Number, animacy, and individual variation in the processing of cataphora

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Psycholinguistic background on the processing of **Cataphora**

A cataphor (pronoun that precedes its referent) causes an **active search** for a feature-matched NP [1-4]

- Evidence mostly comes from Gender Mismatch Effects (GMEs)
- e.g. for reading times: ***she…FEM*** = 🐇 (1a), but ***he…FEM*** = 🐌 (1b)

(1) a. After **she** made breakfast, **the nun** interviewed the monk.
b. After **he** made breakfast, **the nun** interviewed the monk.

How general is this feature-guided search?

- Some previous evidence for Number Mismatch Effects (NMEs) [3,4]
- But, PL is semantically underspecified [5], and *they* has many uses!

Sociolinguistic background on the emergence of **Singular *They***

Especially in North America, non-plural uses of *they* are becoming more common [5-8]

(2) a. **Those poets** look like **they** work out. — Plural *they*
b. **Every poet** looks like **they** work out. — Bound Variable *they*
c. %**That poet** looks like **they** work out. — Definite Singular *they*

NB: Singular *they* must have an animate referent [5]

(3) a. **Those chairs** look like **they** recline.
b. #**Every chair** looks like **they** recline. — No inanimate SG *they*
c. #**That chair** looks like **they** recline.

Off-line sociolinguistic work on SG *they* (esp. definite)

- Younger people rate it better than older people: change in progress [3]
- Transgender & nonbinary people rate it better than cis people [3,4]
- Other factors: prescriptivism, trans acceptance, political affiliation… [3]

Our previous socio-psycholinguistic work on **Cataphoric They**

Reading-time study recruiting diverse participants [6]

- Initial evidence that real-time comprehension strategies for *they* vary predictably across sociolinguistic groups

	***They*-Innovators** (Younger, Noncis)	***They*-Noninnovators** (Older, Cis)	
Cataphoric *s/he*	Strong expectation for SG *s/he…PL* = 🐌		***Uniform* NME**
Cataphoric *they*	Weak exp. for PL *they…SG* = 🐇	Strong exp. for PL *they…SG* = 🐌	***Differential* NME**

- Prediction: *they*.INAN should evoke strong PL expectations for everyone

Current study: Design and recruitment breakdown

Subexp1 (HUM): {***s/he***, ***they***} × {**NP1$_{SG}$**, **NP1$_{PL}$**}; 28 itemsets from [6]

(4) a. When **she** exercises at home, **the reporter** misses the librarians' enthusiastic encouragement. — ***s/he…SG***
b. When **she** exercises at home, **the reporters** miss the librarian's… — ***s/he…PL***
c. When **they** exercise at home, **the reporter** misses the librarians'… — ***they…SG***
d. When **they** exercise at home, **the reporters** miss the librarian's… — ***they…PL***

Subexp2 (INAN): {***it***, ***they***} × {**NP1$_{SG}$**, **NP1$_{PL}$**}; 28 new itemsets

(5) a. After **it** was replanted last spring, **the elm** protected the petunias from harsh sunlight. — ***it…SG***
b. After **it** was replanted last spring, **the elms** protected the petunia… — ***it…PL***
c. After **they** were replanted last spring, **the elm** protected the petunias… — ***they…SG***
d. After **they** were replanted last spring, **the elms** protected the petunia… — ***they…PL***

