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Both (of) the variants show a couple (of) different patterns: Social conditioning of 'of'-variation across multiple linguistic environments

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Background

- Variation can be affected by **linguistic** (internal) and **social** (external) factors

- But **is the social conditioning of a variant consistent across linguistic environments?** (Labov 1993, 2001:28, 2010:265)

- Generally **assumed that social conditioning and linguistic conditioning don't interact**

- But this hasn't been robustly tested (Maddeaux & Dinkin 2017)

This study

- A single variable alternation in English — **between *of* and Ø** — in several distinct linguistic environments:
  - **Prepositional phrases with *out* and *off***
  - **Certain quantifiers**
  - **Inverted degree constructions**
- There's work on *of*-variation in isolated environments (e.g. Estling 1999, 2000; Nylund & Seals 2010; Vartiainen & Höglund 2020)
- But **no study has yet examined the patterning of *of*-variation across multiple environments**
- Our main finding: **social patterning of *of*/Ø differs between these linguistic environments**

Of-Variation

- **Out**
  - Today, you can't even put your head **out of your door** at night without fearing that someone’s going to come in and hurt you. (PH12-2-10)
  - You look **out ø your door** and if you need any help, you can holler. (PH84-1-4)

- **Off**
  - He's been knocked **off of his bike** and stuff. (PH84-1-2)
  - Like if he fell **off ø his bike** he’d say, “You see him wreck out on his bike?” (PH74-0-8)

Of-Variation

- **All**
  - I mean we were always respectful, respect **all of our neighbors** and stuff. (PH10-1-2)
  - They want to be able to know **all ø their neighbors**. (PH82-1-10)
- **Couple**
  - She was fine for a **couple of months**. (PH90-2-5)
  - He was working there for a **couple ø months**. (PH00-1-3)
- **Both**
  - Well, **both of our parents** were in the air force. (PH80-2-4)
  - But **both ø our parents** were born here. (PH10-2-4)
- **Half**
  - **Half of the time**, he wouldn't be there. (PH81-0-3)
  - **Half ø the time** I'll just say they can just sleep overnight. (PH12-2-1)

Of-variation

- **Inverted degree**
  - It shocked me **how big of a deal** it was in high school. (PH94-2-7)
  - **How large ø a family** did you come from? (PH73-5-6)

Materials

- O*f*-variation in the **Philadelphia Neighborhood Corpus** (Labov and Rosenfelder 2011)
    - Sociolinguistic interviews from between 1973 and 2012; speakers of Philadelphia English from a variety of economic, educational, and ethnic backgrounds

- Token selection method:
    - Python scripting to identify matches

Selection criteria

- Selection criteria for tokens within included environments:
  - Included: **Constructions which allow for both *of* and *ø* realizations**
  - Omitted: lexical/idiomatic uses, false matches, mistranscribed/missing context/interrupted
    - **Idiomatic omission:** uh three hundred dollar houses and **all that jazz**. (PH86-3-1)
    - **False string match omission:** It's not **all her fault**. (PH88-1-2) (??It's not all of her fault)
      - Compare: It's not **all (of) her stuff** (it's only some).
- After this process, we omitted environments with **low token counts** within the remaining data (*off:* n=178, *both*: n=38, *half*: n=131, inverted degree constructions: n=9)

- **Remaining environments: *all*, *couple*, *out***
- data from around 400 speakers (2439 tokens)

Questions

- Goal: To assess **whether social conditioning differs across environments**

- Three questions:
  - **Linguistic environment effects: Does the overall rate of *ø* vary by linguistic environment** (all vs. couple vs. out)?

  - **Social effects: Does the rate of *ø* in each linguistic environment vary by any social demographics** tracked in the corpus? (age, education, etc.)

