Transgressing the binary: Gendered language practices on Twitter

C. Michael Senko & Rob Voigt
Northwestern University
LavLang 28

Department of Linguistics
WEINBERG COLLEGE OF ARTS & SCIENCES

Office of Undergraduate Research
UR@NU

Agenda

- Ongoing changes in gendered language practices and the pronominal system of English
- Novel Twitter celebrity corpus enables large-scale understanding of these changes
- Results from computational analysis predict rates of affirming name and pronoun usage
- Disparity in affirming usage rates explained through linguistic aspects of cisnormativity

Background

Gender as a dialogic construction

- Precept of biosocial gender self-determination (Ackerman 2019; Zimman 2014)

- Gender is also performed and interpreted (Butler 1990)
  - Thus, gender is a dialogic construction (Bucholtz & Hall 2004)

- Behavioral and linguistic mechanisms by which gender is ratified/rejected

- Across the world, languages are changing to account for transgender and nonbinary lived experiences (Sendén et al. 2015, Hord 2016, Borba 2019, Kosnick 2019)

Creation of cisnormativity

- **Cisnormativity** centers a rigid gender binary (Borba & Milani 2017)
  - Like other ideologies, it's both produced and productive (Gal & Irvine 2019)

- Under cisnormativity, transgender identities must be erased or explained away
  - To maintain sex-gender correspondence, coherence, and stability (Ericsson 2018)

- Recent work has begun to explore how cisnormativity is enforced (and subverted) through language practices (Zimman 2017)

Gender and English

- Proper names, nouns, and lexical items can carry gender information and/or features in English (Corbett 1991) through **notional gender** (McConnell-Ginet 2014)

- Gender notions are shifting as part of 'transgender moment' (Zimman 2020)

- In English, we observe changes in **practice** and **pronouns**
  - Listing of pronouns as part of introductions or on social media profiles (Jones 2021)
  - Shift in the scope of *they* (Conrod 2019) represents most recent in long line of changes in English pronominal system (Bodine 1975; Silverstein 1985)

Notes on *they*

- Epicene *they* now most frequent and most accepted form (Lascotte 2016)

- Rapidly changing gender notions are pushing us towards new pronominal organization to accommodate for singular *they* (Konnelly & Cowper 2020)
  - **Nonbinary *they*** to represent nonbinary identities (Conrod 2019, Hekanaho 2020)

- Konnelly and Cowper (2020) propose tripartite change in nonbinary *they*
  - At final stage, gender features become optional modifiers

Pronouns enmeshed

- Negative attitudes towards *they* predicted by:
  - Sexist and transphobic attitudes (Bradley 2020; Hekanaho 2020)
  - Prescriptivist 'grammarian' ideologies (Hernandez 2020; Bradley 2020)

- Positive attitudes towards *they* predicted by:
  - Younger age (Conrod 2019; Camilliere et al. 2021)
  - Transgender identity/experience (Konnelly & Cowper 2020)

- However, natural **usage** of nonbinary *they* is underexplored (cf. Conrod 2019; Sheydaei 2021)

Harmful language practices

- Third-person pronominal **misgendering** (Conrod 2019)
  - Misgendering trans TV character associated with implicit attitudes (Conrod 2018b)
  - More negative sentiment in Tweets misgendering Chelsea Manning (Conrod 2017)

- **Deadnaming** is the use of a transgender person's former name – often, one given to them at moment of sex assignment at birth (Sinclair-Palm 2017)
  - Deadnaming comments on Urban Dictionary focused on Caitlyn Jenner's anatomical features and characterized her using binary gender terms (Turton 2021)

Inspecting cisnormativity

- Proper name and third-person pronoun specification are among the first acts of linguistic self-determination trans individuals make (Konnelly & Cowper 2020)

- Misgendering and deadnaming function to perpetuate cisnormativity
  - Lead to negative mental health outcomes (McLemore 2015; Olson et al. 2016)

- Research on these practices is extremely recent (Conrod 2020; Turton 2021)

Methods

Present Study

RQ 1: Does the uptake of gender-affirming pronouns differ by listed pronoun suite? How do documented coming-out events mediate this uptake?

