

Online and offline processing of masculine generics in Czech

Mikuláš Preininger^{1,4}, James Brand², Dario Paape³, Jan Chromý⁴

¹Institute of Psychology, CAS, ²Edge Hill University, ³University of Potsdam, ⁴Charles University

mikulas.preininger@psu.cas.cz

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genericity

masculine forms can be (and often are) used...

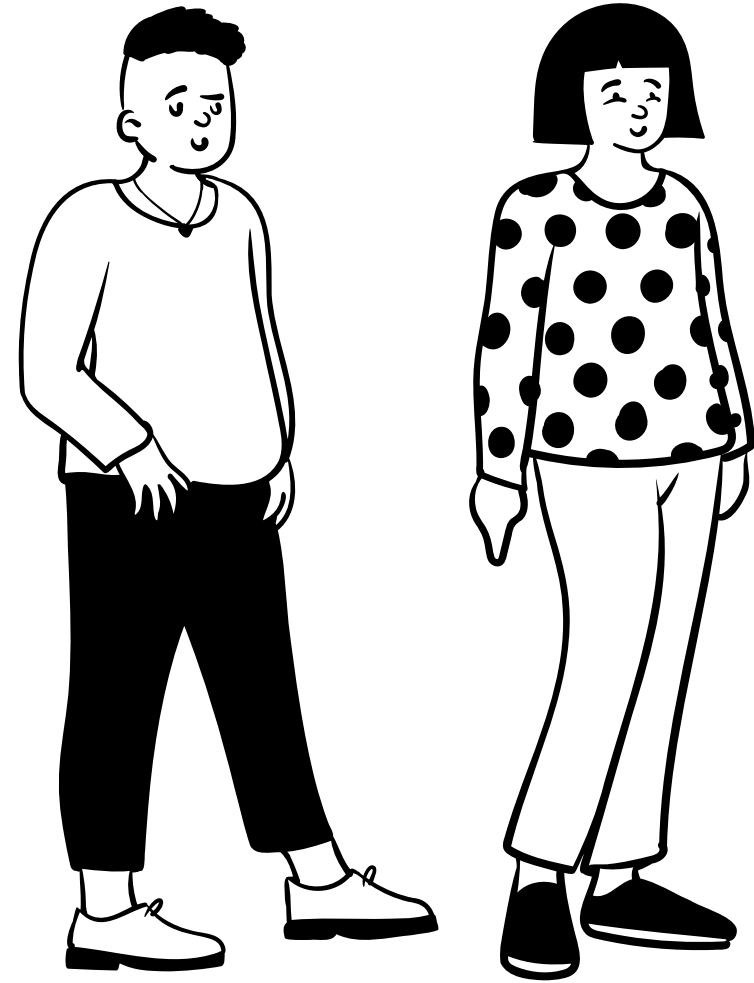
... to refer to males only



genericity

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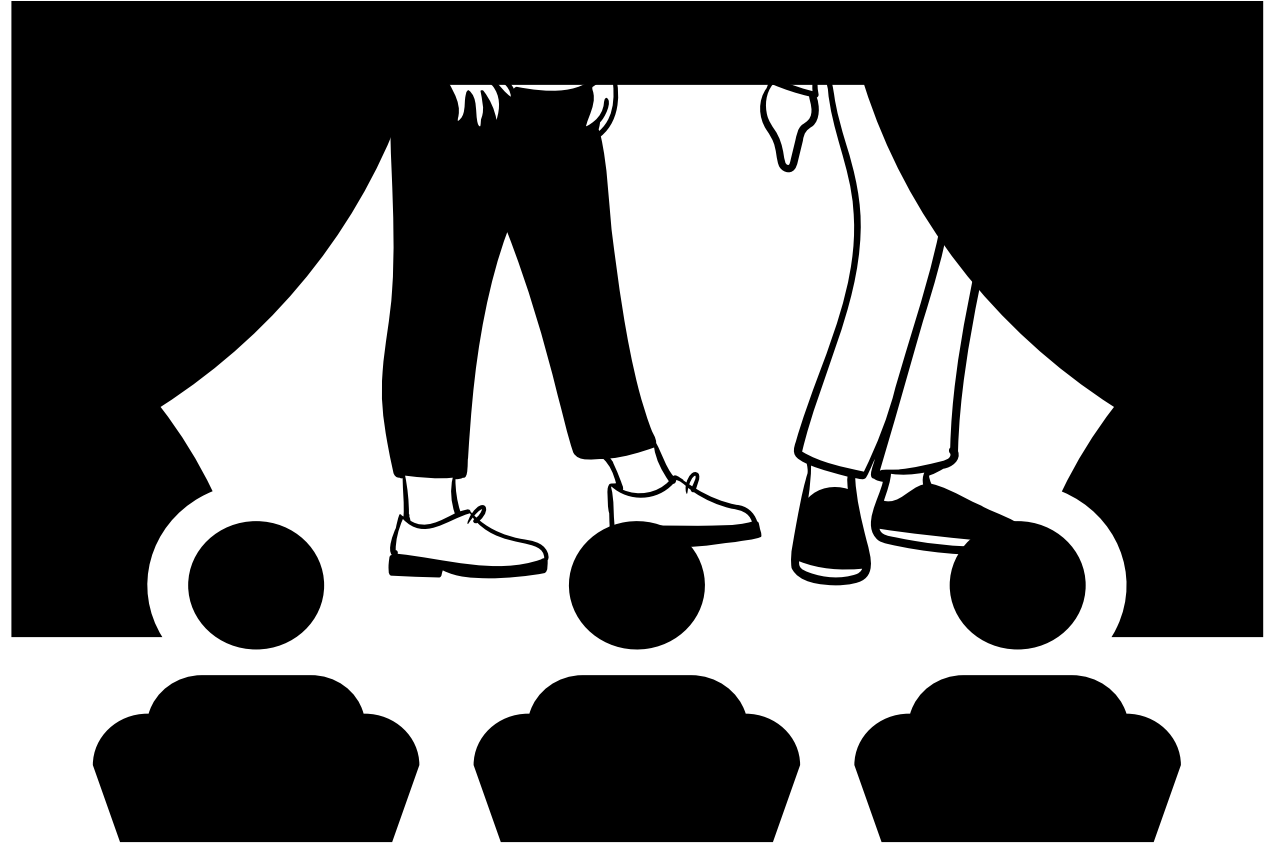
... to refer to a gender-mixed group



genericity

masculine forms can be (and often are) used...

... in situations when the gender is unknown/irrelevant



ambiguity of masculine forms

male biased representation tends to be activated

- naming task (Stahlberg et al. 2001)
- proportion estimation (Braun et al., 1998, Tibblin et al., 2023, Xiao et al., 2023)
- sentence evaluation (Gygax et al. 2008, Sato et al. 2012, Garnham & Yakovlev, 2015)
- reading times (Irmén & Roßberg, 2004, Anaya-Ramírez et al., 2022)
- ERPs (Misersky et al., 2019, Mikić et al., 2022, Glim et al., 2023, Glim et al. 2024)

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German, French, Russian, Slovene, Spanish, ...

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differences in the range and magnitude of effects (Gygax et al., 2008)

Gygax et al. (2008)

[G1] Die **Musiker/Golferspieler/Sozialarbeiter** liefen durch den Bahnhof.

[G2] Wegen der schönen Wetterprognose trugen mehrere der Frauen/Männer keine Jacke.

[F1] Les **musiciens/golfeurs/assistants sociaux** marchaient dans la gare.

[F2] Du beau temps étant prévu plusieurs femmes/hommes n'avaient pas de veste.

[E1] The **musicians/golfers/social workers** were walking through the station.

[E2] Since sunny weather was forecast several of the women/men weren't wearing a coat.

