

Cuteness amplifies effects of size sound symbolism: A cute /i/ is smaller than an ugly one

Dominic Schmitz, Defne Cicek, Anh Kim Nguyen & Daniel Rottlеб



Background & Motivation

- sound symbolism is a specific form of crossmodal correspondence
→ certain sounds are associated with certain sensory information
- prominent examples of sound symbolism concern size (e.g. Berlin, 2006; Blasi et al., 2016; Johansson 2017; Westbury et al., 2018) and shape (e.g. Ćwiek et al., 2022; Kawahara & Shinohara, 2012; Ramachandran & Hubbard, 2001)
- a diverse range of sensory information has been investigated
 - ➡ however, barely any research on combinations of different types of sensory information



Background & Motivation

→ however, barely any research on combinations of different types of sensory information



test case

sensory information 1
vowel quality



sensory information 2
cuteness



Background & Motivation

Vowel Quality

- Sapir (1929)

/a/ → **big**

/i/ → **small**

- Blasi et al. (2016)

/i/ → **small**

- Knoeferle et al. (2017)

high F1 → **bigger**

- Kawahara et al. (2018)

lower F1 → **smaller**

- Winter & Perlman (2021)

/a/ → **big**

/i/ → **small**

- Chang et al. (2021)

/a/ → **big**

/i, u/ → **small**



Background & Motivation

Cuteness

- only little research on sound symbolic effects available
 - the /p/ sound appears to be associated with cuteness in Japanese (Kumagai & Kawahara, 2017; Kumagai, 2019)
- but: infant schema
 - cuteness is a fundamental feature of human perception and correlates with size (Kringelbach et al., 2016)
 - well-known “infant schema” (Lehmann et al., 2013)



Research Question

**Does cuteness influence the
size sound symbolic effect
of vowel quality?**



Method

- online experiment with 3 parts

1. forced-choice task
2. judgement task
3. personal questionnaire



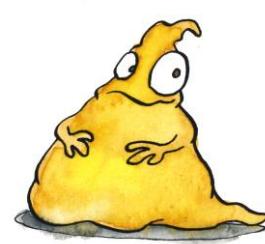
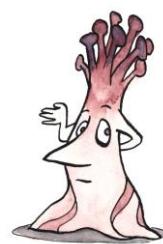
Stimuli

Auditory Stimuli

- disyllabic pseudowords
- onsets: /d, f, j, k, ʁ/; coda: none
- nuclei: German long vowels /a:, ε:, e:, i:, o:, ɸ:, u:, y:/

Visual Stimuli

- from van de Vijver & Baer-Henney (2014)

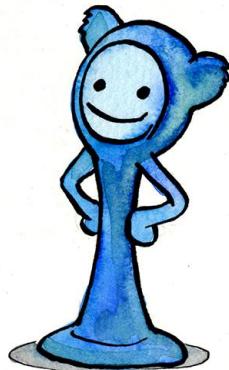


Size Association Task

Zu welchem Bild passt der gehörte Name?



1



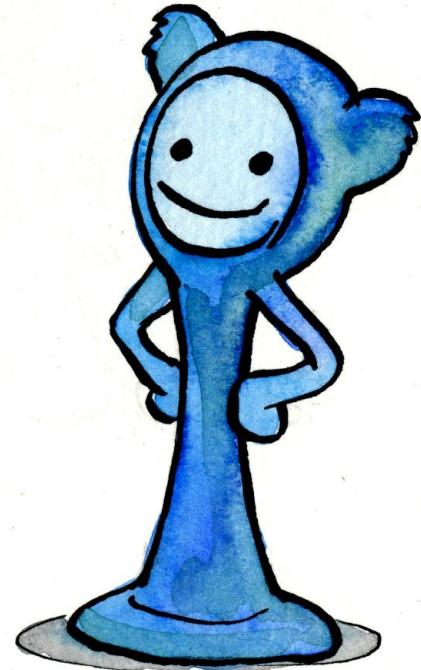
2



3



4

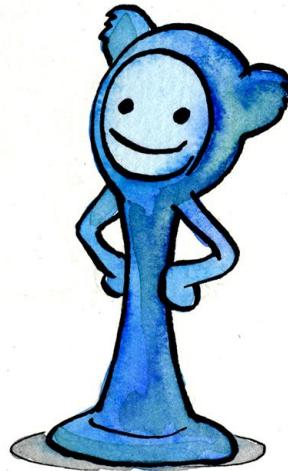


5



Cuteness Judgement Task

Wie niedlich schätzt du das Wesen ein?