RQ 2: Do potential disparities in affirming pronoun and proper name usage between groups co-occur with socio-lexical patterns?

- Computational analysis of social media corpus: 7m tweets discussing…
  - Two trans celebrities who use binary pronouns - **trans-binary** group
  - Two nonbinary trans celebrities who use nonbinary *they* - **trans-nonbinary** group
  - Three celebrities who use binary pronouns with no COE - **comparison** group

Data set celebrities

Sam Smith
they/them
Nonbinary
British singer
66 weeks

Demi Lovato
they/them
Nonbinary
American singer
66 weeks

Caitlyn Jenner
she/her
Trans woman
American athlete
72 weeks

Elliot Page
he/they
Trans masculine
Canadian actor
66 weeks

Doja Cat
she/her
Cis woman
American rapper
27 weeks

Laverne Cox
she/her
Trans woman
American actress
103 weeks

Tom Holland
he/him
Cis man
British actor
27 weeks

Methods

- Tweets scraped using Twitter API v2 in Python between Dec 2021-March 2022

- Tweets pre-processed and submitted to extensive filtering process
  - Standardized across celebrity through token replacement

- For each tweet, I determined…
  - Affirming name and pronoun usage rate
  - Presence of listed pronouns or trans/LGBTQ+ pride flag in Twitter bio/location
  - Presence of lemmas from eight lexical categories

NAME pilot lexical associations

- Binary classifier against general prior (Monroe et al. 2008)
- Hundreds of significant lexical correlations with DEADNAME or NAME-AFFIRM
- DEADNAME correlated with…
  - (dead) Twitter handle; binary gender, sex terms; humor (lol, 😂, 🤣)
- NAME-AFFIRM correlated with…
  - General celebrity discussion; transgender identity terms
- These results serve as the basis for eight lexical category measures

