Acceptability, production, and comprehension of definite singular they

Byron Ahn^{1,a}, Kirby Conrod^{2,b}, Ameena Faruki^{1,b}, Steven Foley^{1,a/b}, Xander Guidry^{1,b}, and Ruth Schultz^{1,b}

¹ Princeton University; ² Swarthmore College

^a he/him; ^b they/them

NWAV 50 • Stanford University • October 13–15, 2022



Project-Launch Overview

Motivating Question:

What social & linguistic factors predict variation in the use & interpretation of they?

Core components of the project:

- Acceptability judgement task
- Sentence-completion task
- Self-paced reading task

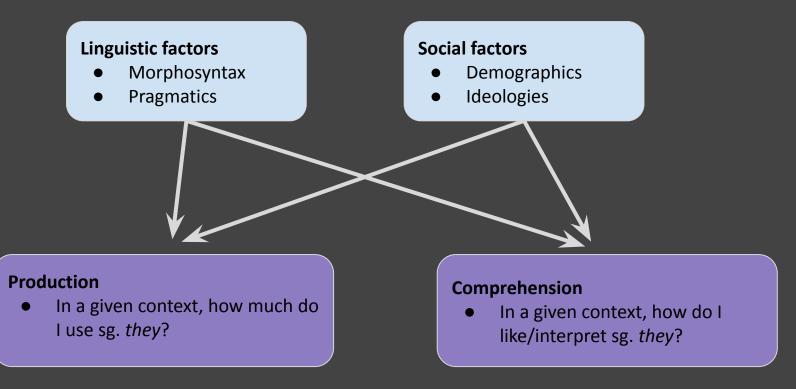
What we want feedback on:

- How we gather our social measurements
- The best ways to target participant populations

Overview Core Question Design Factors: Linguistic Design Factors: Social Future Directions

Core Question

How do social/linguistic variables predict use/comprehension of sg. they?



Some Prior Findings: acceptability

Prior findings: There are patterns of acceptability that are mediated by social and linguistic factors [Ackerman 2018, Bjorkman 2017, Conrod 2019, Hekanaho 2020, Conrod et al. in press, a.o.]

(1) Definite plural *they*: **Those dentists** smiled before **they** sneezed.

(2) Quantified/indefinite they: Every dentist smiled before they sneezed.

(3) Definite singular *they*: **That dentist** smiled before **they** sneezed.

	Dialect A	Dialect B	Dialect C
(1) Def. pl. <i>they</i>	Acceptable	Acceptable	Acceptable
(2) Quant. they	Proscribed	Acceptable	Acceptable
(3) Def. sg. they	Unacceptable	Liminal	Acceptable

Overview Core Question Design Factors: Linguistic

Design Factors: Social Future Directions

Core Components: Three Designs

Socio-pragmatics

Sentence completion

 Fill-in-the-blank, targeting syntactic positions that require pronouns

Task: Put a word in the blank to complete this sentence.

"My client (Casey) was not in right mind."

Off-line acceptability

 Naturalness ratings using a Likert scale (1-5)

Task: Rate this sentence's naturalness.

"My client (Casey) was not in their/his right mind."

Socio-syntax

On-line comprehension

 Self-paced reading (grammaticality Maze)

Task: Read the sentence as it appears one word at a time

"Before they/he left, the tall client(s) sneezed."

For all stimuli, antecedent nouns/names are gender-normed (pulling from Misersky et al. 2013 and Flowers 2015)

Socio-Pragmatic Studies (usage/acceptability)

Question: When the speaker doesn't commit to / want to reveal the gender of the (definite/specific/named) referent, when does sg. they get used/accepted?

antecedent	gender not concealed	gender concealed	
common noun	(4a) My client, whose testimony we witnessed earlier, was not in PRONOUN right mind	(4c) My client, who prefers to remain anonymous, was not in PRONOUN right mind	ſ
proper name	(4b) My client Casey, whose testimony we witnessed earlier, was not in PRONOUN right mind	(n/a)	

Usage: Sentence Completion

PRONOUN = blanks

Acceptability: Likert Scale Rating

• **PRONOUN** = their/his/her

- All stimuli in the project repo at https://osf.io/5mvpz/
- Demo usage task at

https://farm.pcibex.net/

r/WYCAgE/

Socio-Syntactic Study (processing)

Broad Question: How do more conscious (off-line) acceptability/production behaviors correlate with unconscious (on-line) language-processing behavior?