Is the second sentence a sensible continuation of the first one? (yes/no)

lower proportions of positive responses and their higher RTs → integration issues

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$G (*) > F (*)$

$G (*) \times F (.)$

Preininger et al. (submitted)

replication:

- even larger effects in Czech
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extension:

- the effect is much weaker if the semantic link increases and a Likert scale is used

Chromý et al. (Stage 1 Reg. Report, 2024)

Language	Linear order	Gender reference	Sentence
English	role noun first	female & male	The most sought after physicians in the hospital are surely Martina and Samuel, but they are not the most responsible.
English	role noun second	female & male	Martina and Samuel are surely the most wanted physicians in the hospital, but they are not the most responsible.
German	role noun first	female & male	Die meistgesuchten Mediziner im Krankenhaus sind wirklich Martina und Samuel, aber sie sind nicht die verantwortlichsten.
German	role noun second	female & male	Martina und Samuel sind wirklich die meistgesuchten Mediziner im Krankenhaus, aber sie sind nicht die verantwortlichsten.
Czech	role noun first	female & male	Nejvyhledávanější lékaři v nemocnici jsou skutečně Martina a Samuel, ale nejsou nejzodpovědnější.
Czech	role noun second	female & male	Martina a Samuel jsou skutečně nejvyhledávanější lékaři v nemocnici, ale nejsou nejzodpovědnější.

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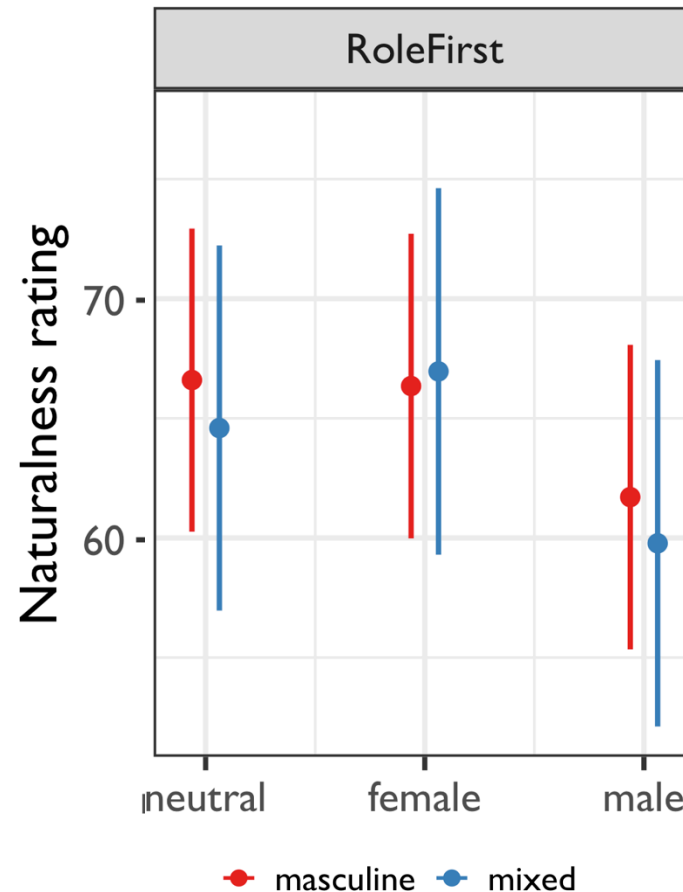
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Chromý et al. (Stage 1 Reg. Report, 2024): naturalness