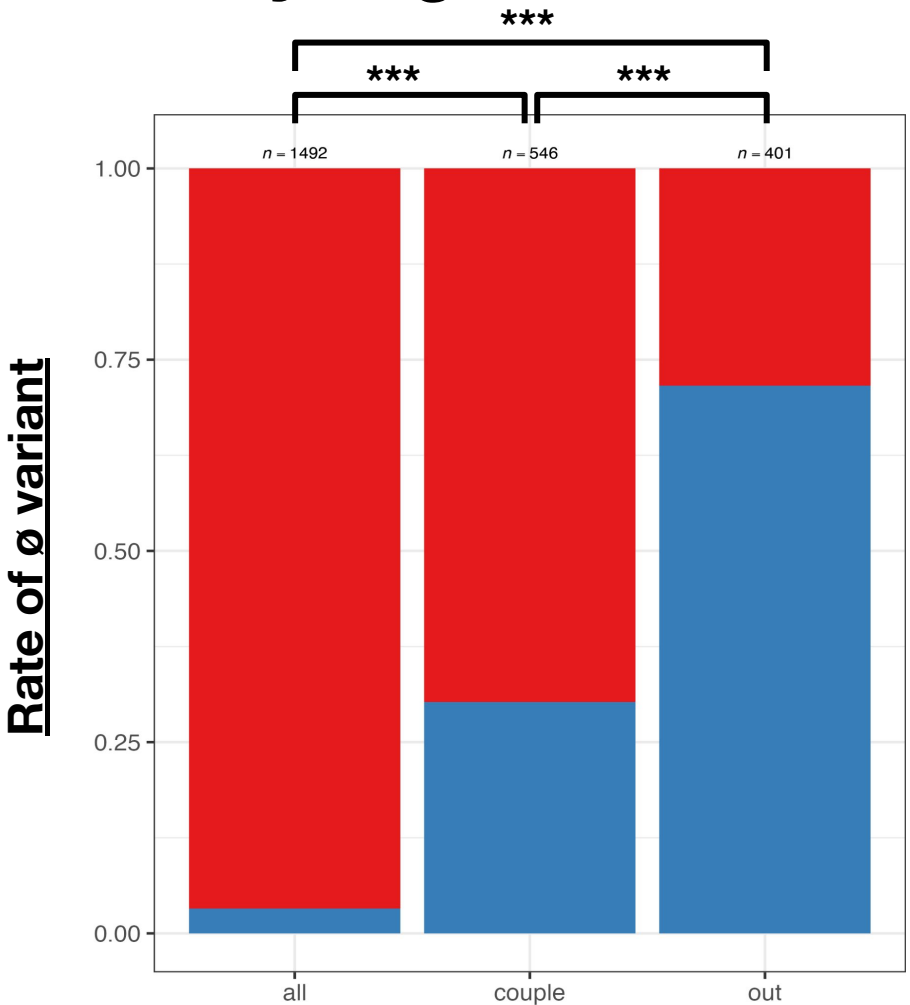
  - **Social conditioning across environments: Does the effect of demographic factors on rates of *ø* differ by linguistic environment?**

Statistical methods

- Statistical methods (measuring **proportion of tokens realized as Ø**, instead of as *of*):
    - **Linguistic environment effects:** Mixed-effects logistic regression in R, to see any **effects of linguistic environment on proportion of Ø tokens**
    - **Social effects:** Mixed-effects logistic regression in R, to see any **effects of demographic category on proportion of Ø tokens**
    - **Social conditioning across environments: interactions** between demographic conditioning and linguistic conditioning

