

Polysemes have no common sense duration

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Previously at P&P 2024

- research found durational differences where established theories of speech production do not expect them (e.g. Kiparsky 1982, Levelt et al. 1999)

- homophonous free and bound (pseudo-)stems (e.g. Seyfarth et al. 2017)

frees vs. *freeze*

- homophonous prefixes (e.g. Ben Hedia & Plag 2017)

impossible vs. *implant* (negative vs. locative)

- types of /s/ (e.g. Plag et al. 2017, Schmitz et al. 2021)

bus vs. *cats* vs. *cat's* (non-morphemic vs. suffix vs. clitic)

- homophonous forms show differences in their phonetic realisation
- but what about another type of lexical ambiguity: polysemy?

Previously at P&P 2024

- duration of the -er suffix in specific vs. generic masculines in German

specific

Matteos Vater kann richtig gut nähen.

Er ist **Schneider** von Beruf.

generic

Mein Kind kann richtig gut nähen.

Es ist **Schneider** von Beruf.

- participants produced targets in a reading task
- -er /ɐ/ is longer in generic than in specific masculines
- two main concerns were raised
 1. Is this difference an artefact of reading?
 2. Is this difference due to lexical properties of the items?

Today at P&P 2025

- we tackled these concerns in two follow-up studies

	paradigm	targets
P&P 2024	reading	real words
P&P 2025	recall	real words
P&P 2025	recall	pseudowords



1

Recall of
real words



Recall with real words

Targets

- 20 role nouns ending in the -er suffix

stereotypically female (Misersky et al., 2014)

<i>Balletttänzer</i> 'ballet dancer'	<i>Eiskunstläufer</i> 'ice skater'	<i>Flugbegleiter</i> 'flight attendant'	<i>Geburtshelfer</i> 'obstetrician'	<i>Haushälter</i> 'housekeeper'
<i>Hellseher</i> 'clairvoyant'	<i>Kosmetiker</i> 'beautician'	<i>Pfleger</i> 'carer'	<i>Schneider</i> 'tailor'	<i>Verkäufer</i> 'salesperson'

stereotypically male

<i>Bauarbeiter</i> 'construction worker'	<i>Elektriker</i> 'electrician'	<i>Fußballspieler</i> 'football player'	<i>Kranführer</i> 'crane operator'	<i>Maurer</i> 'mason'
<i>Programmierer</i> 'programmer'	<i>Rennfahrer</i> 'race driver'	<i>Reporter</i> 'reporter'	<i>Schreiner</i> 'carpenter'	<i>Wahrsager</i> 'fortuneteller'

Recall with real words

Contexts

- sentence introducing the referent
- sentence introducing the referent's occupation = target
- question about the referent's occupation

specific

Das ist **Nico**. **Nico** ist **Pfleger** im Hospiz. Was ist **Nico**?

‘This is **Nico**. **Nico** is a **caregiver** at the hospice. What is **Nico**?’

generic

Das ist **Nina**. **Nina** ist **Pfleger** im Hospiz. Was ist **Nina**?

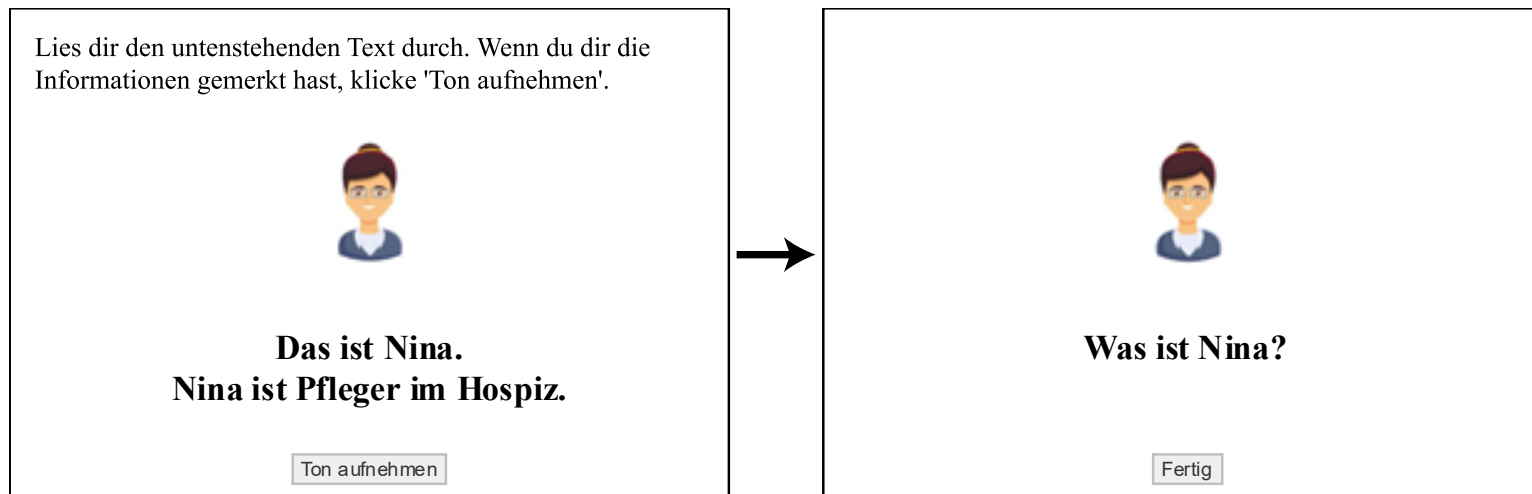
‘This is **Nina**. **Nina** is a **caregiver** at the hospice. What is **Nina**?’