N=150 (108f, 40m, 2o)
age: M=21.2, SD=1.5

Nejvyhledávanější | lékaři |
v nemocnici | jsou skutečně |
Eduard/Martina a Samuel, |
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physicians | in the hospital |
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and Samuel, | but | they are
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order*genericity*stereotype

nothing significant

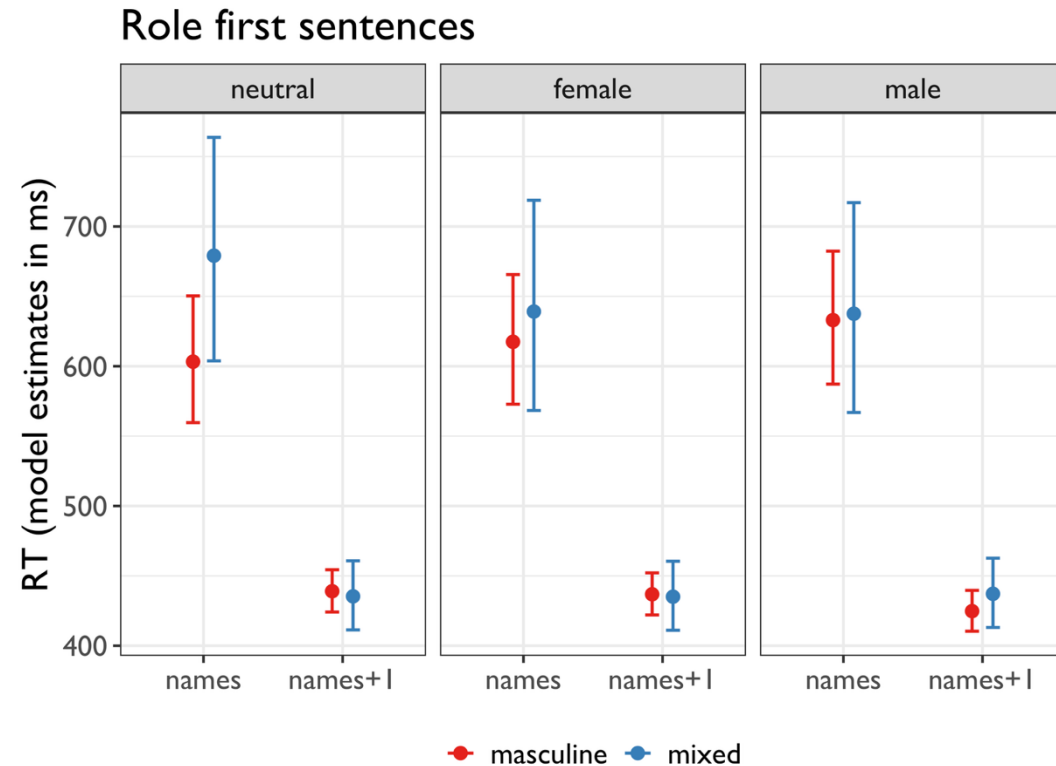
`lmer(rating ~ stereotype * genericity *
order + (1 | participant) + (1 | item))`

Chromý et al. (Stage 1 Reg. Report, 2024): self-paced reading

N=162 (120f, 39m, 3o)
age: M=21.6, SD=1.7

Nejvyhledávanější | lékaři |
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genericity*stereo

names
generic
stereomasc:generic

names + 1
nothing significant

$\text{lmer}(\log(\text{rt}) \sim \text{stereotype} * \text{genericity} * \text{order} + (1 | \text{participant}) + (1 | \text{item}))$

Conclusions & Discussion

- mixed results in offline processing tasks
 - large effect – sensibility, loose interclausal link, binary response
 - slight effect – sensibility, tight interclausal link, Likert response
 - no effect – naturalness, tight intraclausal link, slider response

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 - no effect – naturalness, tight intraclausal link, slider response
- slight male bias in online processing tasks
- MGs sometimes do lead to male bias (but what is the extent?)
- more systematic research needed
 - direct comparison between languages, tasks and structures

Thanks for your attention!

