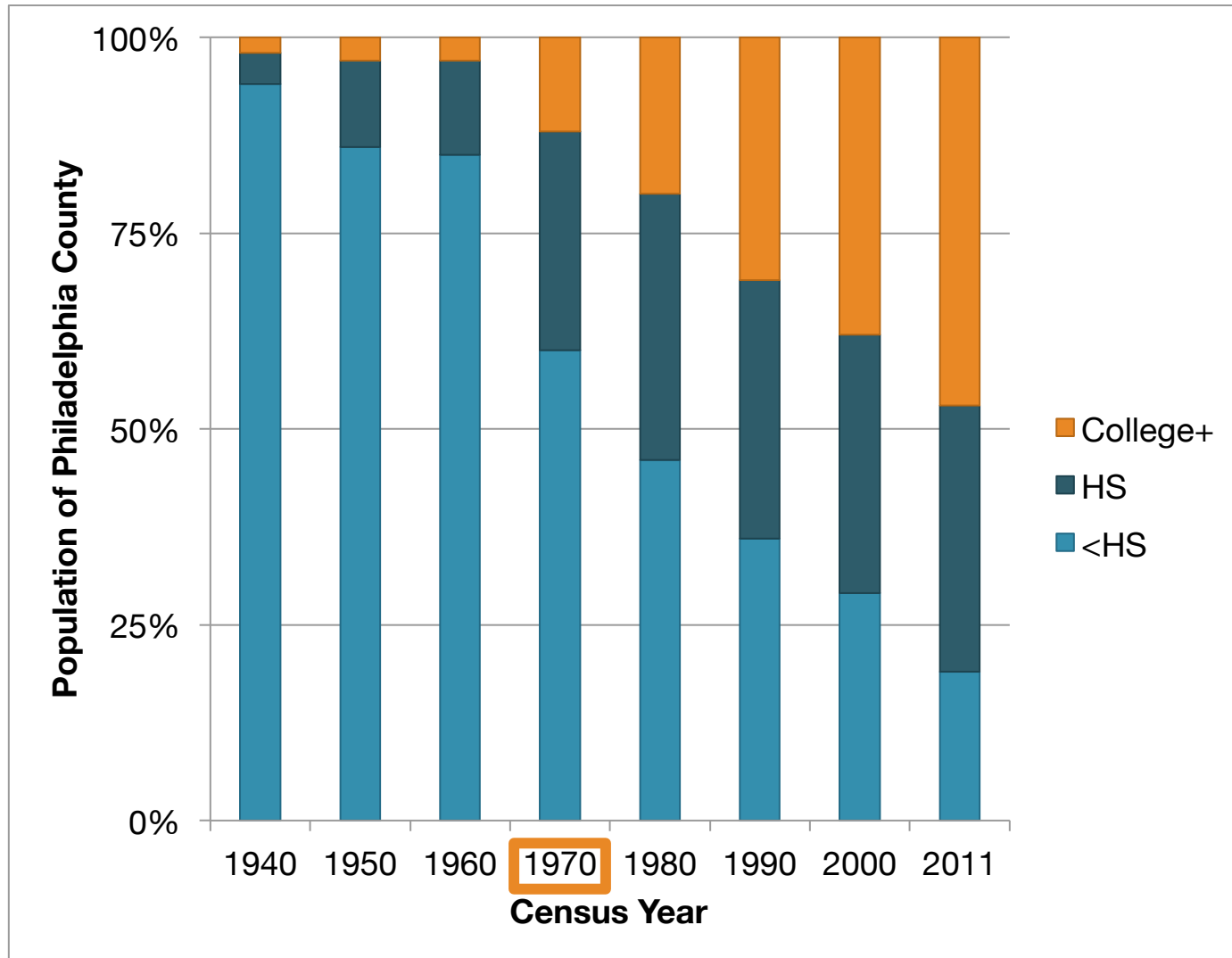
Actuation of Philadelphia Changes

- Was it post-WWII population movements?
 - Something special about the baby boomers?
 - ...broadcast media??
-
- One huge social change which has thus far escaped attention in these discussions is the rise of college education over the course of the 20th century

Changes in Education

- GI Bill of 1944
 - access to education for veterans who otherwise could not have afforded it
- Higher Education Act of 1965
 - More federal funding for universities
 - Federal scholarships & low-interest loans
- Growth of community colleges

Education in Philadelphia



Actuation & Education

- The rise in education beginning with the generation born around 1945 (= 1970 census) coincides with the starting point of the reversals identified in Philadelphia
- And we have a negative correlation, where young, highly-educated speakers are not using the stereotyped traditional Philadelphia variants
- But what is the causation?
Why does more college = less Philadelphia?