nicht
niedlich

1

kaum
niedlich

2

neutral

3

eher
niedlich

4

sehr
niedlich

5



Personal Questionnaire

- age
- L1s
- L2s

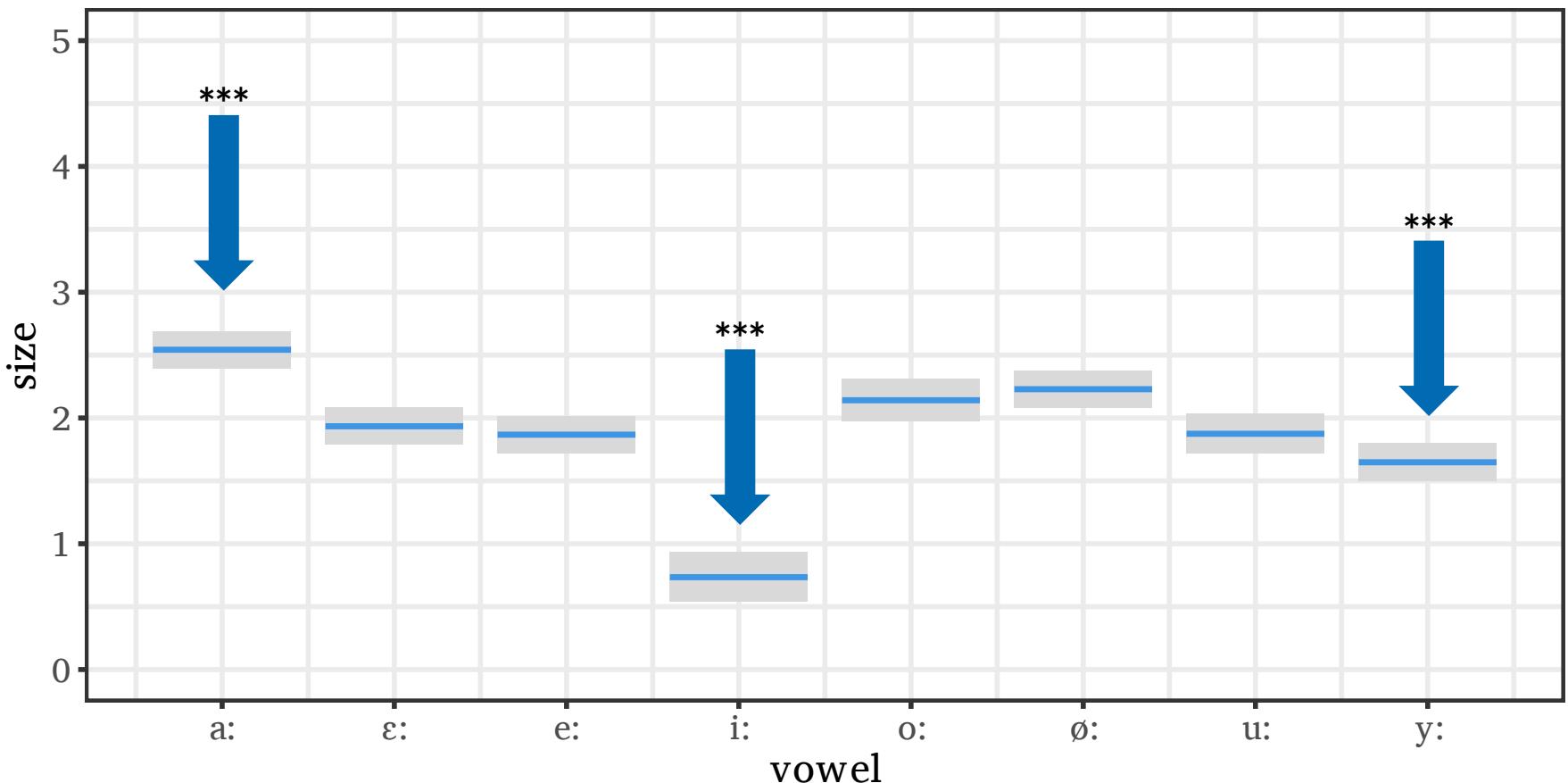


Analysis

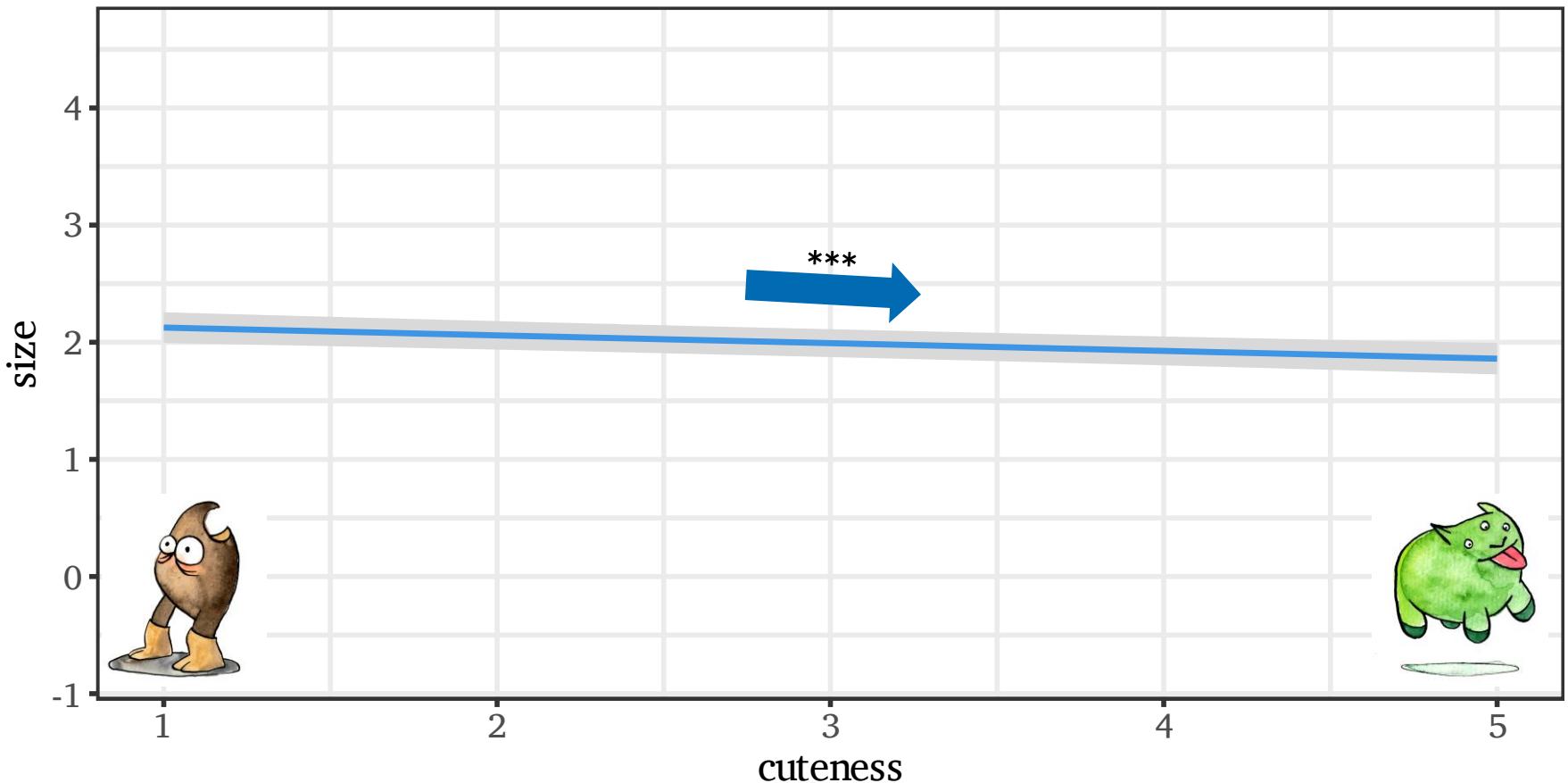
- ordinal logistic regression in generalised additive mixed models
- **dependent variable:** size choices
- **independent variables**
 - **interaction of interest:** vowel quality & cuteness judgements
 - **control variables**
 - onset consonant of 1st syllable
 - onset consonant of 2nd syllable
 - phonological neighbourhood density
- **random variables**
 - item, age, participant, L1s, L2s