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Jan Chromý



James Brand

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the European Union**



Dario Paape



Co-funded by
the European Union



MINISTRY OF EDUCATION,
YOUTH AND SPORTS

Preininger et al. (submitted): experiment 1

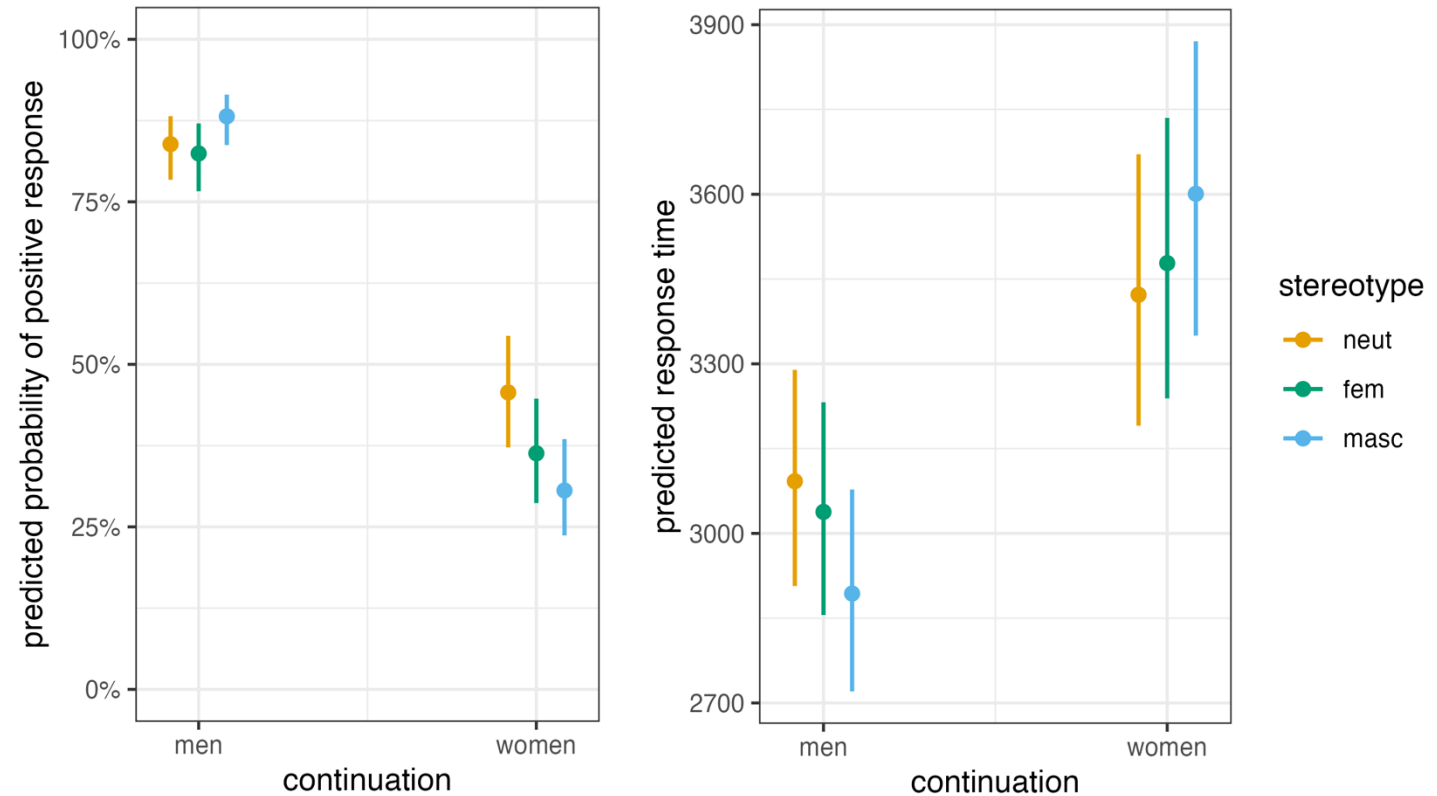
Language	Anaphora	Stereotype		
		Feminine	Masculine	Neutral
English	Feminine	.88	.66	.81
	Masculine	.65	.85	.81
French	Feminine	.59	.58	.56
	Masculine	.77	.83	.73
German	Feminine	.40	.35	.45
	Masculine	.65	.69	.72
Czech	Feminine	.40	.34	.46
	Masculine	.75	.82	.77