Education as source of change

- Gorman & Prichard (2014) find that it's not strictly about “college” or *amount* of education, but about *type*
- Recall that the changes of the 20th century increased not only the amount of education people pursue, but the types of degree-granting institutions
- As a starting point, let's examine the degree to which speakers with different types of college education participate in these changes

DATA & METHODS

Data

- Drawn from the Philadelphia Neighborhood Corpus
 - + 12 speakers from the ongoing IHELP project
- 229 white, adult, native Philadelphians
 - Born 1889-1994
 - Interviewed 1973-2013
 - Aged 18-93
 - 54% female

Education Index

Prichard and Tamminga (2012) introduced a novel 4-level education index:

1. No higher education (high school or less)
 2. Local, community college, often 2-year degree
 3. Regional, 4-year college, draws students from across region
 4. National, prestigious, geographically diverse student body
- This education index was developed to explain differences found in a synchronic sample of eight upper-working-class white Philadelphians

The data - education

229 white, adult, native Philadelphians:

- 152 speakers without higher education
- 25 went to a local college
 - *e.g., Philadelphia Community College, vocational/trade school*
- 31 went to a regional college
 - *e.g., Drexel University, Temple University*
- 21 went to a national college
 - *e.g., University of Pennsylvania, MIT, University of Pittsburgh*

Variables

Reversals in socially-evaluated variables:

- TRAP (aeh)
 - tense class of Philadelphia split short-a system
- THOUGHT (oh)
 - especially tense and raised

Continuing incrementation in:

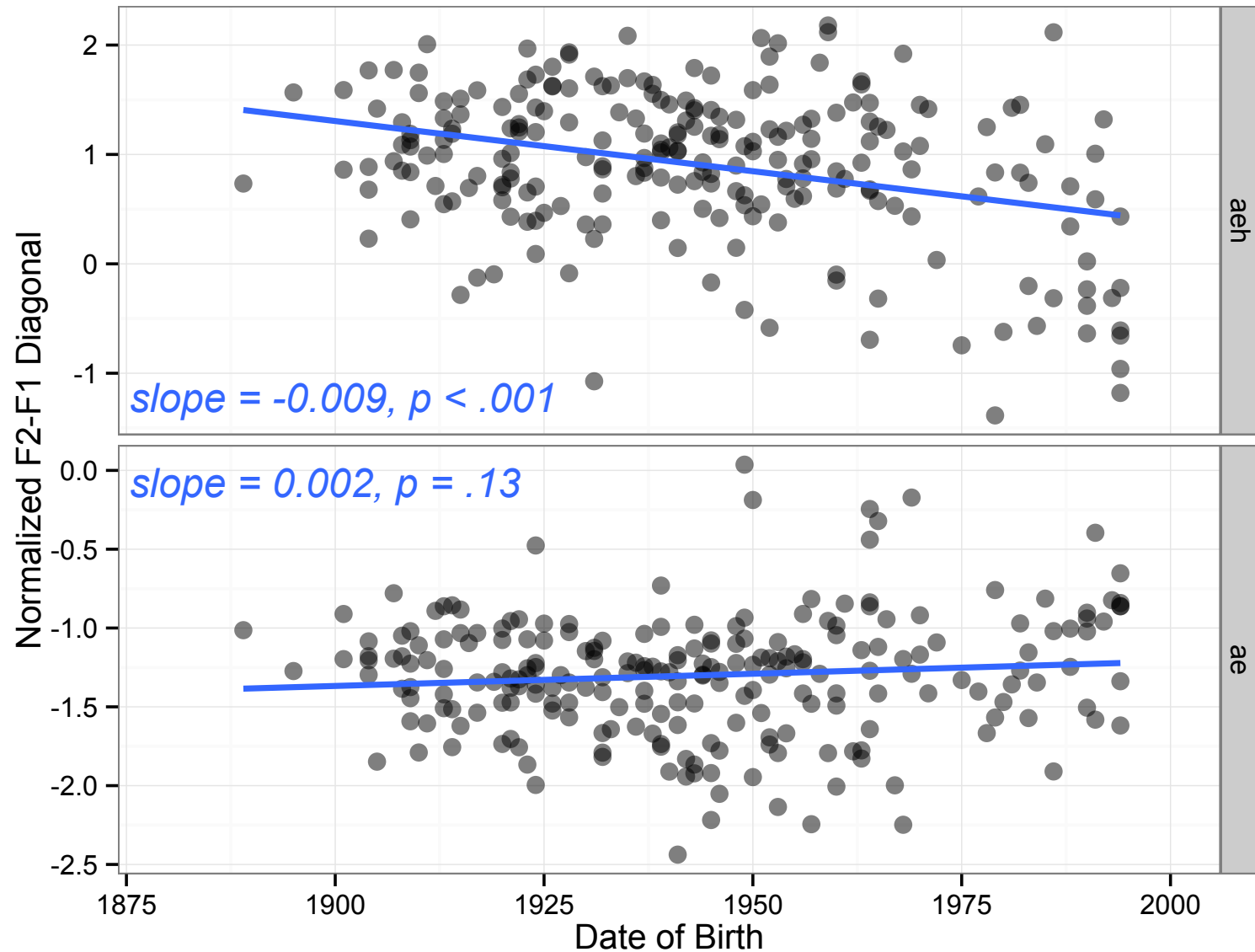
- FACE (eyC)
 - raised and fronted in checked position
- PRICE (ay0)
 - raised before voiceless consonants