Lexical categories

Transgender identity – 12 lemmas

Binary gender – 11 lemmas

Gender/sex – 3 lemmas

LGBTQ+ – 7 lemmas

Coming-out event – 17 lemmas

Biological essentialism – 21 lemmas

Hate speech – 13 lemmas

Pride/support – 16 lemmas

Filtering process

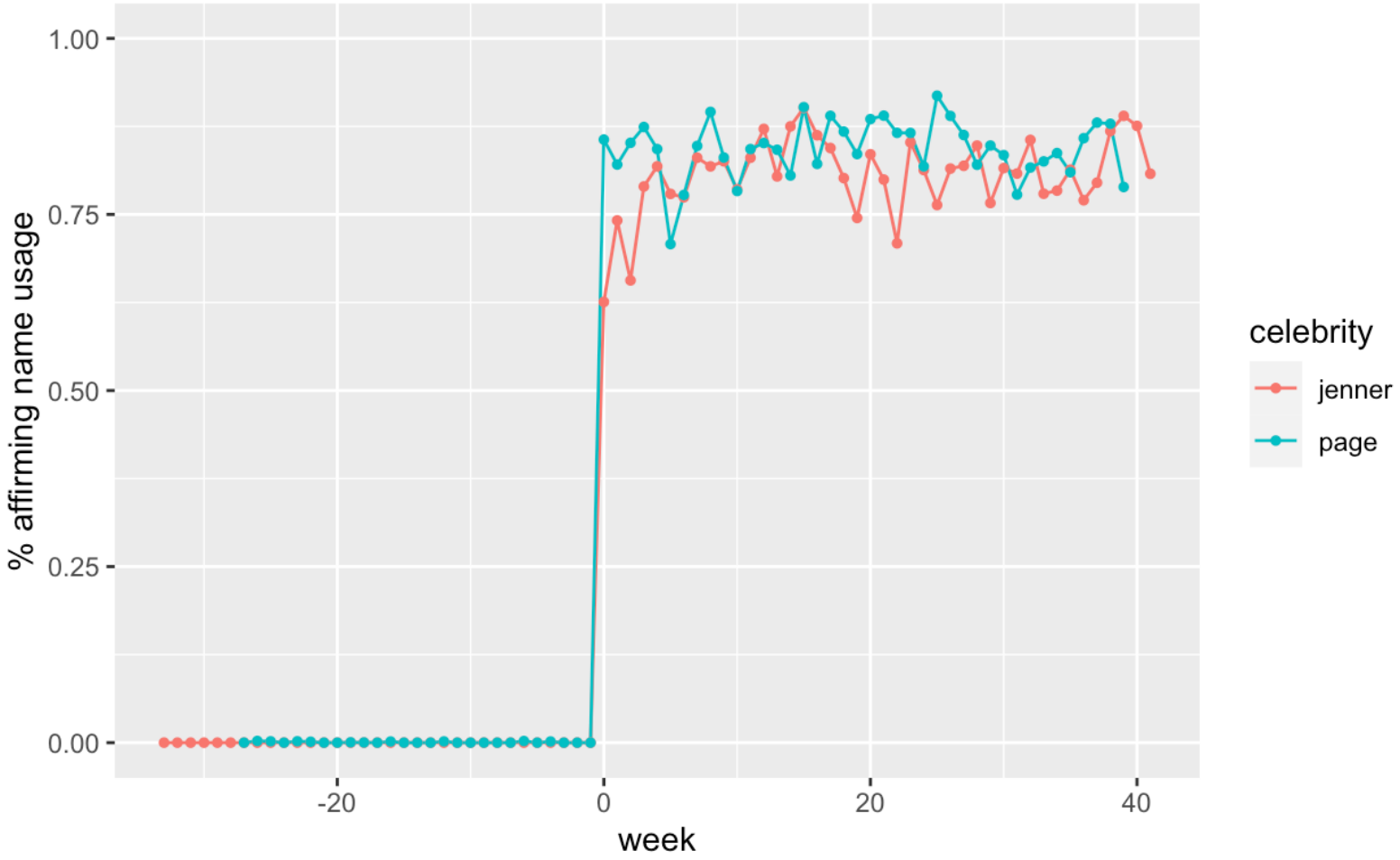
1. **DUP** Remove tweet if duplicate written by same author.
2. **NAME** Remove tweet if it does not contain (dead)name or (dead)handle
3. **PRON** Remove tweet if it does not contain third-person pronouns
4. **COREF** Remove tweet if it contains coreferential dependencies between a third-person pronoun and something that is NOT a celebrity token
5. **ALTENT** Remove tweet if it contains a proper name flagged by SpaCy named-entity-recognizer or in 'alternate entity' list compiled by hand
6. **ALTHAND** Remove tweet if contains a Twitter handle that is not a celebrity account handle

Celebrity	Total Tweets	F1: DUP	F2: NAME	F3: PRON	F4: COREF	F5: ALTENT	F6: ALTHAND
Elliot Page	267,027	263,666	253,842	76,217	42,683	37,843	22,619
Sam Smith	601,835	523,171	509,644	83,278	51,461	43,641	26,619
Demi Lovato	1,188,029	933,103	892,300	161,624	105,751	88,125	50,513
Caitlyn Jenner	2,613,733	2,452,601	2,250,303	547,483	409,054	320,698	293,513
Laverne Cox	252,725	238,466	218,372	30,207	23,667	20,026	17,221
Tom Holland	557,482	531,435	504,546	112,417	76,088	49,081	32,472
Doja Cat	1,585,396	1,498,778	1,365,809	264,372	170,071	149,071	84,201

