

From predicate to subject: A reversal of durational differences in generic and specific masculines

Background

Motivation

- Previous research found fine-phonetic durational variation between homophonous units based on
 - morphology, e.g. in different types of word-final -s /s/ [1-3]
 - semantics, e.g. in generic vs. specific masculines -er /ɐ/ [4,5]

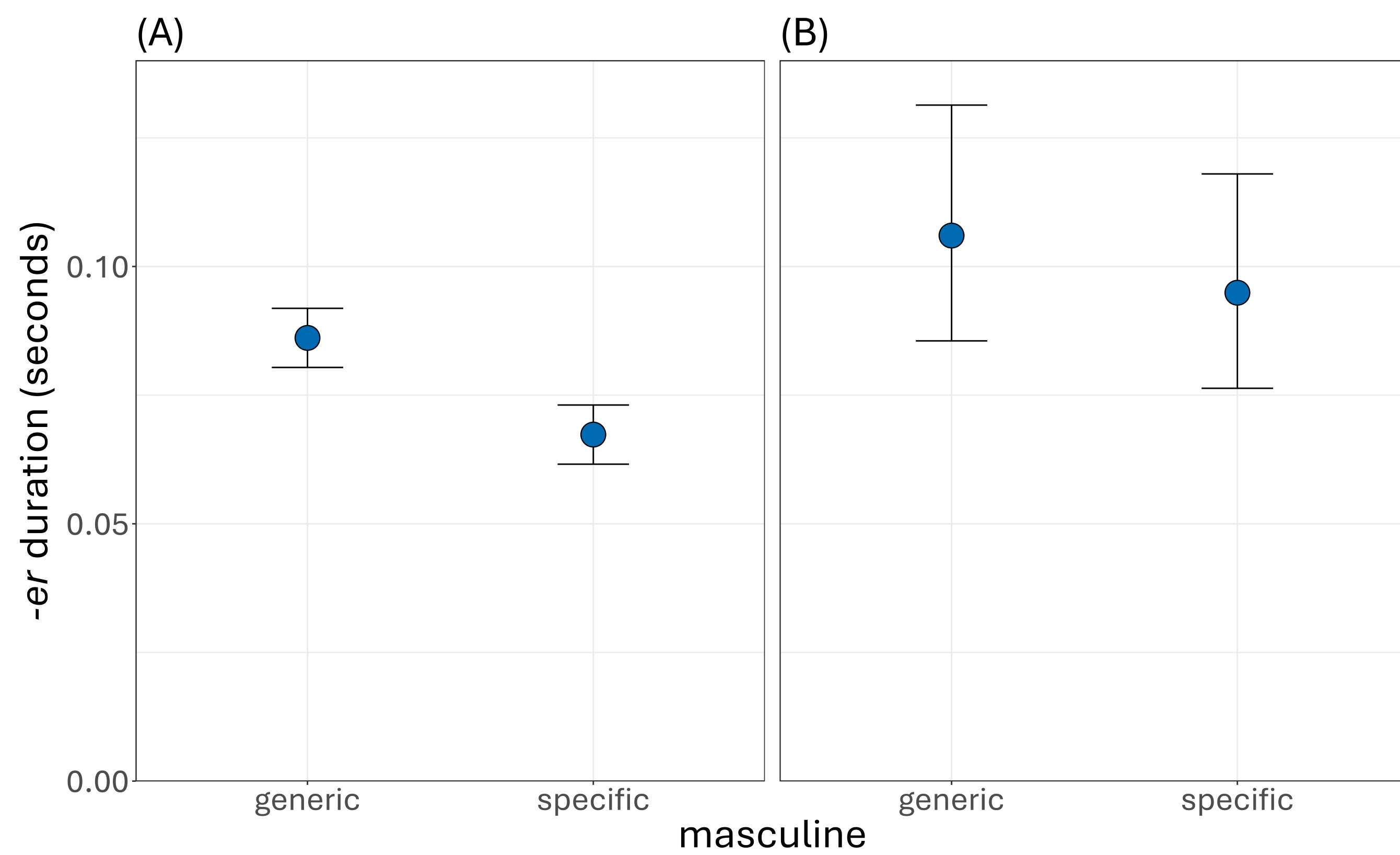


Figure 1. -er durations of generic and specific masculines in (A) real words and (B) pseudowords as predicted by respective linear mixed-effects models [4,5].

Idea

- Previous studies on durational differences in /ɐ/ across generic vs. specific masculine forms examined them in **predicative position**
 - Eins ist Thea und Wiebke klar. Sie möchten niemals **Kosmetiker** von Beruf werden.*
'One thing is clear to Thea and Wiebke. They never want to become **beauticians** by profession.'
 - Das ist Anna. Anna dahpt beruflich. Sie ist **Dahper**. Sie dahpt beim Amt.*
'This is Anna. Anna dahps professionally. She is a **dahper**. She dahps at the agency.'
- How do /ɐ/ durations pattern with generic and specific masculines in **subject position**?
 - Thorsten und Anna sind endlich im Hotel angekommen. Die **Urlauber** freuen sich schon auf den Pool.*
'Thorsten and Anna finally arrived at the hotel. The **holidaymakers** are already looking forward to the pool.'

Key questions

- Does the pattern generalise across predicative and subject positions, irrespective of differences in referentiality [6] and prosody [7]?
- What drives the durational difference?