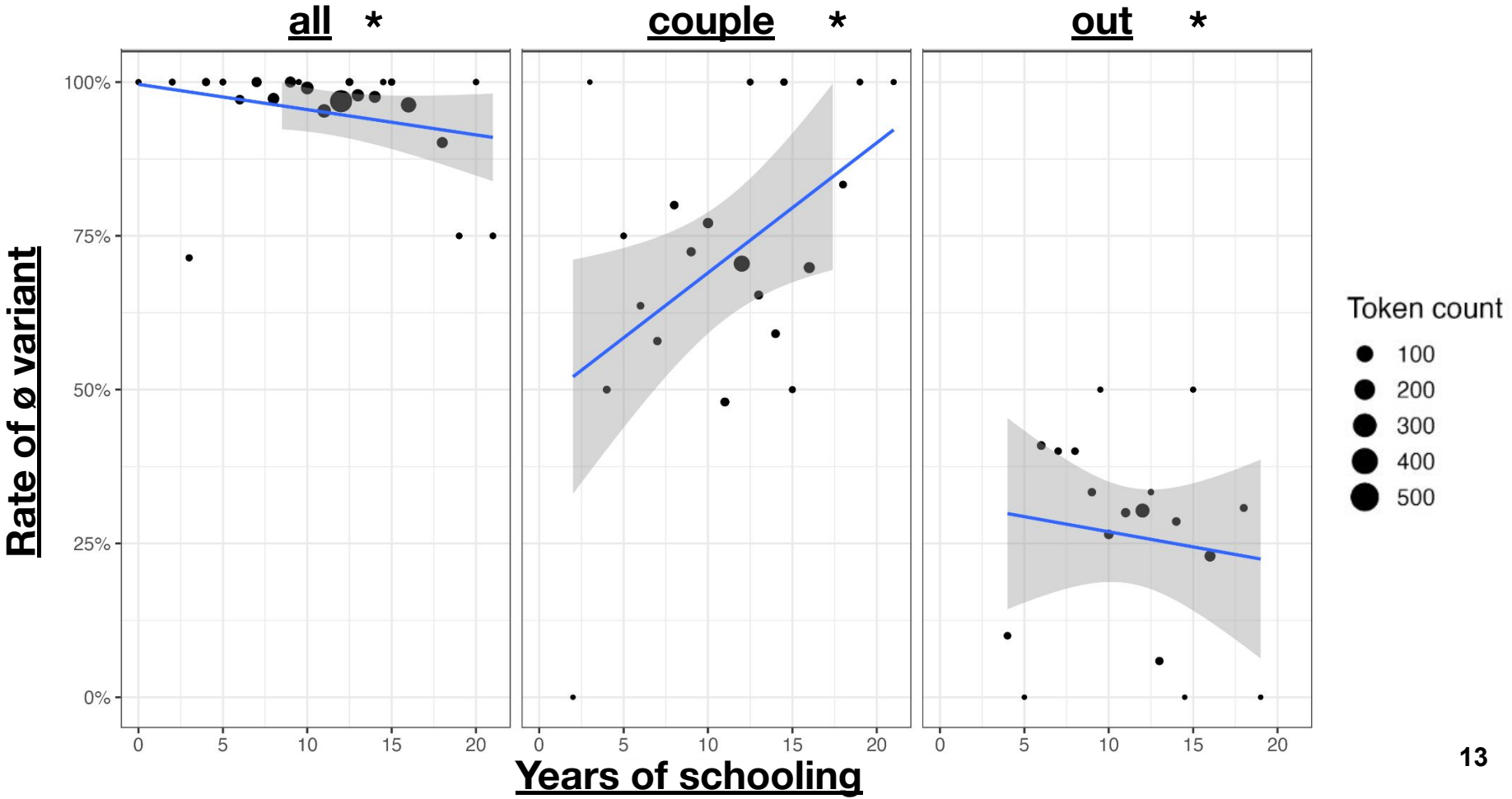
Results

Of/Ø-variation by linguistic environment

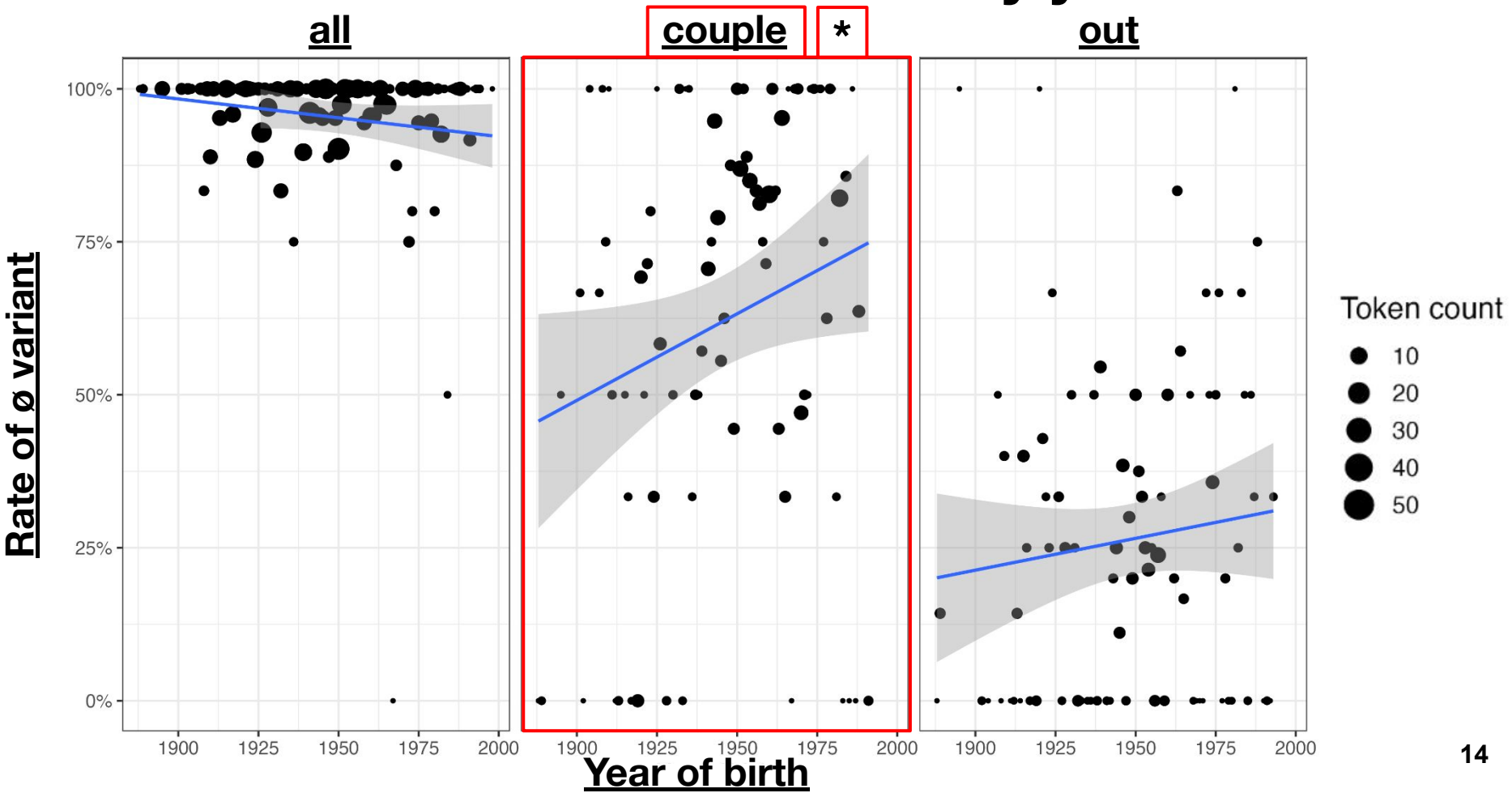


- Overall rates of Ø-variant use are **significantly different across linguistic environments**

Of-variation across environments by education



Of-variation across environments by year of birth



Findings

- Does the overall rate of *ø*-use vary by linguistic environment (all vs. couple vs. out)?
  - **Yes! (all = 97% with *ø*; couple = 70% with *ø*; out = 28% with *ø*)**

