

# Implicit beliefs about spoken language contact in American Sign Language

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# Mouthing

- Mouth articulations accompanying signing that resemble spoken language words
- Associated with Contact Signing in ASL linguistics (not ASL or a manual form of English) (Valli & Lucas 2001)
- Studies of mouthing in signing in the United States have targeted **English** and African American English (e.g. Davis 1989; Nadolske & Rosenstock 2007; Kowalsky & Meier 2013; Lucas et al. 2013, Hill et al. 2015, Herbert & Pires 2017)

# Types of mouthing (Bisnath, in press)

- mouthing can have multiple roles within a sign language that may be more or less conventionalised
- this study targets **congruent** mouthing
  - mouthing and manual sign can be glossed in the same way
  - generally most frequent kind of mouthing across sign languages, but may be perceived as more “optional”

# Beliefs about mouthing in ASL

## Mixed beliefs based on small samples

### NEGATIVE

not part of “real” ASL (Nadolske & Rosenstock 2007)

mouthing “too much”, annoying,  
noticeable mouthing is a negative  
of Mixed signing (Hill 2012)

### POSITIVE

English-ASL interpreters  
perceived by deaf signers as using  
mouthing appropriately (Davis 1989)

“nice and clear”, appropriate (Hill 2012)

# Who uses mouthing in ASL?

(not exhaustive)

## **Developmental**

signers with a  
higher age-of-  
acquisition mouth

more

(Herbert & Pires 2017)

## **Situational**

deaf-hearing  
interactions\*

(Nadolske & Rosenstock 2007; cf. Lucas & Valli 1991)

English-ASL  
interpreting

(Weisenberg 2009)

## **Experiential**

oral-focussed  
education, can vary  
based on age

(Lucas et al. 2015)

**orientation towards spoken language**



Communicative competence in ASL is a crucial part of deaf cultural identity (Reagan 2002)

# Hill (2012)

Signing identified as ASL vs. Mixed Signing vs SEE is rated as:

1. more PURE, BEAUTIFUL, SMOOTH
2. more associated with being DEAF, having a STRONG DEAF IDENTITY, being a DEAF COMMUNITY LEADER

# Research Question

How does variation in the quality of English mouthing in ASL signing influence beliefs about:

1. Aesthetics of signing
2. Signer identity

## **Expansions on Hill (2012)**

### Broadening

- more gradience in responses,
- multiple language assignments possible

### Narrowing

- single contact feature, English mouthing
- single type of mouthing, congruent

# Expectations

Based on Hill (2012)

How does variation in the quality of English mouthing in ASL signing influence beliefs about:

1. Aesthetics of signing
2. Signer identity

**low mouthing rated more:**  
PURE,  
BEAUTIFUL,  
SMOOTH  
DEAF,  
STRONG DEAF IDENTITY,  
DEAF COMMUNITY LEADER  
**than high mouthing**

# Method

- Matched Guise Task (Lambert et al. 1960)  
adapted for sign languages
- Online via Qualtrics (eResearch ID:  
HUM00220024)

Use of a guise task is a way  
of getting at implicit beliefs  
(though see Pharao & Kristiansen (2019) for  
discussion of the relationship between  
direct/indirect methods and explicit/  
implicit attitudes)

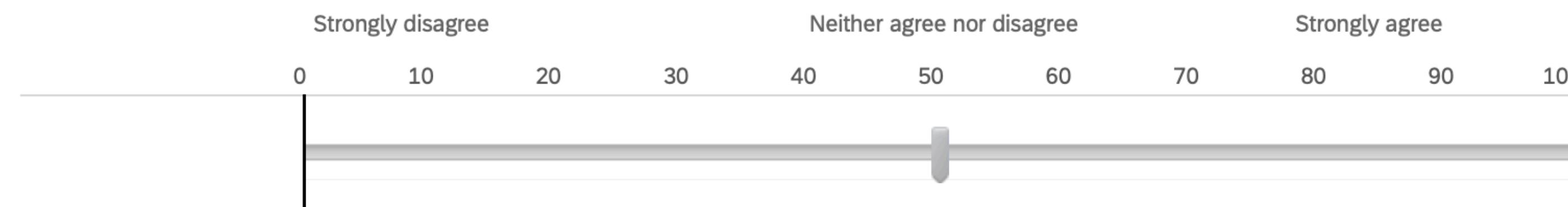
# Adapted Matched Guise Task stimuli

- **Genre:** informational, semi-formal
- **Signers:** 2, white, blonde, look similar in age, deaf
- **Topics:** COVID vaccines, Hurricane Ian
- **Conditions:** high, low
- **Counterbalanced** for signer, topic, condition and order across 8 lists

