



In German, all professors are male

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Hooray! - Ingo Plag's Birthday Celebrations

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

Professoren
'professors'



Professoren
'professors'



Professorinnen
'professors'

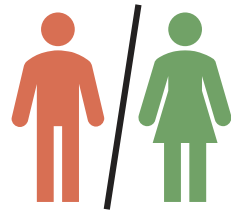


cf. Doleschal (2002)

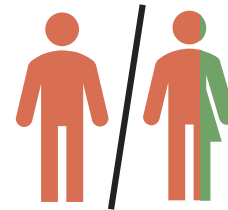
Previous research: Findings

- 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; Irmen & Kurovskaja, 2010; Irmen & Linner, 2005; Koch, 2021; Misersky et al., 2019; Stahlberg & Sczesny, 2001; Trutkowski, 2018)

traditional view



empirical evidence



- generic intention and actual comprehension differ

Previous research: Issues

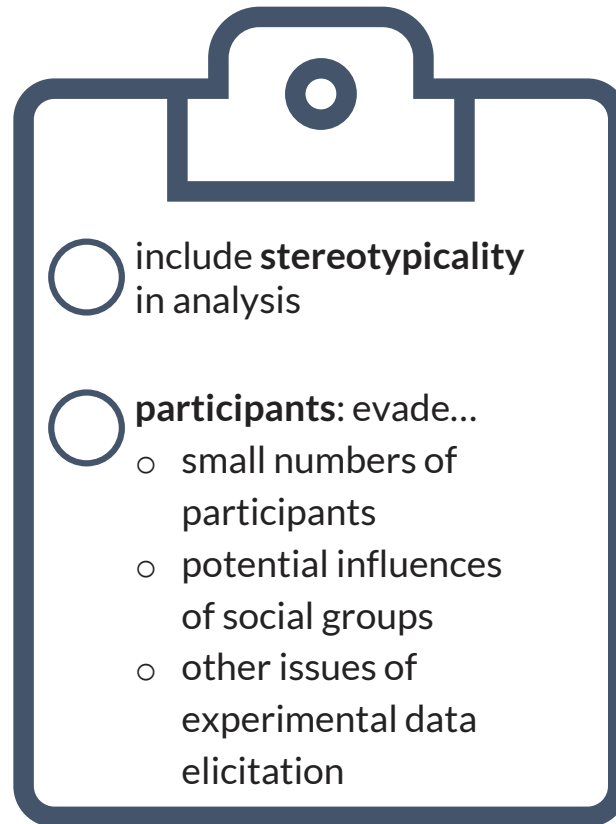
Issue 1: Stereotypicality

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



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'



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

Professor
'professor'



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

Professorin
'professor'



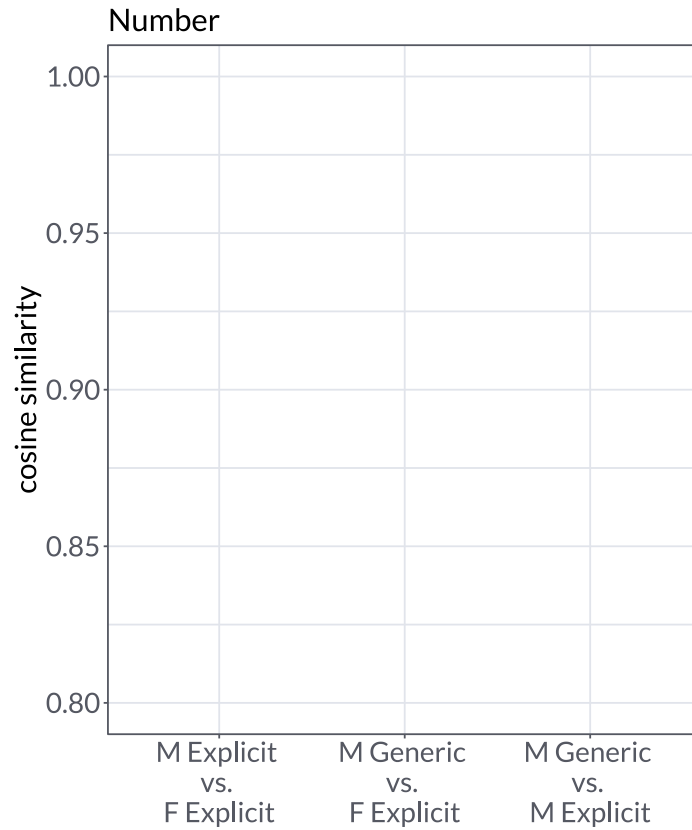
$$\equiv \overrightarrow{Professor} + \overrightarrow{SINGULAR} + \overrightarrow{FEMININE} + \overrightarrow{EXPLICIT}$$

cf. Baayen et al. (2019)