- Does the rate of *ø*-use in each linguistic environment vary by any social demographics tracked in the corpus?
  - Some — **year of birth conditions *ø* use in *couple* environments**
  - **Number of years of education conditions *ø* use in all three environments**

Findings

- Does the effect of demographic factors on rates of ø vary by linguistic environment?
  - Yes! **The strength of year of birth effect is different across the three environments**
  - **The effect of years of education is different in both strength and direction across the three environments**

Prescriptive judgments as further evidence

- Documented prescriptive advice **recommends different choice of variants in the three different environments** (Bernstein 1977, Garner 2022)
    - Some are judged standard with *of* and non-standard with *ø*; others receive the opposite recommendation.

- In conjunction with our findings, this further suggests that **the three environments are perceived as different in some way**, despite their surface similarities.

- Couple is suggested to be standard with *of*, so it's interesting that our data shows that it is **trending away from the prescribed norms over time!**

Takeaways

- **We find different social patterning of *of*-variation in different linguistic environments.**

- Implication: **social sensitivity to *of*-variation *does* show linguistic sensitivity**, contra previous assumptions (Labov 2001:28)

- **The three environments do not constitute a unified linguistic variable, despite the surface similarity** of *of*~Ø variation across them (cf. Dinkin 2016)

Future work

- **Perceptual questions:**
  - **Is the variant perceived and evaluated differently across the three environments?** Are there social stereotypes associated with the choice? (matched guise)

- **Implications for formal analyses:**
  - Different formal analyses of these constructions vary in how much semantic contribution *of* makes
  - **Can the patterns of optionality for *of* help provide support for or against these different accounts?**

Thank you!

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Supplemental material

Data files

PH79-4-9	out	Ø	my kitchen
PH81-0-9	out	Ø	my pants
PH76-4-5	out	of	a book
PH96-3-1	out	of	a magazine

speaker	interviewer?	sex	yob	educ	ethnicity	speaker in filename
Gay Green	n	f	1967	6	r	Lisa Green
IV	y					Adan Fulton
Sally Peach	n	f	1911	12	p	Sally Peach
Mary	n	f	1948	12	g	Mary

Race/ethnicity as tracked in corpus

- a = Black
- w = white
- s = Asian
- i = Italian
- j = Jewish
- h = Hispanic
- r = Irish
- p = Polish
- g = German
- o = other
- u = unknown

Search methods

- Quantifiers
  - *both (of) DP*
  - *all (of) DP*
  - *a couple (of) NP-plural*
  - *half (of) DP*

  Search criteria: *Both, half,* or *all* followed by *of, o'*, or Ø before a determiner phrase (headed by any definite determiner), or *couple* followed by anything, or the contracted forms *botha/halfa/alla/coupla*

restricted search:
((both|\ball|half)\s((of|o')\s)?(the|a(n)?|my|your|his|her|their|our|this|that|these|those)\s)|(couple\s((of|o'|a)\s)?)
additional search: *\b(botha|halfa|alla|coupla)\b* (no hits)
permissive search (not used): *both/all/half/couple (of) **

- *Out(side) (of) DP*

  Search criteria: *Out(side)* followed by *of, o'*, or Ø before a determiner phrase (headed by any definite or indefinite determiner), or the contracted forms *outta/outa*

restricted search: *\bout(side)? ((of|o')\s)?(the|a(n)?|my|your|his|her|their|our|this|that|these|those)\s*
additional search: *\b(outta|outa)*
permissive search (not used): *\bout(side)? ((of|o')\s)?*

Data points

We pare down the data to just the contexts that are most robustly represented – *all, couple, out* – in the subset of data for which any speaker demographics are available. This leaves us with 2439 data points (i.e. tokens).

How to interpret the scatterplots: each point is one speaker. Size of the points, i.e. “token count,” is how many times that speaker used either variant. X axis is demographic, y axis is proportion of null variant for that speaker in that construction overall. There are fewer points on the education plot because we don’t have education info for everyone - we do have year of birth info for everyone