Narrow Question: Given a cataphoric pronoun, what predictions do speakers of different dialects make about upcoming referent?

```
    (5a) After they finished, that cellist took a bow.
    (5b) After they finished, those cellists took a bow.
    (5c) After he finished, that cellist took a bow.
    (5d) After he finished, those cellists took a bow.
    (5d) After he finished, those cellists took a bow.

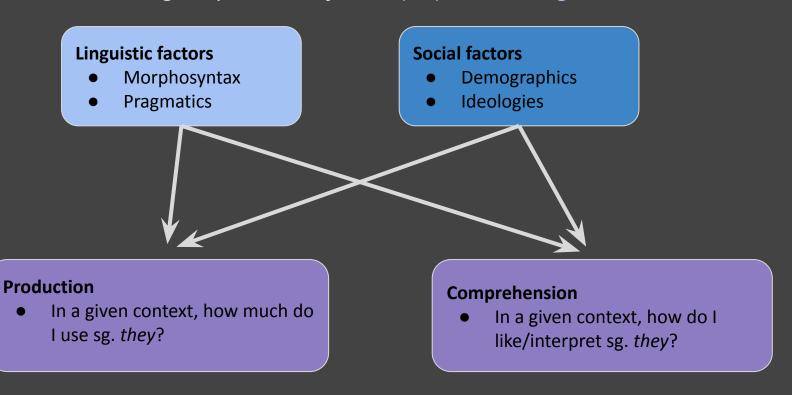
    PL pronoun ⇒ SG subject (sg. they)
    SG pronoun ⇒ SG subject (sg. they)
    SG pronoun ⇒ SG subject (sg. they)
    SG pronoun ⇒ PL subject (sg. they)
```

- All stimuli in the project repo at https://osf.io/5mvpz/
- Demo processing task at https://farm.pcibex.net/r/RugJWe/

Overview Core Question Design Factors: Linguistic Design Factors: Social Future Directions

Project Overview

Reminder! We have design/experimental factors (IVs) that are linquistic and social:



Targeting demographic variables

What questions would best capture these variables?

- Gender: cis vs. trans, non-binary vs. binary, 'naive' cis vs. 'in-the-know' cis
- Age: older vs. younger
- Location: urban vs. rural, coastal vs. heartland, place of origin vs. current location
- Sexuality and queer-familiarity: LGBTQ identity, queer community members, etc.
- Factors without predictions: socioeconomic status (profession, class, education),

ethnicity, race

• *Neurotypicality* (for reading task): memory/attention disorders

Demographics questionnaire

• Link to draft: https://bit.ly/theyQs



Targeting ideological variables

What questions would best capture these variables?

- **Political ideology**: conservative vs. liberal
- **Gender ideology**: benevolent sexism, binarist views, transphobia, trans-acceptance
- Language ideology: (benevolent) prescriptivism scale

Ideologies questionnaire

Link to draft: https://bit.ly/theyQs





Targeting Participant Populations

- 1) No targeting specific demographics: A very large, random sample
 - N = 1,000 adult American native English speakers
- 2) Pre-task targeting with Prolific (with demographic/ideological surveys in the task)
 - Some large sample(s) with demographic targets
 - N = 500 participants, including x trans people, y women, z people under 40, etc.
 - Multiple smaller studies targeting specific populations

```
N<sub>1</sub> = 100 = 50 cis + 50 nonbinary 18-25 year olds
N<sub>2</sub> = 100 = 25 trans/nonbinary people in four age brackets
:
```