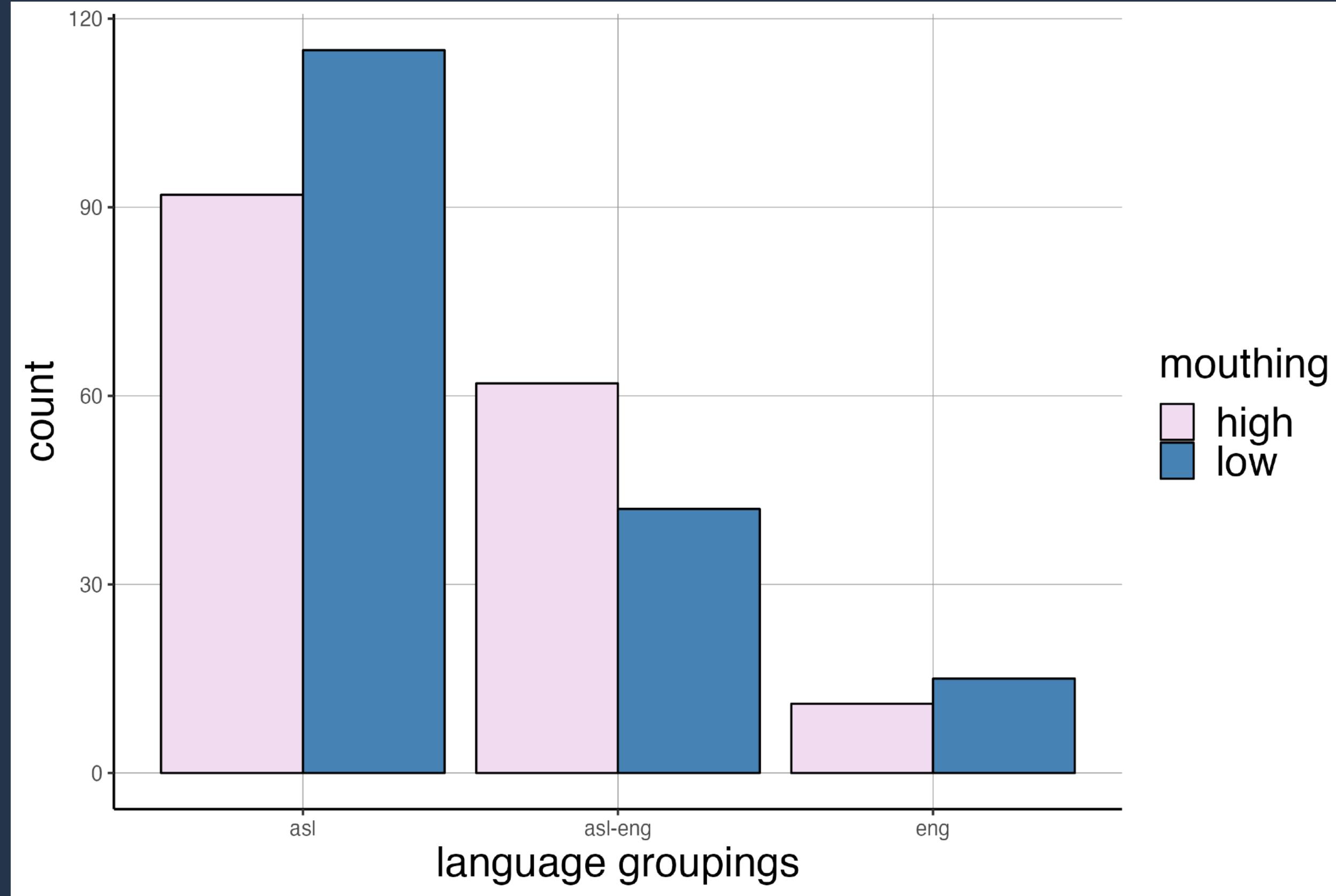
# Sample question



The signing in the video you just saw looks beautiful. How much do you agree?