Results & Discussion

Affirming Name Uptake across Weeks

- Jenner (POST)
  - Mean: **80.63%**
  - SD: 0.056
- Page (POST)
  - Mean: **84.3%**
  - SD: 0.041
- Deadnaming is statistically stationary post-COE
- Comparison rate is 100%

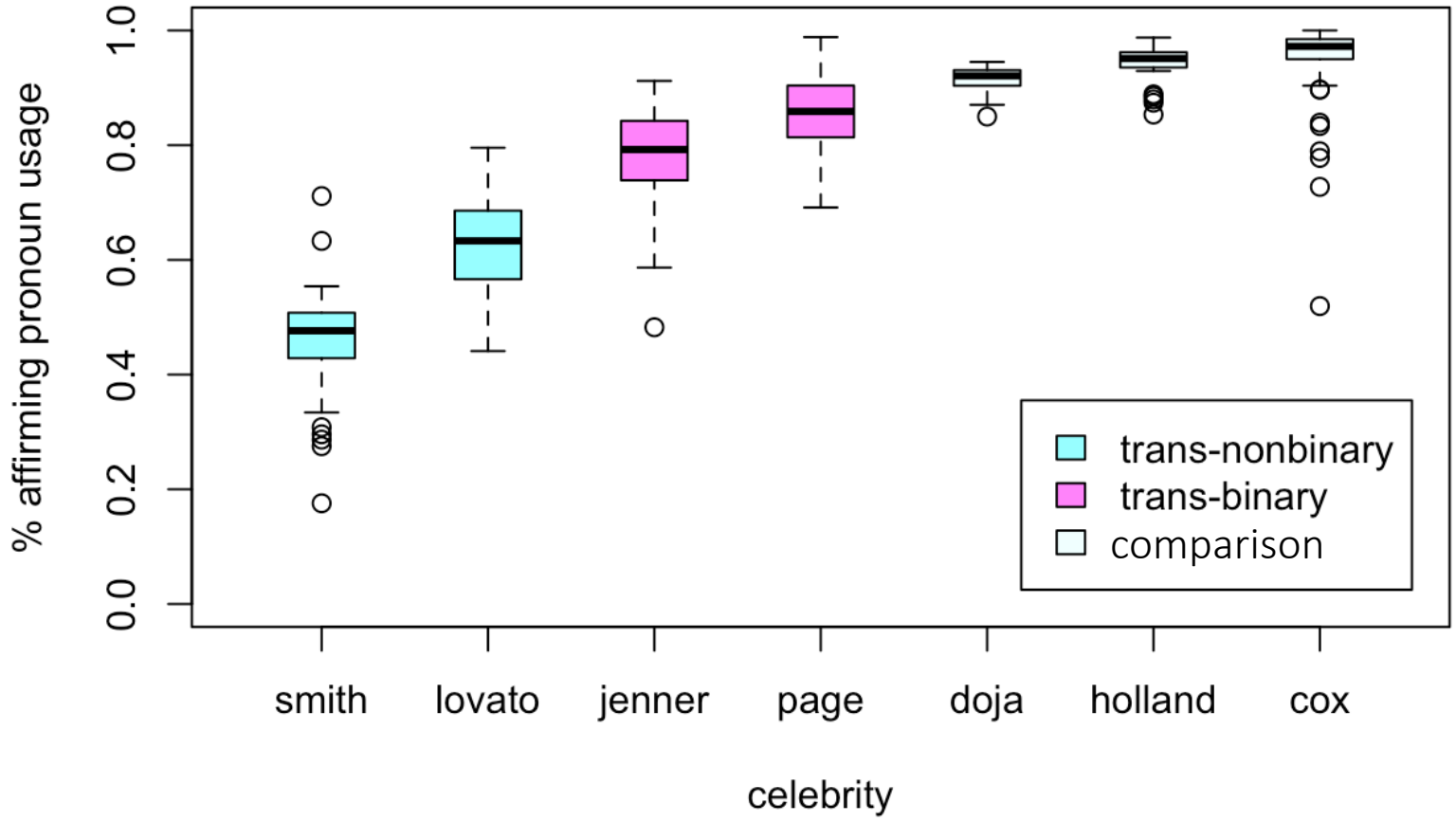


Name Regression Results

- Name-affirming tweets significantly predicted by…
  - Affirming pronominal usage (β=1.177, $p \leq 0.001$)
  - Presence of listed pronouns in tweet author's bio/location (β=1.936, $p \leq 0.001$)
  - Presence of pride flags(s) in tweet author's bio/location (β=0.825, $p \leq 0.001$)
  - Greater follower count (β=0.217, $p \leq 0.01$)
  - Transgender identity terms (β=0.709, $p \leq 0.001$)
- Deadnaming tweets significantly predicted by…
  - Hate speech terms (β=-0.912, $p \leq 0.001$)
  - Binary gender terms (β=-0.739, $p \leq 0.001$)
  - Gender/sex terms (β=-0.37, $p \leq 0.001$)
  - Biological essentialism terms (β=-0.234, $p \leq 0.01$)