- 3) Pre-task targeting with our surveys:
 - Run our surveys on Prolific first, to get targeting for exp'ts as described in (2)

Feedback: https://bit.ly/theyNWAV50

Overview **Core Question** Design Factors: Linguistic Design Factors: Social **Future Directions**

Goals moving forward

- Social perception study to explore social meaning
- Finer-grained analysis of intersections of social variables
- Connections between sociolinguistics and psycholinguistics
- Analyze debriefing questions targeting metalinguistic awareness of pronoun variation
- Sociolinguistic interview: variation driven by conscious and/or subconscious attitudes?
- Look for ways of eliciting sg they or other pronouns (without clear prompt)
 - Large-scale online (not interviews) but more naturalistic (not fill-in-the-blank)
- Differences between on-line and off-line responses?
 - Conscious vs. subconscious variation (e.g., ratings vs. reading times)

Sociolinguistic
Theorizing

Qualitative Work

Quantitative Work

Questions Asked During Q&A

Project Repository

Link to the repository for this project:

https://osf.io/5mvpz/

- This repository will host:
 - Preregistrations for each experiment
 - All experimental materials (stimuli and PCIbex code)
 - Survey instruments
 - Handouts, slides, and manuscripts

Thanks and Acknowledgements

Thank You!

Thanks to the rest of the Scientific Explorations of Pronouns and Trans Acceptance (SEPTA) consortium of labs, the past and present RAs in these labs, Lauren Ackerman for sharing gendered name data, Brian Dillon and Matt Wagers for helpful discussion on reading tasks, and Princeton University and Swarthmore College for funding research and travel.



Byron Ahn he/him

Kirby Conrod

they/them



Ameena Faruki they/them



Steven Foley him/them



Xander Guidry they/them



Ruth Schultz they/them

Works cited

- Ackerman, Lauren. 2018. Being themself: processing and resolution of singular (im)personal *they*. Presented at The 31st CUNY Conference on Human Sentence Processing. doi:osf.io/qba7d
- Bjorkman, Bronwyn. 2017. Singular they and the syntactic representation of gender in English. Glossa 2(1). doi: 10.5334/gigl.374
- Bradley, Evan, Maxwell Schmid and Hannah Lombardo. 2019. Personality, prescriptivism, and pronouns: Factors influencing grammaticality judgments of gender-neutral language. English Today 35(4). doi:10.1017/S0266078419000063
- Bradley, Evan. 2020. The influence of linguistic and social attitudes on grammaticality judgments of singular 'they'. Language Sciences 78. doi:10.1016/j.langsci.2020.101272
- Conrod, Kirby. 2019. Pronouns raising and emerging. Doctoral dissertation, University of Washington.
- Conrod, Kirby, Ruth Schultz, and Byron Ahn. In Press. How many selves for them? In NELS 52: Proceedings of the 52nd Annual
 Meeting of the North East Linguistics Society.
- Flowers, Andrew. 2015. The Most Common Unisex Names In America: Is Yours One Of Them? https://fivethirtyeight.com/features/there-are-922-unisex-names-in-america-is-yours-one-of-them
- Hekanaho, Laura. 2020. Generic and nonbinary pronouns: Usage, acceptability and attitudes. Doctoral dissertation, University of Helsinki.
- Hernandez, Ellis. 2020. Pronouns, prescriptivism, and prejudice: Attitudes toward the singular 'They', prescriptive grammar, and nonbinary transgender people. Doctoral dissertation, Purdue University.
- Misersky et al. 2013. Norms on the gender perception of role nouns in Czech, English, French, German, Italian, Norwegian, and Slovak. Behavior Research Methods 46. doi:10.3758/s13428-013-0409-z
- Schultz, Ruth. 2021. Usage of, Opinions on, and the Future of a Nonbinary Pronoun. Unpublished ms., Princeton University.
- Zehr, Jeremy and Florian Schwarz. 2018. PennController for Internet Based Experiments (IBEX). doi:10.17605/OSF.IO/MD832

Grammaticality Maze Task