Recall with real words

Participants

- 210 participants
- L1 German
- age: mean age 42.3, age range 22–64 years

Procedure



Recall with real words

Analysis

- utterances with production errors, stutter, laughter were excluded (36.1 %)
- initial linear mixed-effects regression model, $n = 1779$
- model with best fit, found with *lmerTest* (Kuznetsova et al., 2017)

durEr ~

```
condition +           # generic vs specific
pause_dur +          # duration of pause after -er
position +           # beginning or middle of utterance
folType +            # plosive or vowel
stereo +             # stereotypicality of target
(1 | speaker) +
(1 | group) +
(1 | word)
```

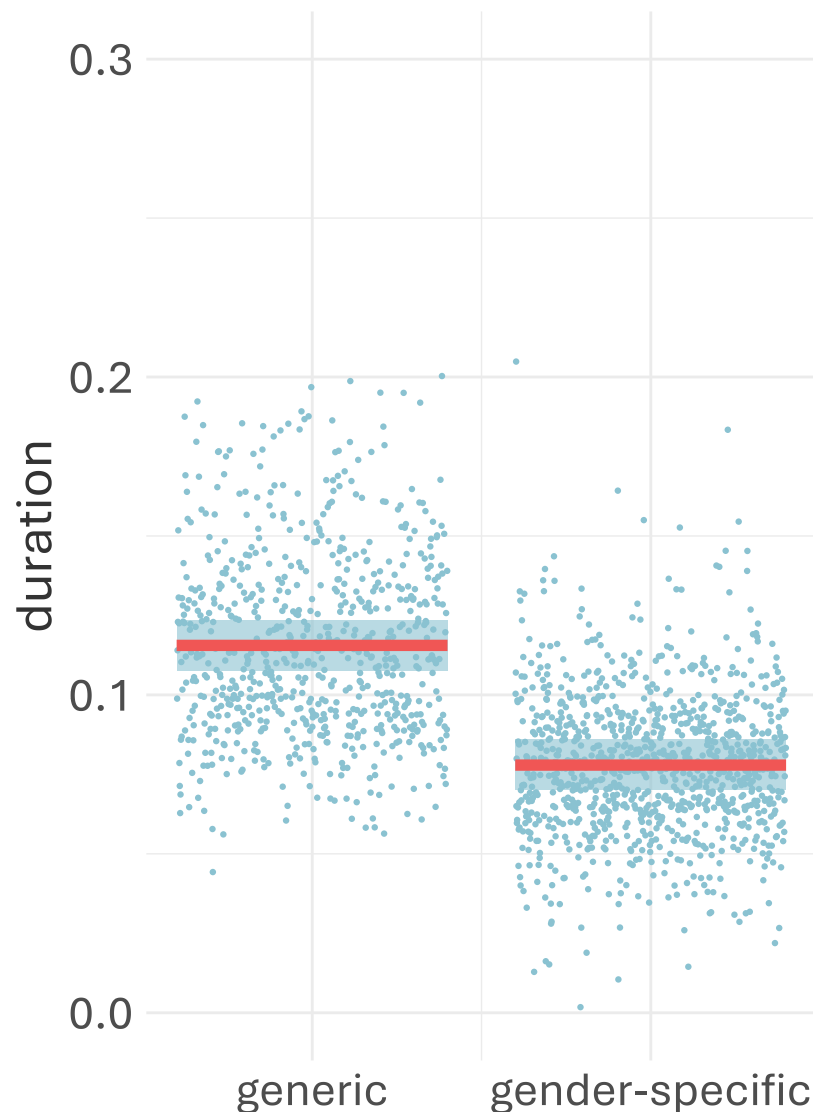
Recall with real words

Results

- the type of masculine shows a clearly significant effect, i.e. GM > SM

	generic	specific
mean (sd)	0.120 (0.047)	0.085 (0.036)