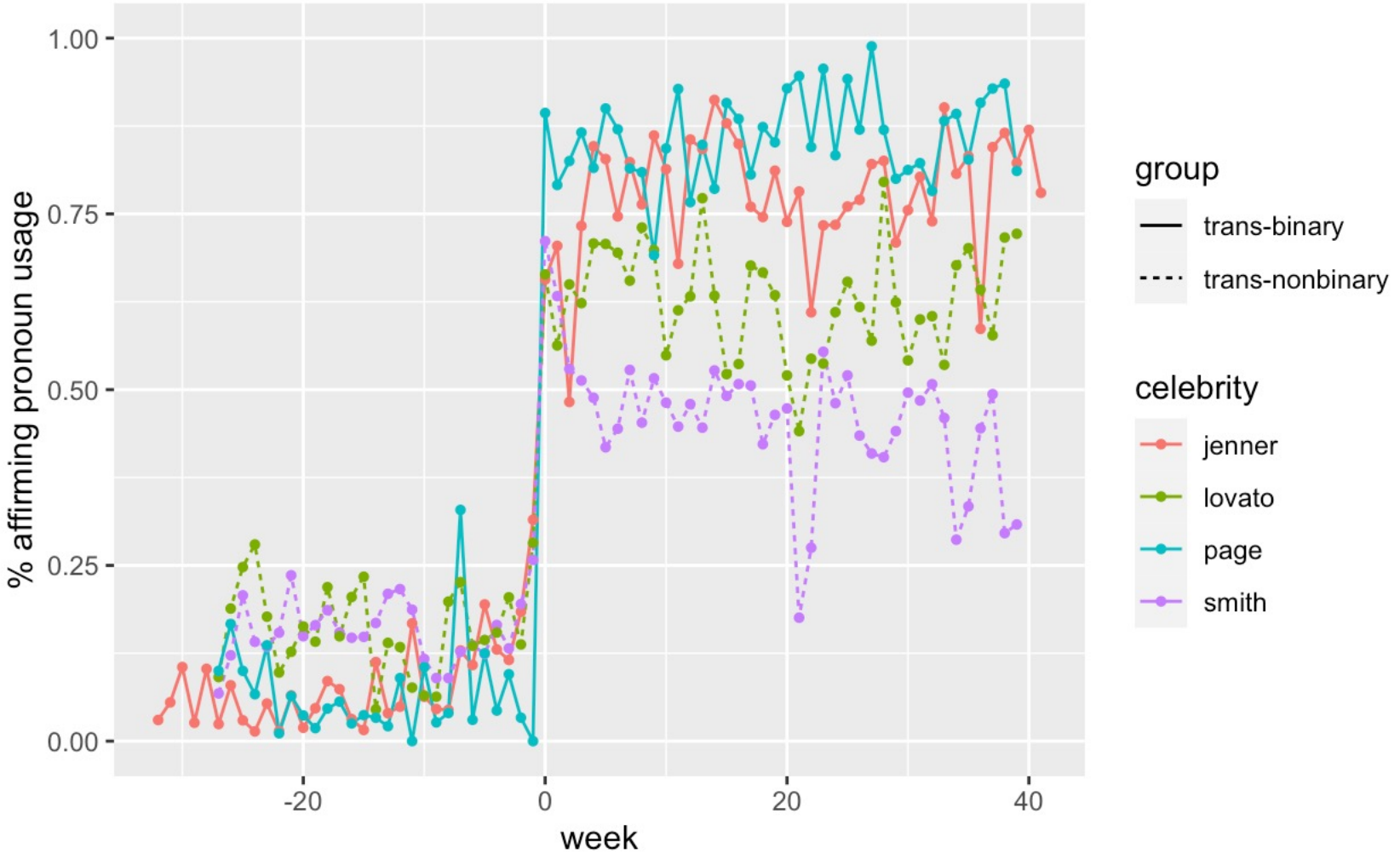
Affirming Pronoun Usage Rate by Week

- Trans-nonbinary (POST)
  - Mean: **54.31%**
  - SD: 0.086
- Trans-binary (POST)
  - Mean: **77.82%**
  - SD: 0.074
- Comparison
  - Mean: **94.12%**
  - Cisgender-SD: 0.028
  - Cox-SD: 0.063



Affirming Pronoun Uptake across Weeks

- Results from ADF tests indicate that uptake happens **immediately**
- No effect of time PRE- or POST-COE when looking at days



Pronoun Regression Results I

- For cisgender comparison group, gender-affirming tweets predicted by…
  - Binary gender terms (β=0.359, $p \leq 0.001$)
  - Pride/support terms (β=0.666, $p \leq 0.001$) *

- For target groups, misgendering tweets significantly predicted by…
  - Binary gender terms (T-B: β=-0.728, $p \leq 0.001$; T-NB: β=-0.932, $p \leq 0.001$)
  - Hate speech terms (T-B: β=-0.54, $p \leq 0.001$; T-NB: β=-0.488, $p \leq 0.001$)
  - Biological essentialism terms (T-B: β=-0.623, $p \leq 0.001$; T-NB: β=-0.426, $p \leq 0.001$)

- For target groups, gender-affirming tweets significantly predicted by…
  - Pronouns in bio (T-B: β=1.104, $p \leq 0.001$; T-NB: β=1.295, $p \leq 0.001$)