Methods

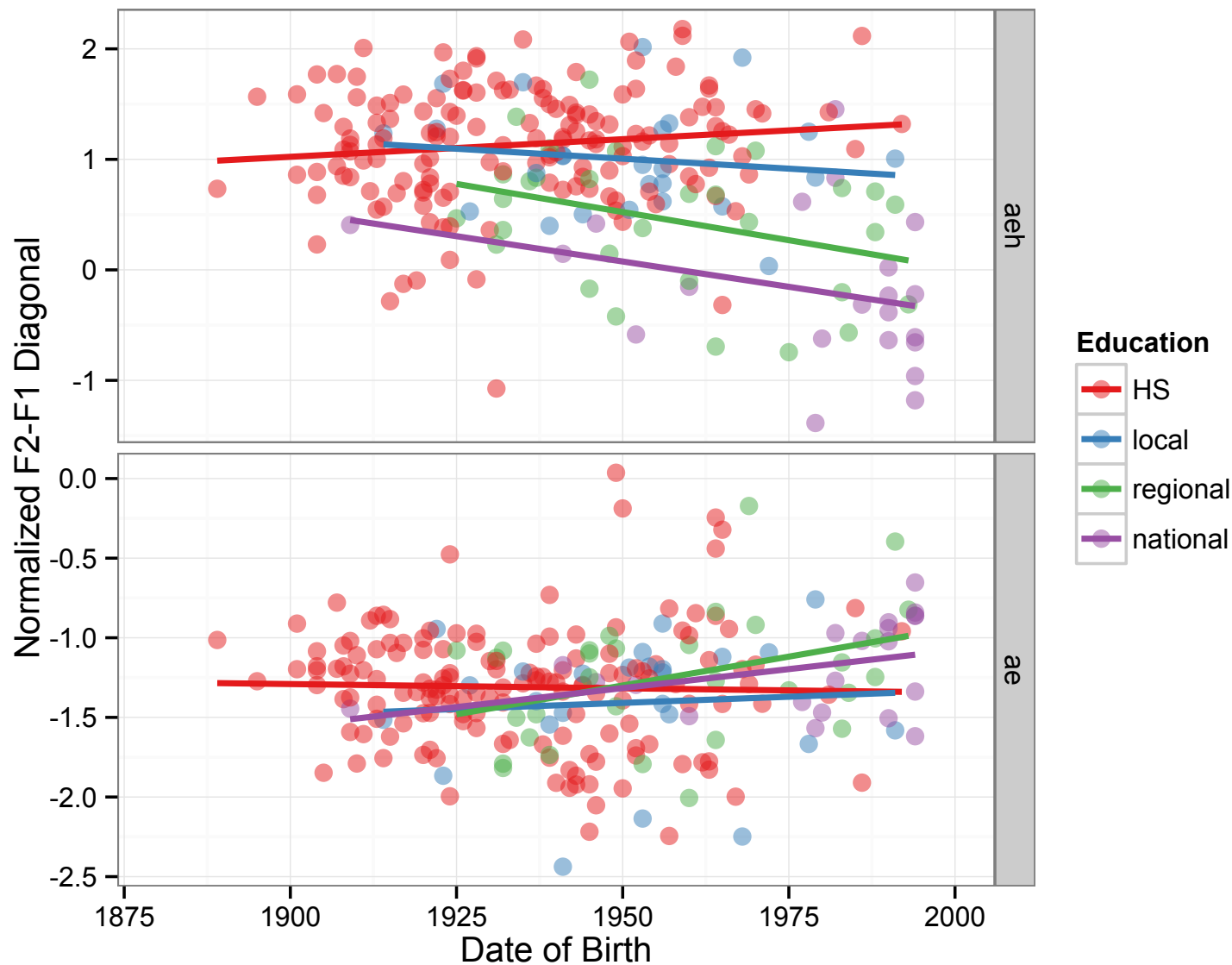
- Automatic vowel measurements using a modified version of the FAVE suite
- Token counts:
 - (ae) 13932; (aeh) 8731
 - (o) 14858; (oh) 13879
 - (ey) 21726; (ay) 16789