- the effect size is large with
 $\eta^2 = 0.32$
- reading** cannot be the reason for the effect found in the previous study





2 Recall of pseudowords



Recall with pseudowords

Targets

- pseudo-nouns ending in the *-er* suffix
- syllable structure
 - disyllabic: CV:.Cer *Tohker, Lähper, Gahter*
 - trisyllabic: CV.CV:.Cer *Mituker, Legaper, Kaniter*
- final C either /p/, /t/, or /k/

Recall with pseudowords

Contexts

- 1 sentence introducing the referent
- 3 sentences introducing the referent's occupation = target
- 1 question about the referent's occupation

specific

Das ist **Nico**. **Nico tohkt** beruflich. **Er** ist **Tohker**. **Er tohkt** beim Privatfernsehen. Was ist **Nico** wo?

'This is **Nico**. **Nico tohks** for a living. **He** is a **tohker**. **He thoks** for private television. What is **Nico** where?'

generic

Das ist **Nina**. **Nina tohkt** beruflich. **Sie** ist **Tohker**. **Sie tohkt** beim Privatfernsehen. Was ist **Nina** wo?

'This is **Nina**. **Nina tohks** for a living. **She** is a **tohker**. **She thoks** for private television. What is **Nina** where?'

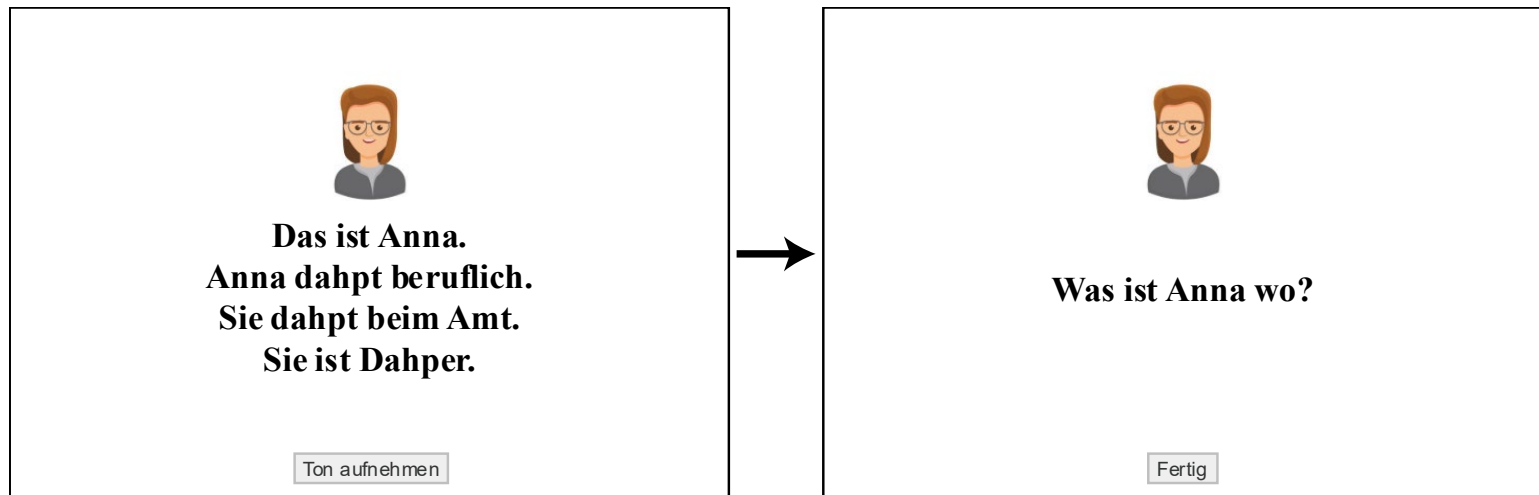
- contexts were split into 4 lists of 42 stimuli, randomised within participant