# Language identification by mouthing condition



Mouthing category and language label are not independent

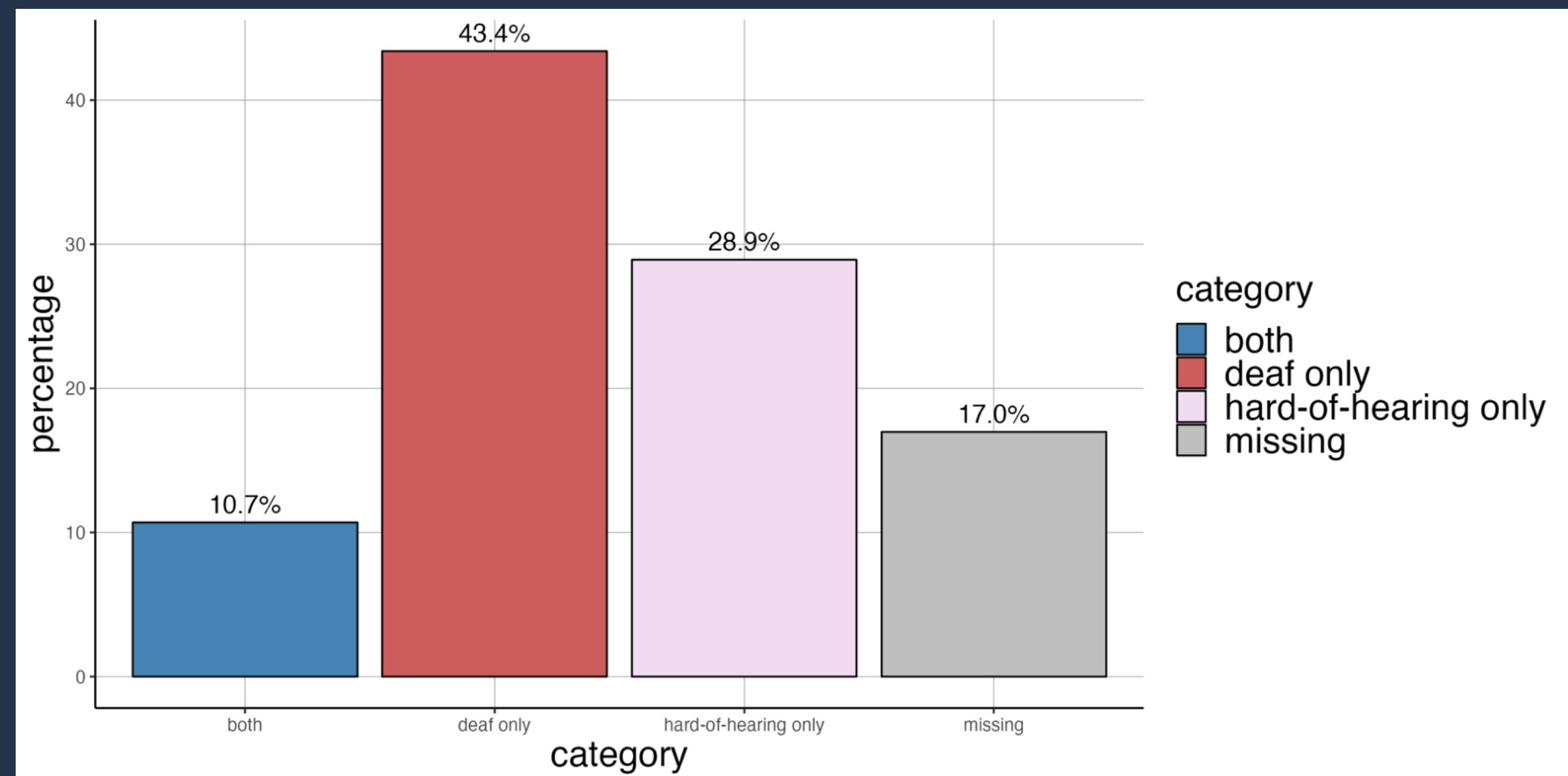
( $X^2 = 6.87$ ,  $df = 2$ ,  $p\text{-value} = .03$ )

	observed		expected	
	high	low	high	low
asl	92	115	101	106
asl+eng	62	42	51	53
eng	11	15	13	13