  - COE terms (T-B: β=0.546, $p \leq 0.001$; T-NB: β=0.374, $p \leq 0.001$)
  - Flag(s) in bio (T-B: β=0.631, $p \leq 0.05$; T-NB: β=0.274, $p \leq 0.01$)

Pronoun Regression Results II

- Differences between the trans-binary and trans-nonbinary celebrities

- Much larger effect of transgender terms for trans-nonbinary group
  - T-NB: (**β=1.455**, $p \leq 0.001$)
  - T-B: (**β=0.433**, $p \leq 0.001$)
  - Cox: (β=0.411, $p \leq 0.05$)

- Gender/sex terms predict gender-affirming for trans-nonbinary group but misgendering tweets for trans-binary group
  - T-NB: (**β=0.402**, $p \leq 0.001$)
  - T-B: (**β=-.901**, $p \leq 0.001$)

Overview of Results I

RQ 1: *Does the uptake of gender-affirming pronouns differ by listed pronoun suite? How do documented coming-out events mediate this uptake?*

- Following a coming-out event (COE), affirming pronoun and proper name uptake happens **immediately** and remains **stable**
  - **ADF tests indicate stationarity in PRE & POST conditions for target group, in GROSS condition for comparison group**

- Disparity between analysis groups: T-NB **54.3%**, T-B **77.8%**, COMP **94.1%**