Recall with pseudowords

Participants

- 27 (of at least 40) participants (thus far)
- L1 German

Procedure



Recall with pseudowords

Analysis

- utterances with production errors, stutter, laughter were excluded (7.4 %)
- initial linear mixed-effects regression model, $n = 1005$
- model with best fit, found with *lmerTest* (Kuznetsova et al., 2017)

durEr ~

```
condition +           # generic vs specific
  pause_dur +         # duration of pause after -er
  number +            # singular vs plural
  speechrate +
  (1 | speaker)
```

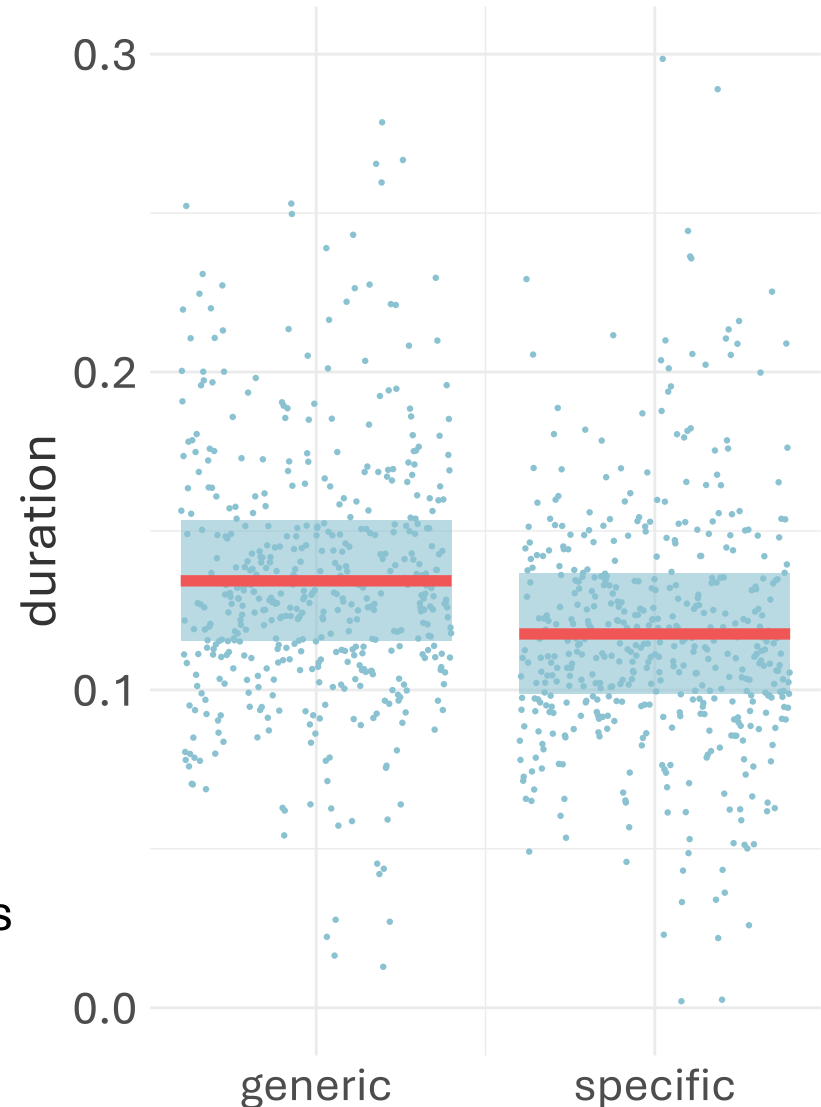
Recall with pseudowords

Results

- the type of masculine shows a clearly significant effect, i.e. GM > SM

	generic	specific
mean (sd)	0.139 (0.069)	0.121 (0.065)

- the effect size is medium with
 $\eta^2 = 0.06$
- lexical properties** cannot be the reason for the effect found in the previous studies



Discussion

- the semantic difference between specific and generic masculines comes with a durational difference of the *-er* suffix
- factors that do not explain this difference are
 - the paradigm: reading vs recall
 - lexical features of the target words, as pseudowords show the same effect
- what can explain this effect?
 - generic masculines are potentially harder to comprehend due to their wider and less specific semantic scope
 - this might inhibit processing and, with that, extend production
 - either due to uncertainty (cf. Schmitz, 2024) or for communicative reasons (cf. Tomaschek et al., 2019)



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