

In German, all professors are male

Dominic Schmitz



The generic masculine in German

Professor →
'professor'



Professorin
'professor'



SINGULAR

PLURAL

Professoren →
'professors'



Professorinnen
'professors'



The generic masculine in German

Professor
'professor'



Professor
'professor'



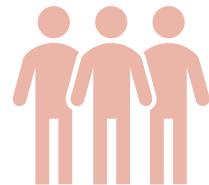
Professorin
'professor'



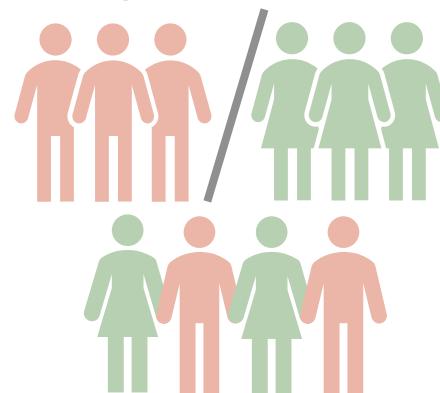
masculine generics abstract away notions of gender

-
they are gender-neutral

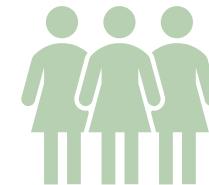
'professors'



'professors'



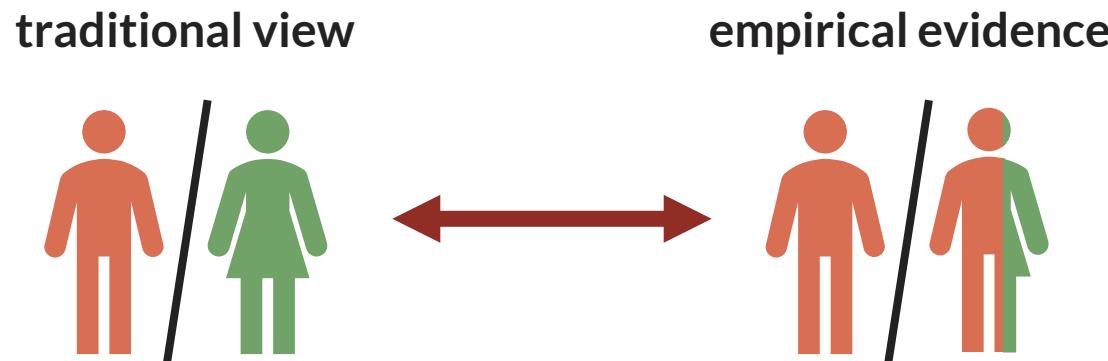
'professors'



cf. Doleschal (2002)

Previous research: Findings

- previous behavioural research has cast doubt on the gender-neutrality of masculine generics
- most (if not all) studies find a clear bias towards the explicit masculine reading (e.g. Demarmels, 2017; Garnham et al., 2012; Gygax et al., 2008; Irmens & Kurovskaja, 2010; Irmens & Linner, 2005; Koch, 2021; Misersky et al., 2019; Stahlberg & Sczesny, 2001; mistakenly Trutkowski (2018) was listed here :))



- generic intention and actual comprehension differ

Previous research: Issues

Issue 1: Stereotypicality

Almost no previous research included potential effects of stereotypicality in their analyses on masculine generics.

Issue 2: Participants

Most studies' results rely on small numbers of participants, most of which were students.