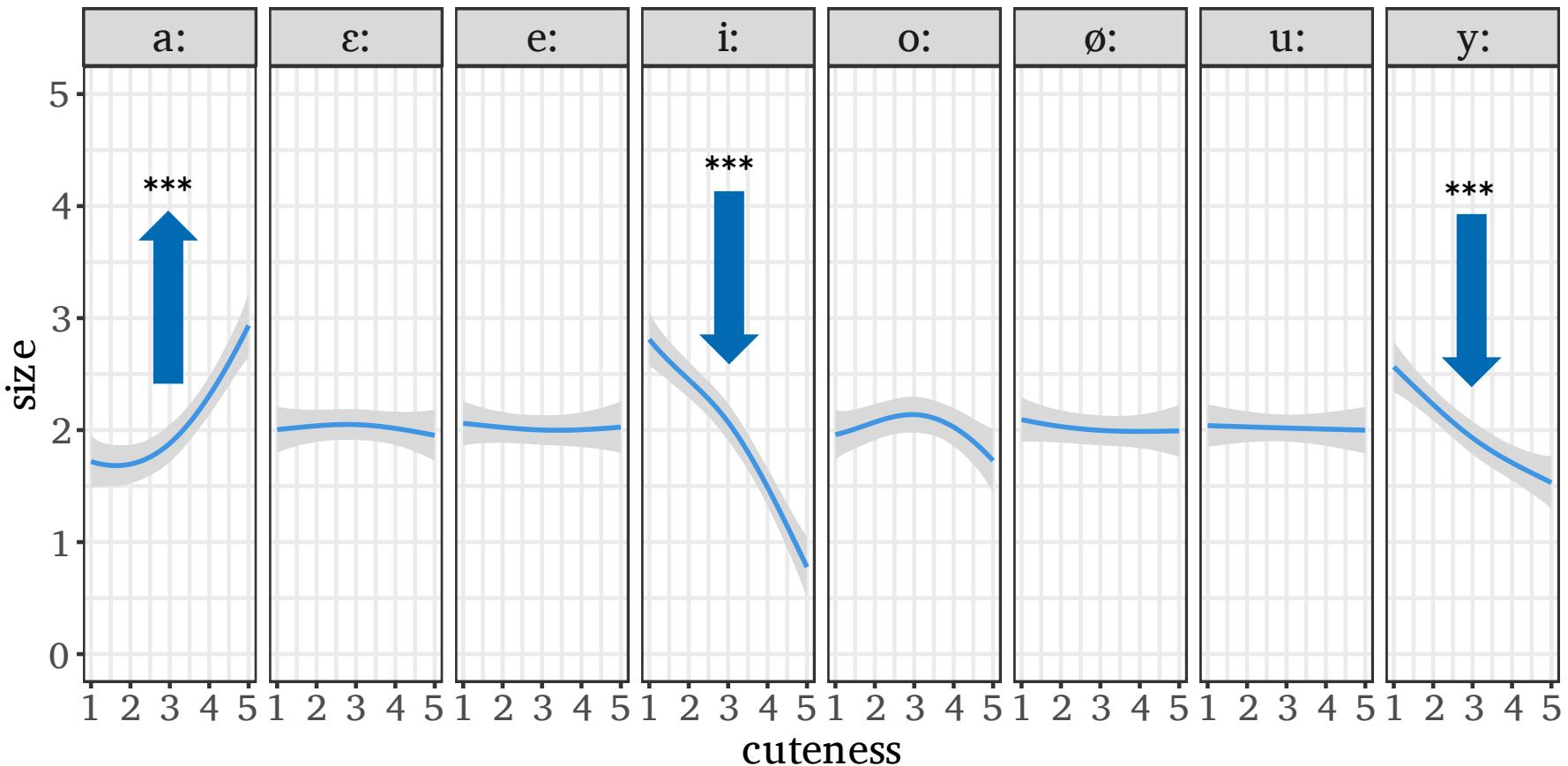
Results: Effect of Vowel Quality



Results: Effect of Cuteness



Results: Cuteness & Vowel Quality



Discussion

RQ: Does cuteness influence the sound symbolic effect of vowel quality?



Discussion

- findings on vowel quality in line with previous research
 - /a/ is big, /i/ is small – additionally: /y/ is also small
- findings on cuteness alone not surprising
 - higher cuteness = smaller size
- novel findings: interaction of vowel quality & cuteness
 - cuteness modulates size sound symbolism at its extremes
 - small vowel + high cuteness = very small
 - big vowel + high cuteness = very big



Discussion

How can we explain these novel findings?

- infants mostly produce high frequency vowel-like sounds (Lehmann et al., 2013; Kringelbach et al., 2016)

→ connection to /i/ and /y/ → modulating effect

- infants have proportionally big heads and eyes (Lehmann et al., 2013; Kringelbach et al., 2016)

→ connection to /a/ → modulating effect



Conclusion

- cuteness influences the size sound symbolic effects of vowels
- potential interactions of different types of sensory information must be considered in research on sound symbolism



Conclusion

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THANK YOU!



References

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Stimuli



Stimuli

C1	V	C2	V
d		d	
f	a: ε:	f	a: ε:
j	e: i:	j	e: i:
k	o: Ø:	k	o: Ø:
d, f, j, k	u: y:	β	u: y:
β		d, f, j, k	