Preininger et al. (submitted): experiment 1

N=252 (207f, 42m, 3nb)
age: M=21.5, SD=1.9

response
fem. continuation ***

response time
fem. continuation **



responses: `glmer(response ~ continuation + stereotype + (1 | participant) + (1 | item))`

response times: `lmer(log10(rt) ~ continuation + stereotype + (1 | participant) + (1 | item))`

Preininger et al. (submitted): experiment 2

Experiment 1

E1: *The swimmers were waiting in a room.*

E2: *The weather forecast was terrible so several of the women/men had an umbrella.*

C1: *Plavci čekali v místnosti.*

C2: *Kvůli nepříznivé předpovědi počasí mělo několik žen/mužů deštník.*

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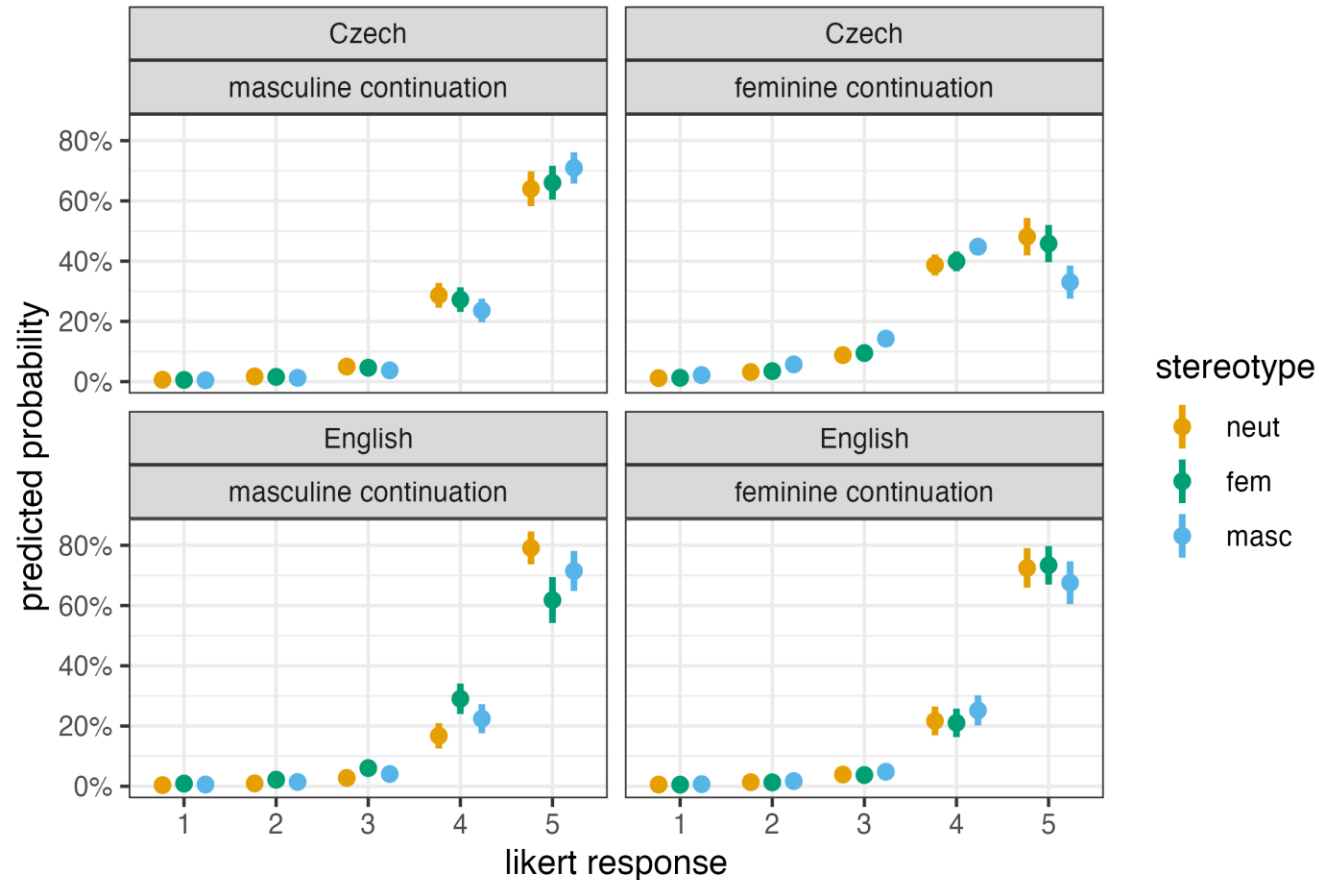
E1: *The swimmers were leaving the pool.*