To-do list



- include **stereotypicality** in analysis
- participants: evade...
 - small numbers of participants
 - potential influences of social groups
 - other issues of experimental data elicitation

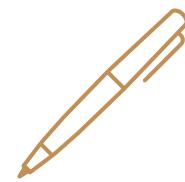
Method



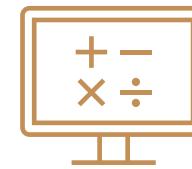
target words with available
stereotypicality ratings ¹



text corpus containing
target + further words ²



annotation of bases, inflectional
functions, genericity ³

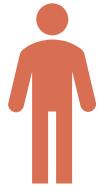


computation of semantic vectors
via Naive Discriminative Learning ⁴

¹ Gabriel et al. (2008); ² Goldhahn et al. (2012); ³ Schmid (1999); ⁴ Baayen & Ramscar (2015)

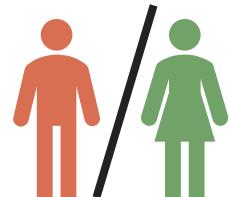
Method

Professor
'professor'



$\overrightarrow{Professor} + \overrightarrow{SINGULAR} + \overrightarrow{MASCULINE} + \overrightarrow{EXPLICIT}$

Professor
'professor'



$\overrightarrow{Professor} + \overrightarrow{SINGULAR} + \overrightarrow{MASCULINE} + \overrightarrow{GENERIC}$

Professorin
'professor'



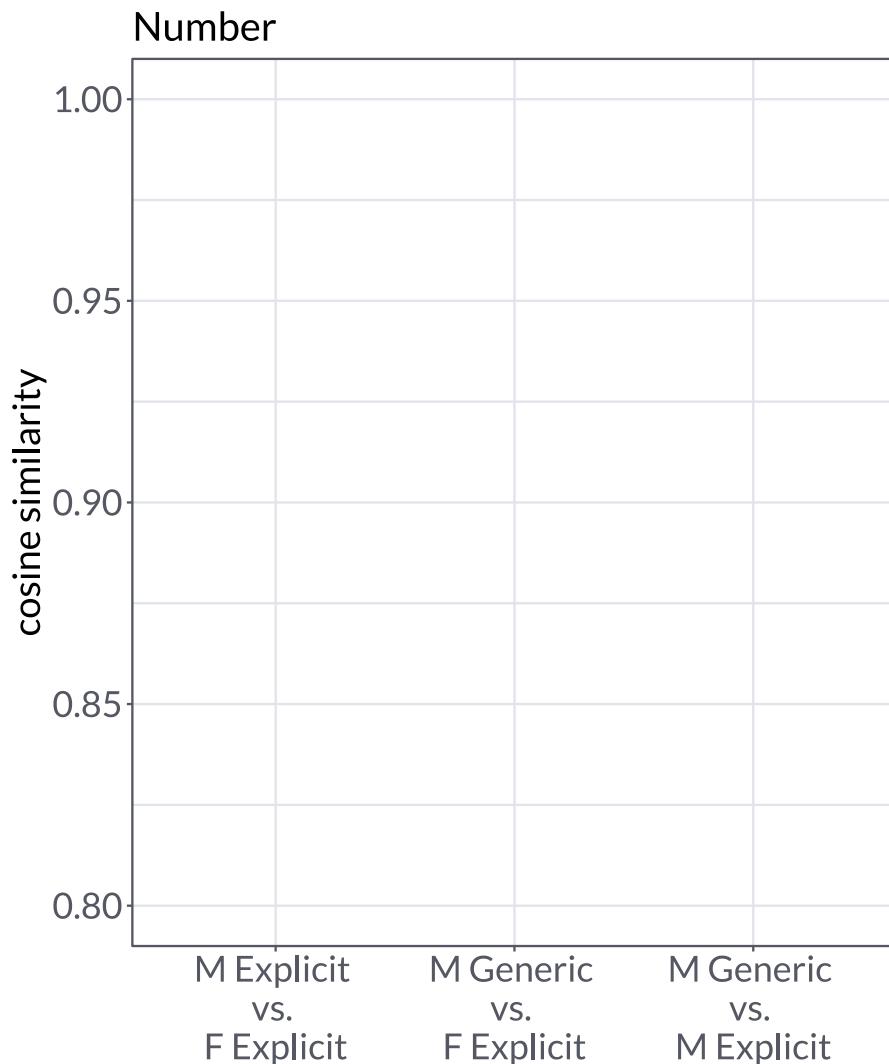
$\overrightarrow{Professor} + \overrightarrow{SINGULAR} + \overrightarrow{FEMININE} + \overrightarrow{EXPLICIT}$

cf. Baayen et al. (2019)