RESULTS

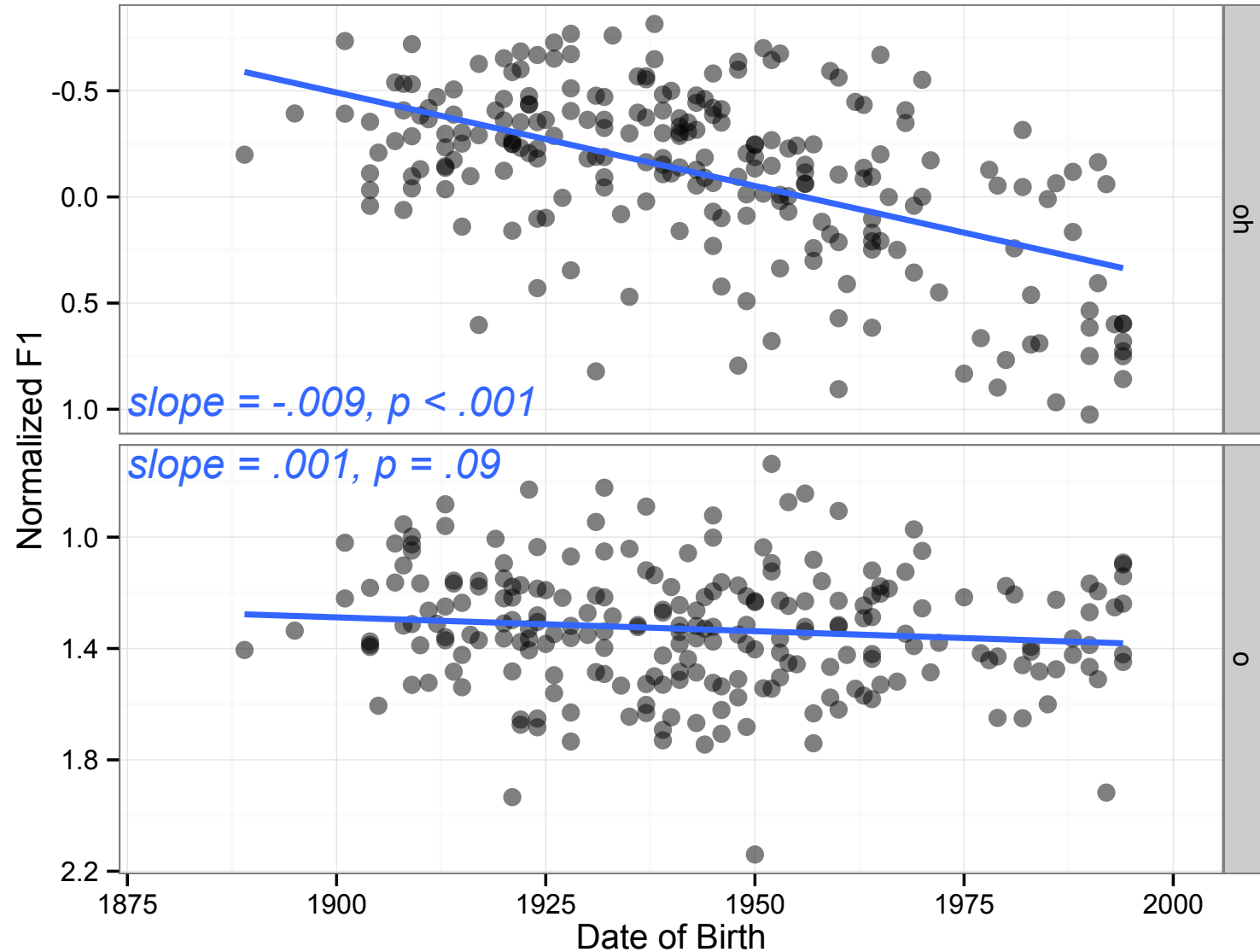
Change over time in short-a



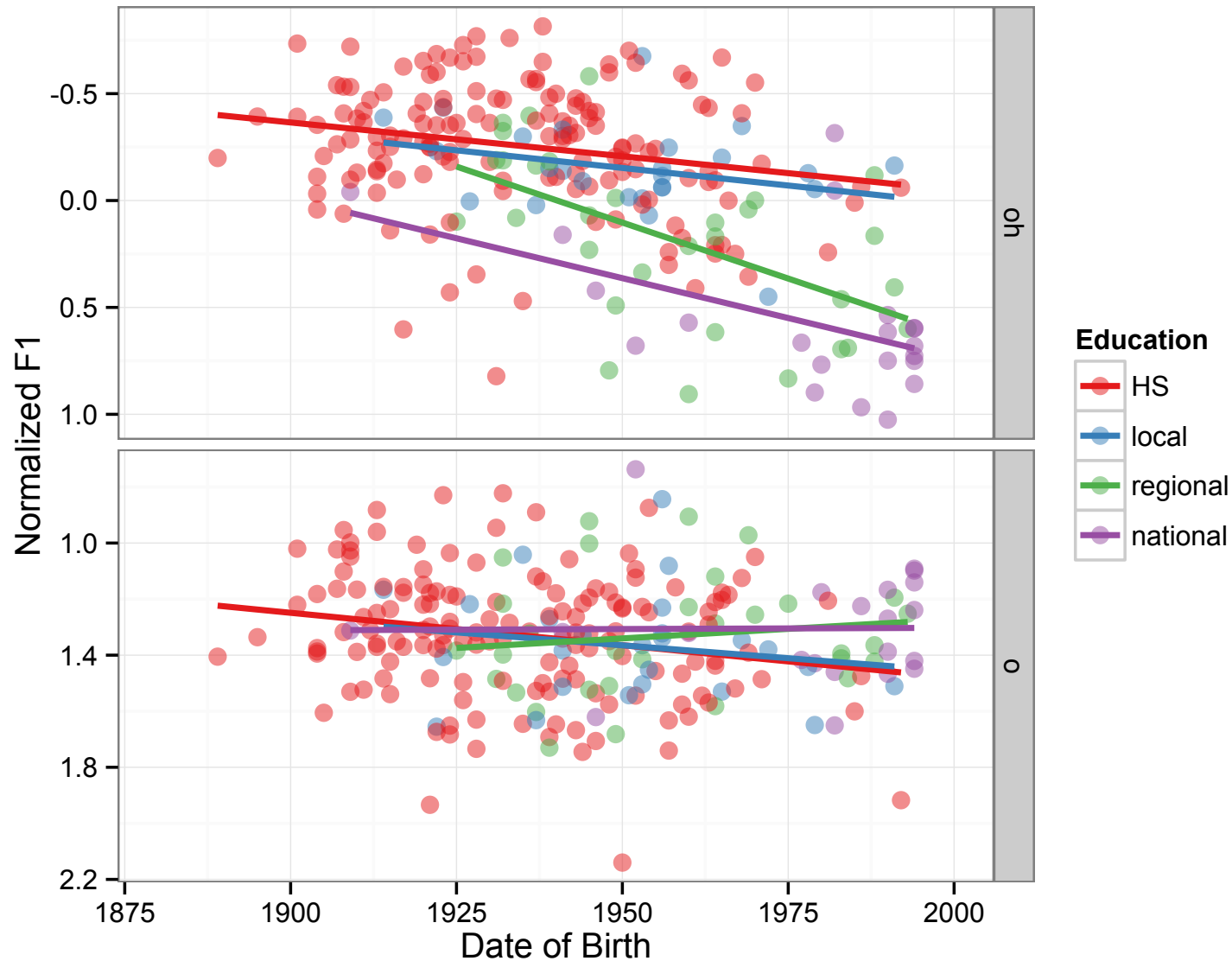
Change in short-a by education



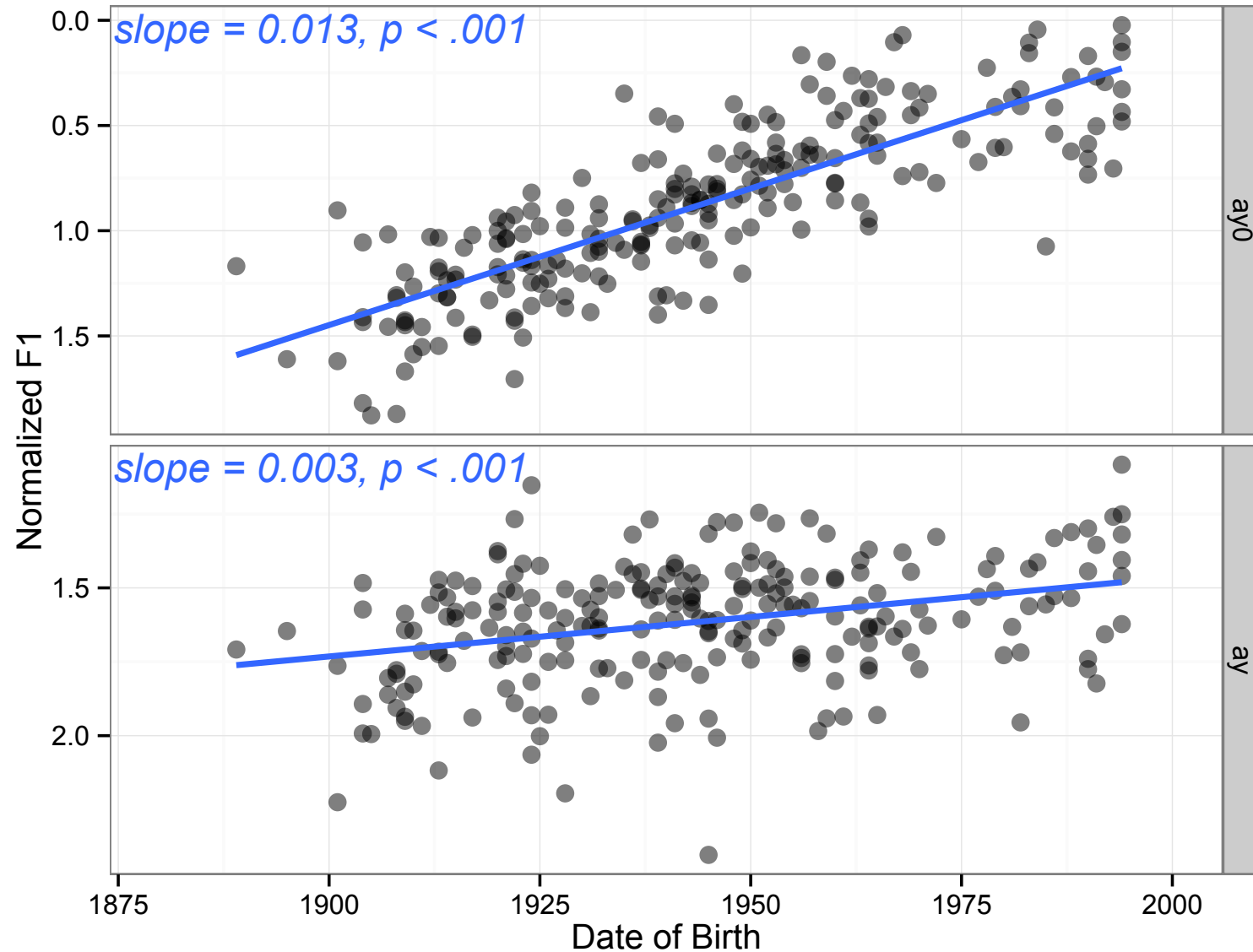
Change over time in low-back



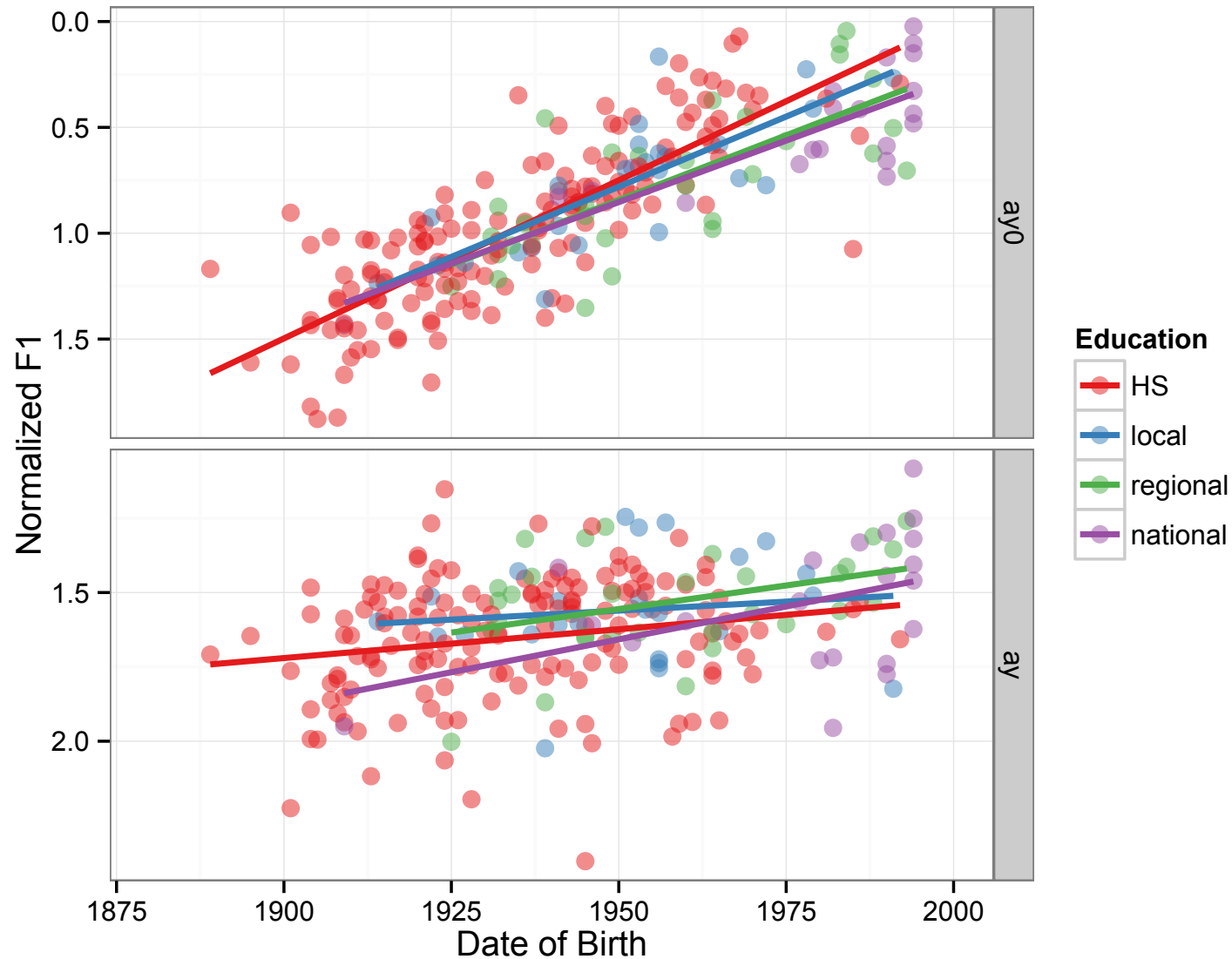
Change in low-back by education