E2: *Mark's/Michelle's hair was still wet.*

C1: *Plavci odcházeli z bazénu.*

C2: *Kuba/Tereza měl/a pořád ještě mokré vlasy.*

Preininger et al. (submitted): experiment 2



Czech

N=96 (68f, 28m)

age: M=21.8, SD=1.7)

feminine continuation *

English

N=42 (30f, 11m, 1nb)

age: M=23.7, SD=3.2)

feminine stereotype *

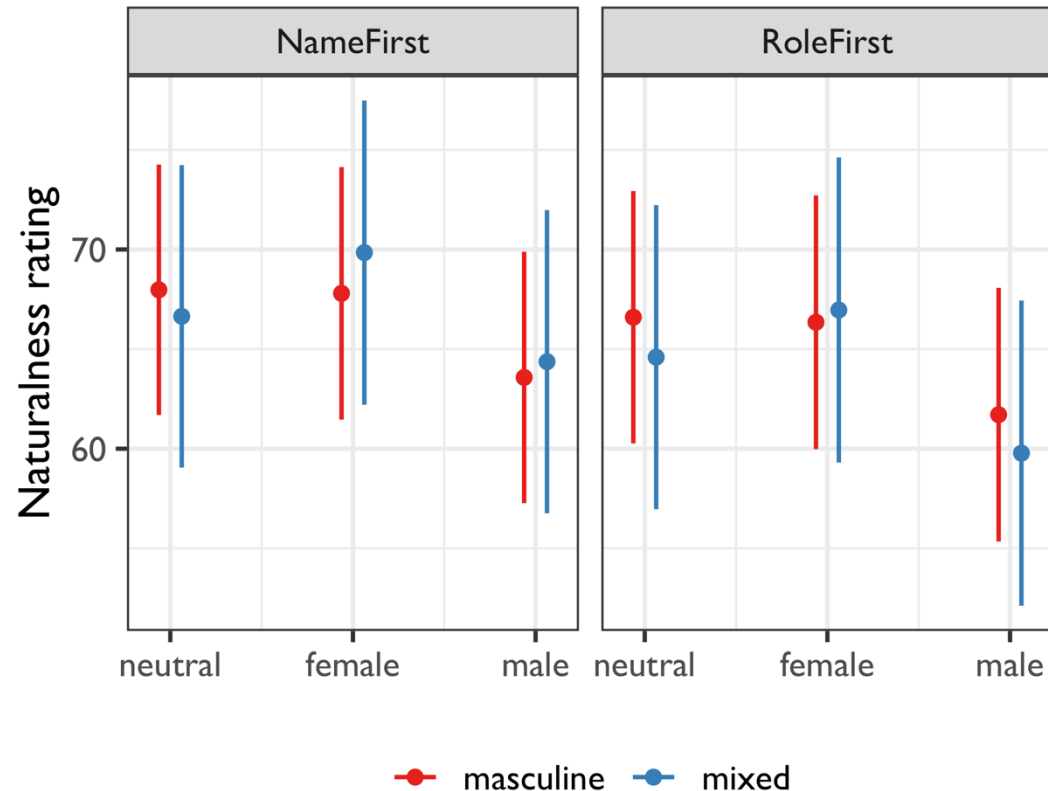
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```