Overview of Results II

RQ 2: *Do potential disparities in affirming pronoun and proper name usage between groups co-occur with socio-lexical patterns?*

- Affirming usage predicted by prons/flag in bio; trans, COE, and pride terms
- Misgendering/deadnaming predicted by binary gender, biological essentialism, and hate speech terms
- Differences observed for T-NB and T-B for gender terms and trans effect size
  - Much larger effect of trans terms for T-NB group
  - Gender/sex terms predicted misgendering for T-B but affirming use for T-NB

Discussion

- Patterns of deadnaming and misgendering co-occur with linguistic aspects of cisnormativity (Hornscheidt 2015; Borba & Milani 2017; Ericsson 2018, 2021)
  - Binary gender: *all individuals can be classified using man-woman binary*
  - Hate speech: *to fit ideological schema, trans identities must be erased*
  - Biological essentialism: *man-woman strictly corresponds to male-female sex*

- **Cisnormativity as driving force behind disparities in users' gender-affirming pronoun and name usage surrounding these celebrities**

Thank you!

C. Michael Senko & Rob Voigt
Northwestern University
LavLang 28

Works referenced I

Ackerman, L. (2018). *Our words matter: acceptability, grammaticality, and ethics of re- search on singular 'they'-type pronouns* (Unpublished doctoral dissertation). Newcastle University.

Ackerman, L. (2019). Syntactic and cognitive issues in investigating gendered coreference. *Glossa*, *4*, 1-27.

Bodine, A. (1975). Androcentrism in prescriptive grammar: singular 'they', sex-indefinite 'he', and 'he or she". *Language in Society*, *4*, 129-175.

Borba, R. (2019). Gendered politics of enmity: Language ideologies and social polarisation in brazil. *Gender and Language*, *13*, 423-448.

Borba, R., & Milani, T. M. (2017). The banality of evil: Crystallised structures of cisnormativity and tactics of resistance in a brazilian gender clinic. *Journal of Language and Discrimination*, *1*, 7-33.

Bradley, E. D. (2020, 3). The influence of linguistic and social attitudes on grammaticality judgments of singular 'they'. *Language Sciences*, *78*.

Bucholtz, M., & Hall, K. (2004). Theorizing identity in language and sexuality research. *Language in society*, *33*(4), 469–515.

Butler, J. (1990). *Gender trouble*. Routledge.

Camilliere, S., Izes, A., Leventhal, O., & Grodner, D. J. (2021). They is changing: Pragmatic and grammatical factors that license singular they. In *Proceedings of the annual meeting of the cognitive science society* (p. 1542-1548).

Conrod, K. (2017). Names before pronouns: Variation in pronominal reference and gender. In *Northwest linguistics conference, university of british columbia.*

Conrod, K. (2018b, 10). Pronouns and misgendering. In *New ways of analyzing variation.*

Conrod, K. (2019). *Pronouns raising and emerging* (Unpublished doctoral dissertation). University of Washington.

Conrod, K. (2020). Pronouns and gender in language. In K. Hall & R. Barrett (Eds.), Oxford University Press.

Corbett, G. G. (1991). *Gender*. Cambridge University Press.

Ericsson, S. (2018). The language of cisnormativity: Children and parents in interaction with a multimodal app. *Gender and Language*, *12*, 139-167.

Gal, S., & Irvine, J. T. (2019). *Signs of difference: Language and ideology in social life*. Cambridge University Press.

Hekanaho, L. (2020). *Generic and nonbinary pronouns: Usage acceptability and attitudes* (Unpublished doctoral dissertation). University of Helsinki.

Hernandez, E. E. (2020). *Pronouns, prescriptivism, and prejudice: Attitudes toward the singular 'they', prescriptive grammar, and nonbinary transgender people* (Unpublished master's thesis). Purdue University.