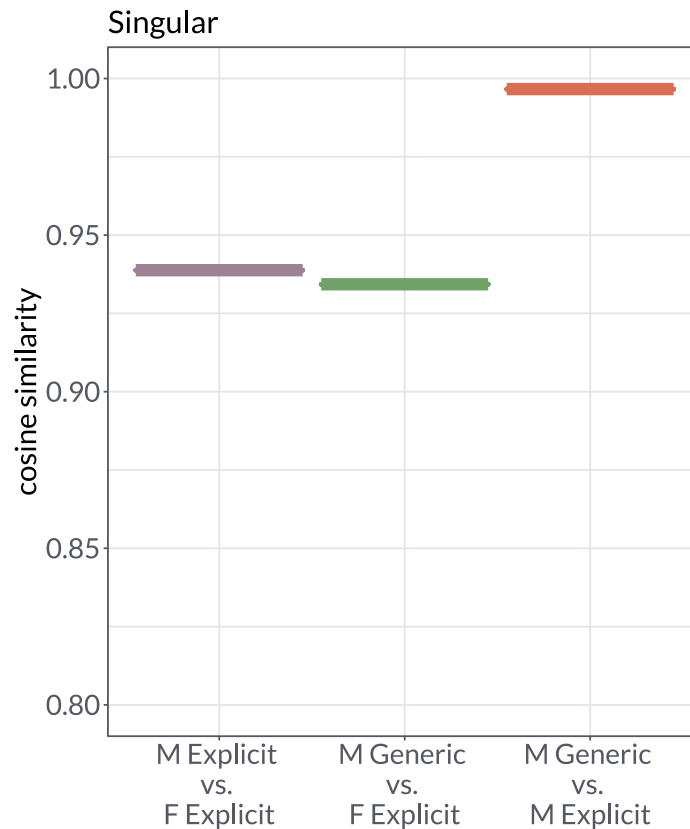
Analysis

- the resulting vectors of masculine generics & masculine and feminine explicit 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

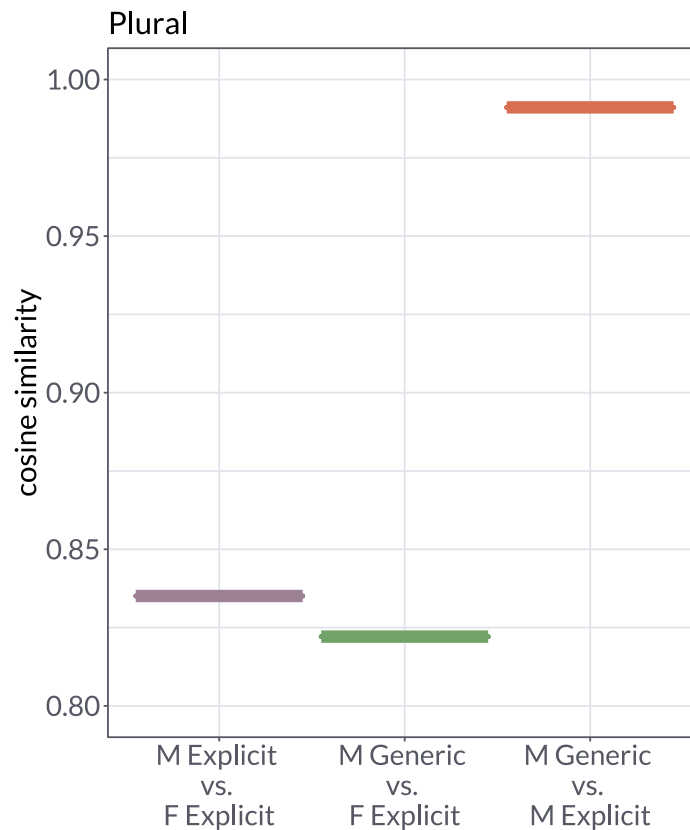


Analysis: Bias



- **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

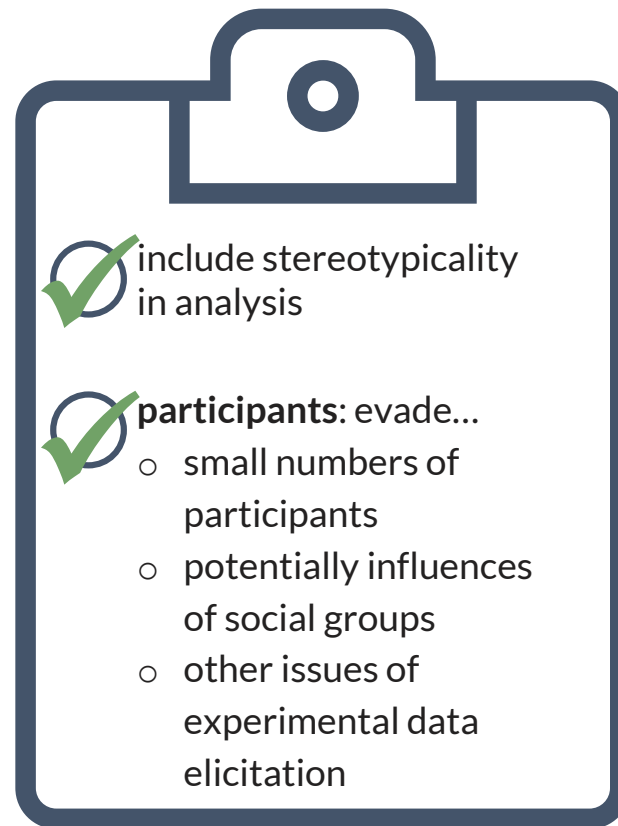
cosine similarity values ~ stereotypicality ratings

- 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

	cosine similarities of...	effect of stereotypicality?
singular	masculine generic & masculine explicit	
	masculine generic & feminine explicit	
	masculine explicit & feminine explicit	
plural	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; Irmen & Kurovskaja, 2010; Irmen & Linner, 2005; Koch, 2021; Misersky et al., 2019; Stahlberg & Sczesny, 2001; Trutkowski, 2018)
- 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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