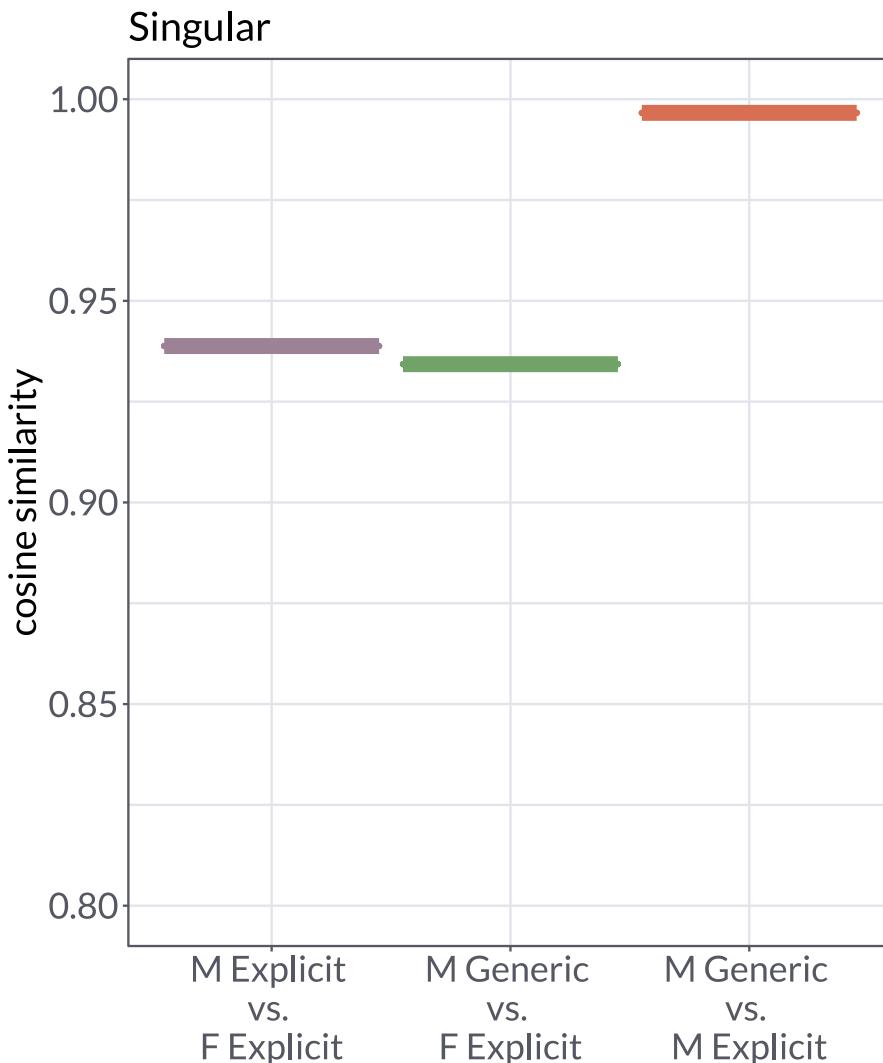
Analysis

- the resulting vectors of masculine generics & masculine and feminine explicits were then compared via cosine similarity
- cosine similarity
 - measure to describe the similarity of vectors
 - takes values in the interval of [0,1]
 - higher values indicate a higher similarity
 - lower values indicate a lower similarity
- in the present case:
similarity of vectors reflects similarity of two words' semantics