Hord, L. C. R. (2016). Bucking the linguistic binary: Gender neutral language in english, swedish, french, and german. *Proceedings of Western Interdisciplinary Student Symposium on Language Research*, *3*.

Hutto, C. J., & Gilbert, E. (2014). Vader: A parsimonious rule-based model for sentiment analysis of social media text. In *Proceedings of the eighth international aaai conference on weblogs and social media* (p. 216-225).

Works referenced II

Jones, J. J. (2021). A dataset for the study of identity at scale: Annual prevalence of american twitter users with specified token in their profile bio 2015–2020. *PloS one*, *16*(11), e0260185.

Konnelly, L., & Cowper, E. (2020). Gender diversity and morphosyntax: An account of singular they. *Glossa*, *5*, 1-19.

Kosnick, K. (2019). The everyday poetics of gender-inclusive french: Strategies for navigating the linguistic landscape. *Modern and Contemporary France*, *27*, 147-161.

Koyama, E. (2003). The transfeminist manifesto. In R. Dicker & A. Piepmeier (Eds.), (p. 244-259). Northeastern University Press.

Lascotte, D. K. (2016, 2). Singular they: An empirical study of generic pronoun use. *American Speech*, *91*, 62-80.

McConnell-Ginet, S. (2014). Gender and its relation to sex: The myth of 'natural' gender. In G. G. Corbett (Ed.), (Vol. 6, p. 3-39).

McLemore, K. A. (2015, 1). Experiences with misgendering: Identity misclassification of transgender spectrum individuals. *Self and Identity*, *14*, 51-74.

Monroe, B. L., Colaresi, M. P., & Quinn, K. M. (2008). Fightin' words: Lexical feature selec- tion and evaluation for identifying the content of political conflict. *Political Analysis*, *16*, 372-403.

Olson, K. R., Durwood, L., Demeules, M., & McLaughlin, K. A. (2016, 3). Mental health of transgender children who are supported in their identities. *Pediatrics*, *137*.

Popič, D., & Gorjanc, V. (2018). Challenges of adopting gender–inclusive language in slovene. *Suvremena Lingvistika*, *44*, 329-350.

Sendén, M. G., Bäck, E. A., & Lindqvist, A. (2015). Introducing a gender-neutral pronoun in a natural gender language: The influence of time on attitudes and behavior. *Frontiers in Psychology*, *6*.

Sheydaei, I. (2021). Gender identity and nonbinary pronoun use: Exploring reference strategies for referents of unknown gender. *Gender and Language*, *15*, 369-393.

Silverstein, M. (1985). Language and the culture of gender: At the intersection of structure, usage, and ideology. In *Semiotic mediation* (pp. 219–259). Elsevier.

Simpson, L., & Dewaele, J. M. (2019, 3). Self-misgendering among multilingual transgender speakers. *International Journal of the Sociology of Language*, *2019*, 103-128.

Sinclair-Palm, J. (2017). 'it's non-existent': Haunting in trans youth narratives about naming. *Occasional Paper Series*, *2017*, 1-13.

Sluchinski, K. (2019). Genderless narratives: The pragmatics of ta in chinese social media. In *The 2019 annual conference of the canadian linguistic association: 2019 congress of the humanities and social sciences.*

Turton, S. (2021). Deadnaming as disformative utterance: The redefinition of trans woman- hood on urban dictionary. *Gender and Language*, *15*, 42-64.

Zimman, L. (2009). 'the other kind of coming out': Transgender people and the coming out narrative genre. *Gender & Language*, *3*(1).

Zimman, L. (2017). Transgender language reform. *Journal of Language and Discrimination*, *1*, 84-105.

Zimman, L. (2019). Trans self-identification and the language of neoliberal selfhood: Agency, power, and the limits of monologic discourse. *International Journal of the Sociology of Language*, *2019*, 147-175.

Zimman, L. (2020). Transgender language, transgender moment: Toward a trans linguistics. In K. Hall & R. Barrett (Eds.), Oxford University Press.