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Edward/Martina
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physicians | in the hospital
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order*genericity*stereo
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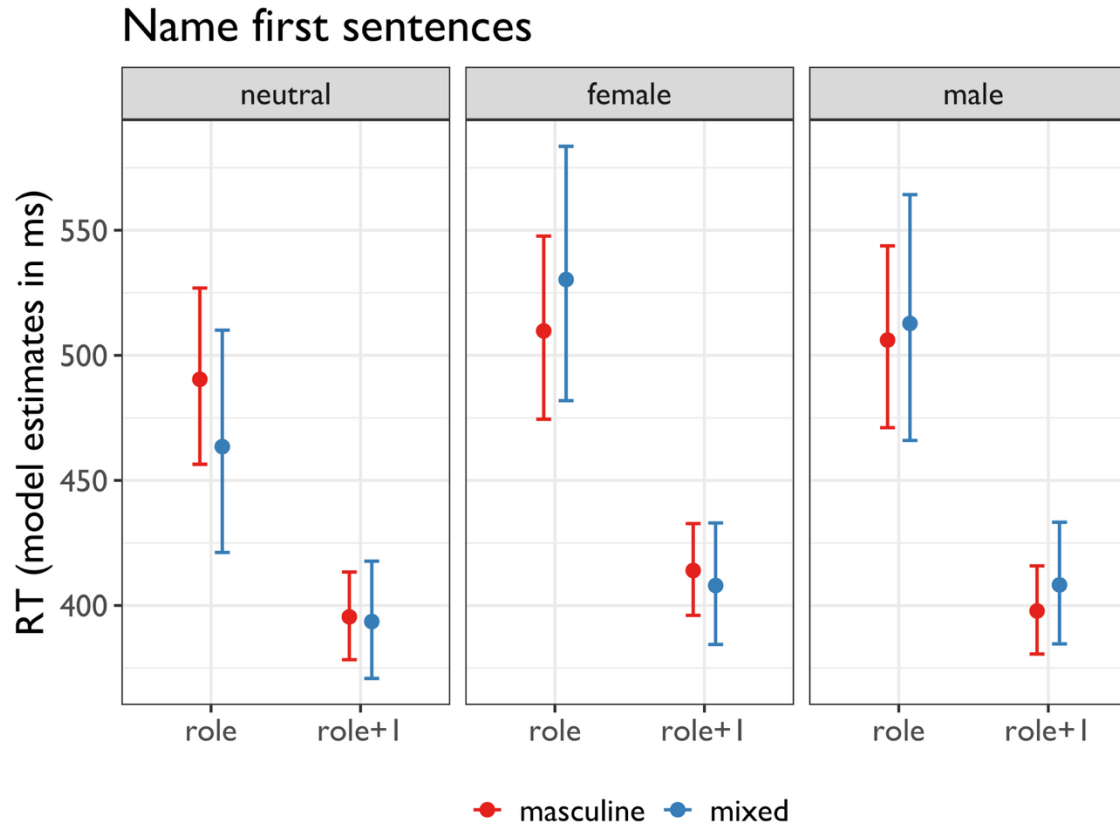
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genericity*stereo

role

stereofem:generic

role + 1

nothing significant

Chromý et al. (Stage 1 Reg. Report, 2024)

Language	Personal pronouns	Other pronouns	Articles	Nouns	Adjectives	Verbs	Sociolinguistic tendencies
English	3 rd person singular	not marked	not marked	not marked	not marked	not marked	strong tendency to use gender-neutral pronouns
German	3 rd person singular	(some) marked in singular	marked in singular	lexically marked	marked in singular	not marked	noticeable tendency for using gender-neutral language
Czech	3 rd person singular and plural	(some) marked in singular and plural	NA	marked in singular and plural	marked mostly in singular and plural	past tense marked in singular and plural	no clear tendency, common use of generic masculine forms