Method

Materials

- Items:** person nouns with gender-neutral stereotypicality [8,9]
 - Targets:** 18 person nouns ending in -er
Berufsschüler, Camper, Forscher, Läufer, Maler, Mieter, Pilger, Radfahrer, Schauspieler, Schüler, Schwimmer, Skifahrer, Teilnehmer, Tennisspieler, Urlauber, Verleger, Wähler, Weintrinker
 - Fillers:** 9 person nouns not ending in -er
Animateur, Architekt, Athlet, Demonstrant, Fotograf, Jubilar, Nachbar, Student, Zoologe
- Each item was embedded in a **carrier sentence** in which it functioned as part of the subject
- Each carrier sentence was preceded by a **context sentence** disambiguating the type of masculine:
specific (male-only reading) vs. **generic** (mixed-gender reading)

Procedure and participants

- Online speech production experiment with 40 L1 speakers of German
 - Cover story:** the aim of the experiment is to compare human and AI reading
 - Instruction:** produce sentences as naturally as possible
 - Trial progression**
 - Listen to AI-generated recordings [10] of context and carrier sentence while simultaneously reading them on screen
 - Read the same sentences aloud



Results

- Analysis:** linear mixed-effects models controlling for standard factors, e.g. frequency, segmental context, word length, speaker differences
- Finding:** generic masculines come with shorter -er durations than specific masculines

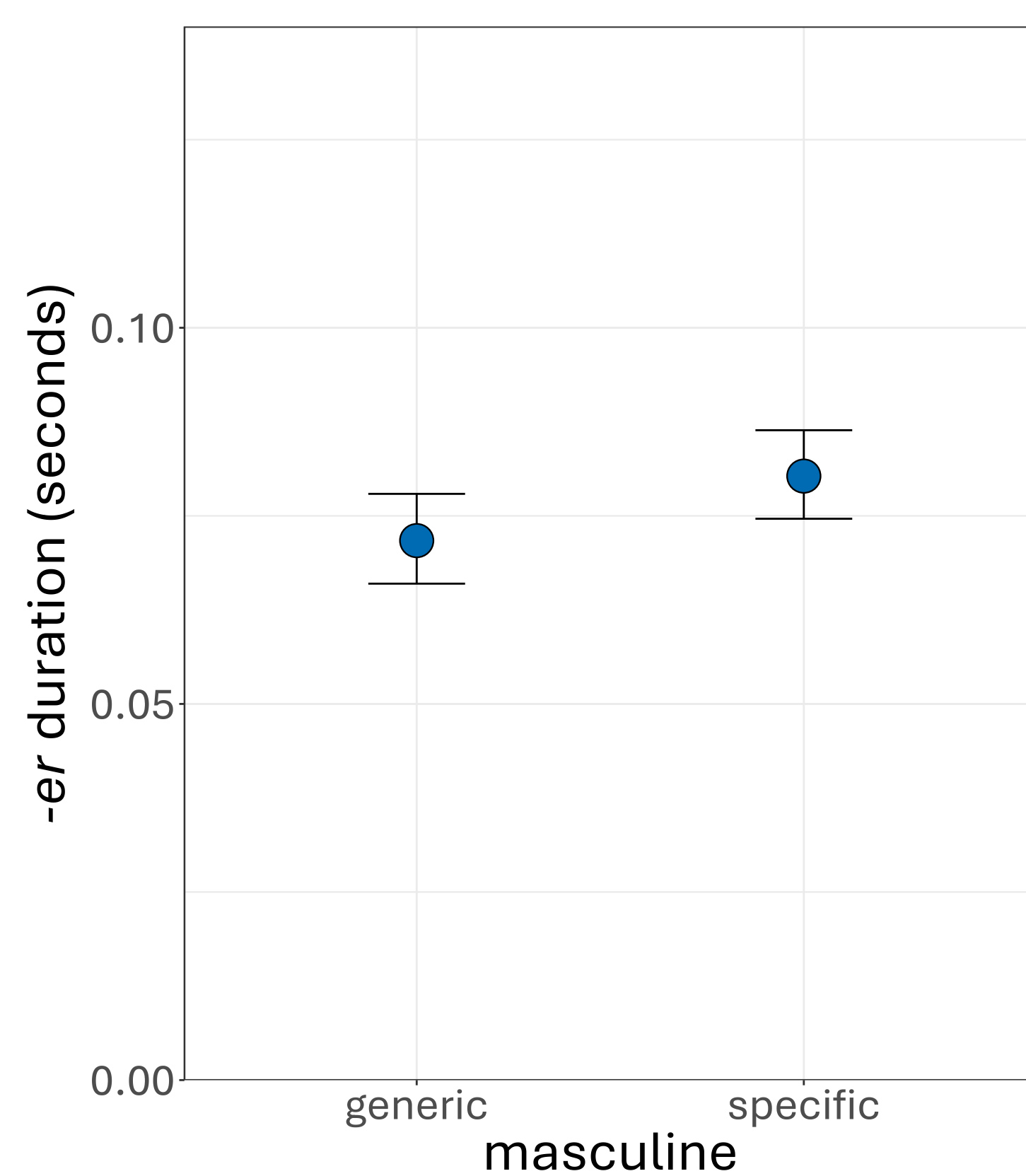


Figure 2. -er durations of generic and specific masculines as predicted by the linear mixed-effects model.

Discussion

- Previous studies:** generic > specific [4,5]
 - Specific:** gender and grammatical form align
→ relatively **shorter**
 - Generic:** gender and grammatical forms do not align
→ relatively **longer** due to more complex production planning [11,12]
- Current study:** generic < specific
 - German referentially given subjects pass sentence focus downstream, subjecting the subject to prosodic de-accentuation + reduction [7,13]
 - Specific:** gender and grammatical form align
→ relatively **longer** as they resist standard givenness-driven phonetic reduction [14,15]
 - Generic:** gender and grammatical forms do not align
→ relatively **shorter** as forced into an abstract, functional generic category with lower referential specificity [16]
- The opposing patterns are driven by an **interaction** between **prosodic structure** and **referential function**

References

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