Analysis: Bias

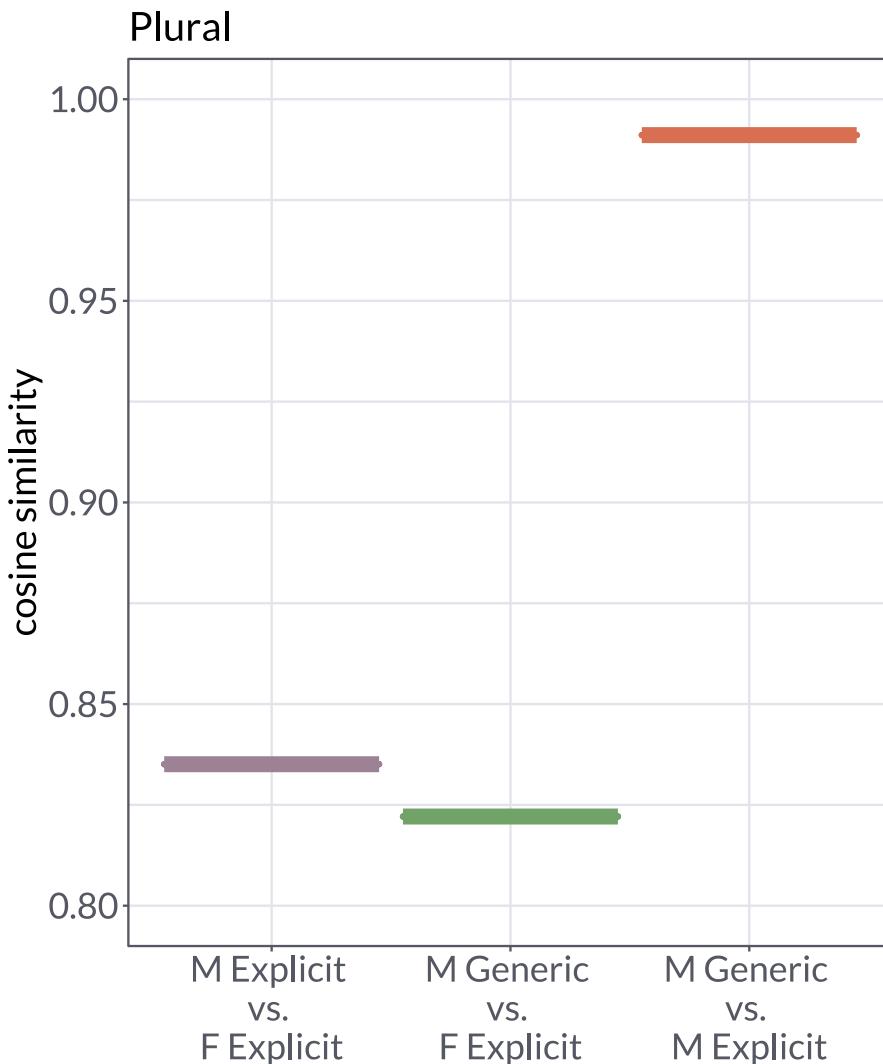


Analysis: Bias



- **masculine generics** and the **explicit masculine** are semantically most similar
- the **explicit feminine** is more similar to the **explicit masculine** than to **masculine generics**
- all comparisons are highly significant

Analysis: Bias



- **masculine generics** and the **explicit masculine** are semantically most similar
- the **explicit feminine** is more similar to the **explicit masculine** than to **masculine generics**
- all comparisons are highly significant
- differences are more pronounced

Analysis: Stereotypes

- check whether stereotypicality significantly influences the bias
- beta regression models

cosine similarity values ~ stereotypicality ratings

- if stereotypicality ratings **show a significant effect**, the bias is **modulated by stereotypicality**
- if stereotypicality ratings **show no significant effect**, the bias is **not modulated by stereotypicality**