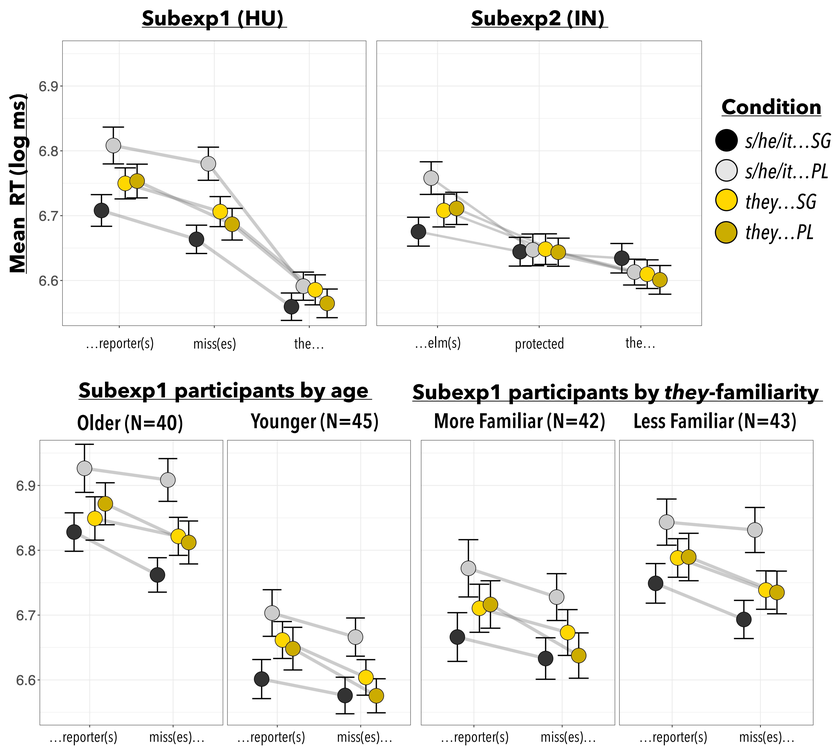
Participant breakdown

- Recruited from a previous big socio-lx survey (many other variables for analysis)
- This study ended with a mini acceptability task

	More familiar with def. SG *they*	**Less familiar** with def. SG *they*
Older (born before '80)	N=18	N=22
Younger (born after '89)	N=24	N=21

L-Maze task [9], hosted on PC-Ibex [9]

Reading-time **Results** at critical regions & spillovers



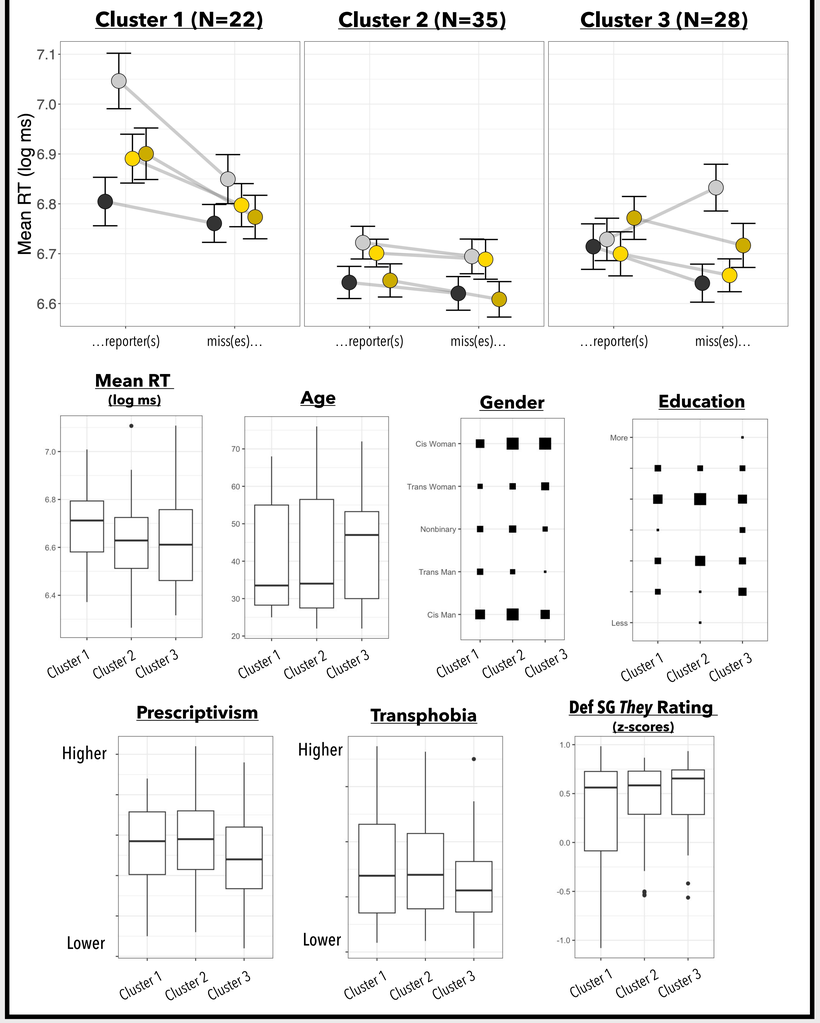
Discussion and **Exploratory analyses**

They evokes middling expectations, even INAN *they*!

- Predictions about group-level variation not borne out (cf. [3])

Exploration: *k*-means clustering of *z*-scored RTs

- There are different patterns of behavior, but they're hard to predict from demographic variables



References and **Acknowledgements**

[1] Van Gompel & Liversedge 2003 [1] Kazanina et al. 2007 [1] Giskes & Kush 2021 [1] Ackerman 2015 [1] Conrod 2022 [1] Bjorkman 2017 [1] Konnelly & Cowper 2020 [1] Camilliere et al. 2021 [1] Sauerland 2008 [1] Moulton et al. 2020 [1] Foley & Ahn submitted [1] Zehr & Schwarz 2018 [1] Boyce et al. 2020 [1] Nouns paper

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