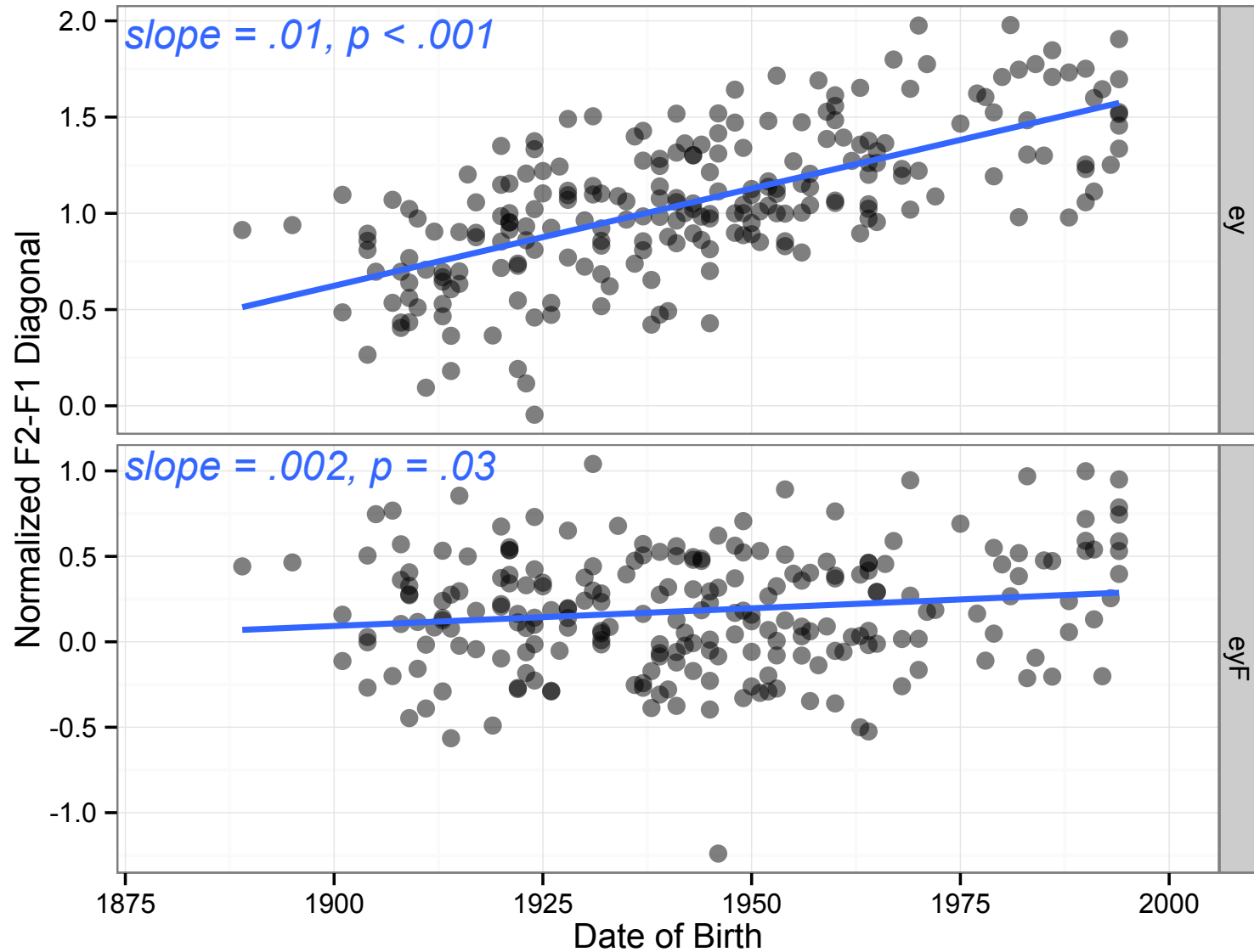
Change over time in PRICE



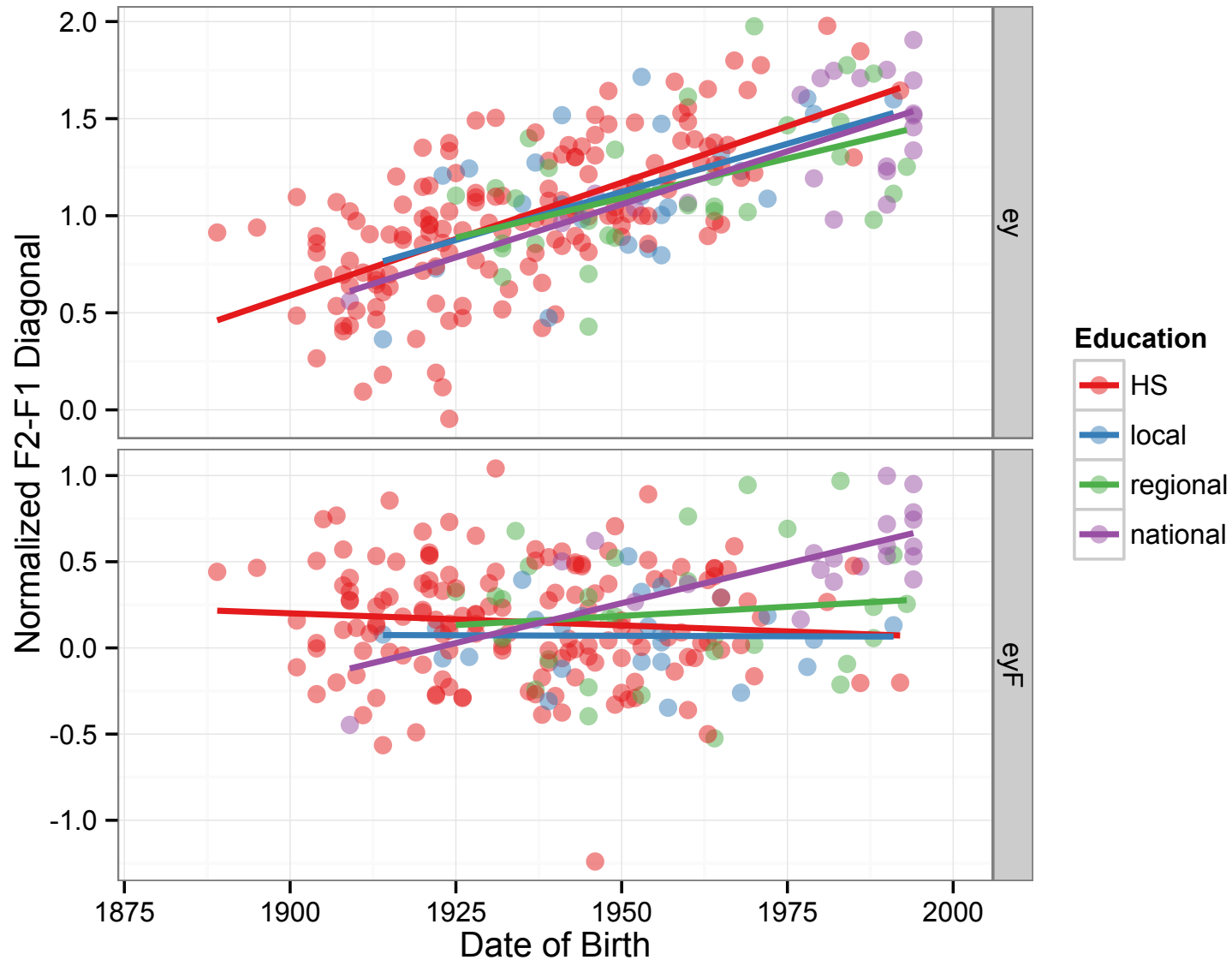
Change in PRICE by education



Change over time in FACE



Change in FACE by education



Summary

- We don't see reversal in all the vowels, just the particularly salient ones
- The changes are led by national college speakers
- Timeline of reversals corresponds well with changes in educational attainment

CONCLUSIONS

Conclusions

The fact that national college speakers are leading a reversal of stereotyped local features, which begins during the same period as a huge shift in educational attainment, suggests a link between education & these reversals

Conclusions

What's the link, exactly? Possibilities:

1. National college students simply have more contact with speakers of other dialects
2. This is a reflection of the upward mobility of students attending national universities
3. National college students are inevitably made more aware of the negative stereotypes associated with local dialect features than their peers at local colleges
 - cf. Dunstan's (2013) work on the experience of Appalachian students attending NCSU – college is the first encounter some students have with the external negative evaluation of their dialect

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