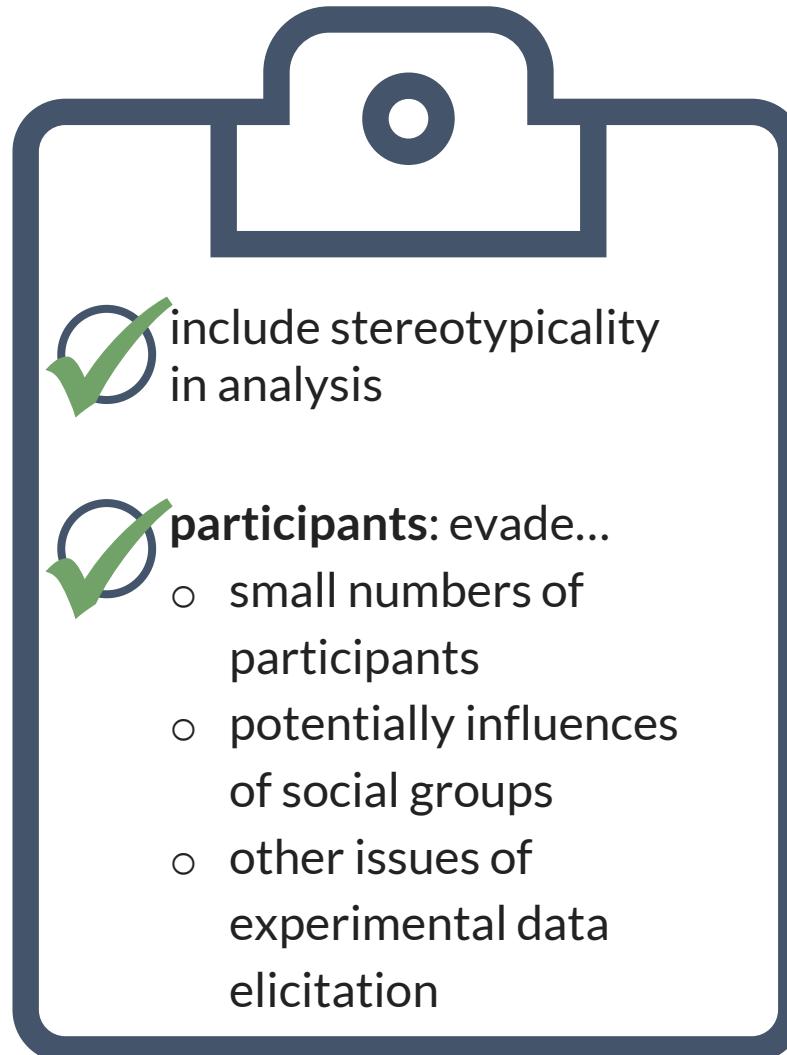
Analysis: Stereotypes

singular

plural

cosine similarities of...	effect of stereotypicality?
masculine generic & masculine explicit	
masculine generic & feminine explicit	
masculine explicit & feminine explicit	
masculine generic & masculine explicit	
masculine generic & feminine explicit	
masculine explicit & feminine explicit	

To-do list



Discussion

- masculine generics and the explicit masculine are semantically most similar
- the explicit feminine is more similar to the explicit masculine than to masculine generics
- masculine generics show a clear bias towards the masculine reading, producing a ‘male bias’ in the language system itself
- the present findings confirm the bias found in previous behavioural studies
(e.g. Demarmels, 2017; Garnham et al., 2012; Gygax et al., 2008; Irmens & Kurovskaja, 2010; Irmens & Linner, 2005; Koch, 2021; Misersky et al., 2019; Stahlberg & Sczesny, 2001; mistakenly Trutkowski (2018) was listed here)
- future research – and indeed already on-going research¹ – will shed light on the underlying semantic features of the masculine generic and the explicit forms, providing further insight into the nature of the ‘male bias’

¹cf. Schmitz et al. (2022)

Thank you!



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