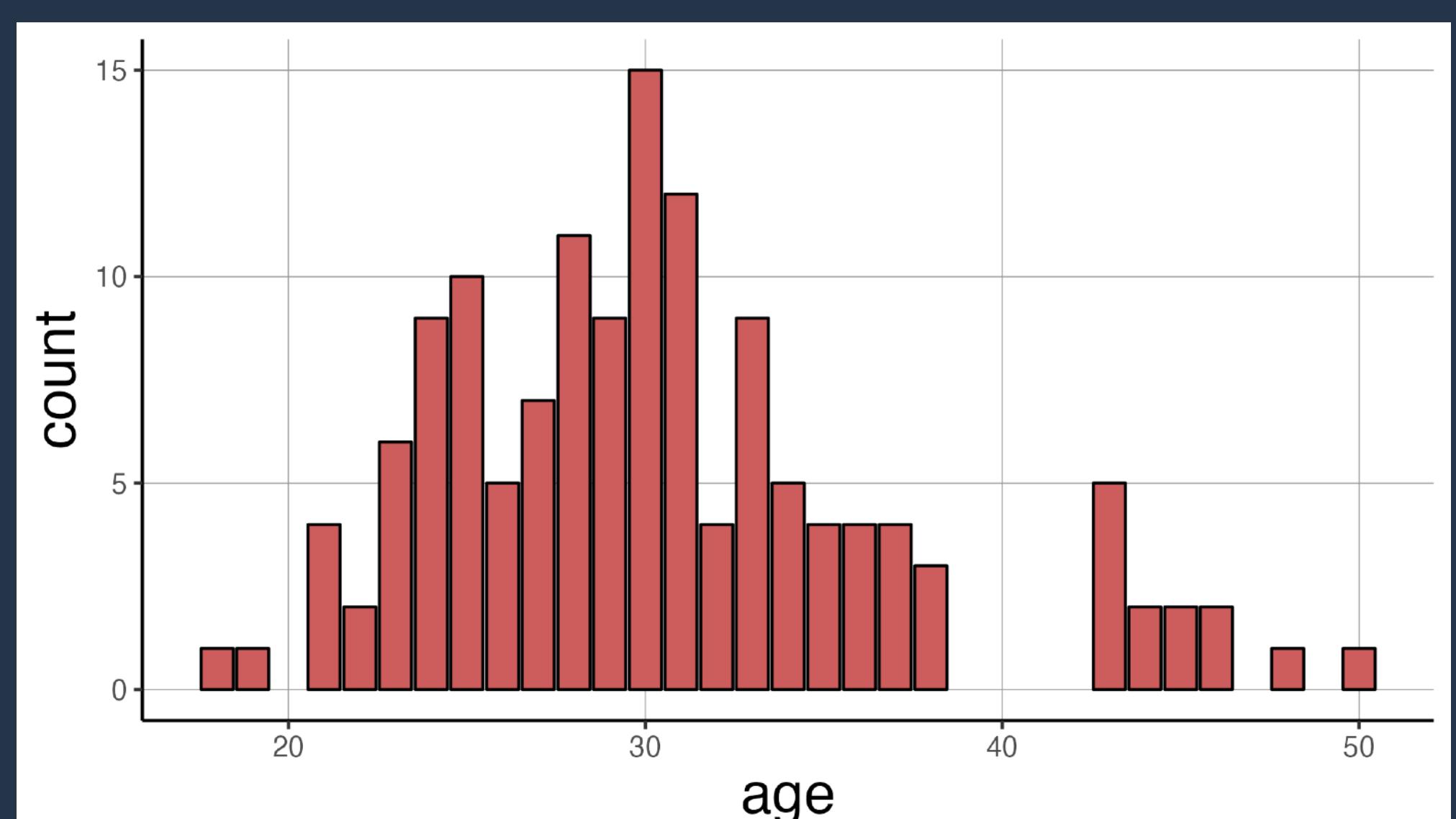
# Participants

N = 134, Exclusion criteria: Did not know signers producing stimuli

**DEAF IDENTITY**



**AGE**

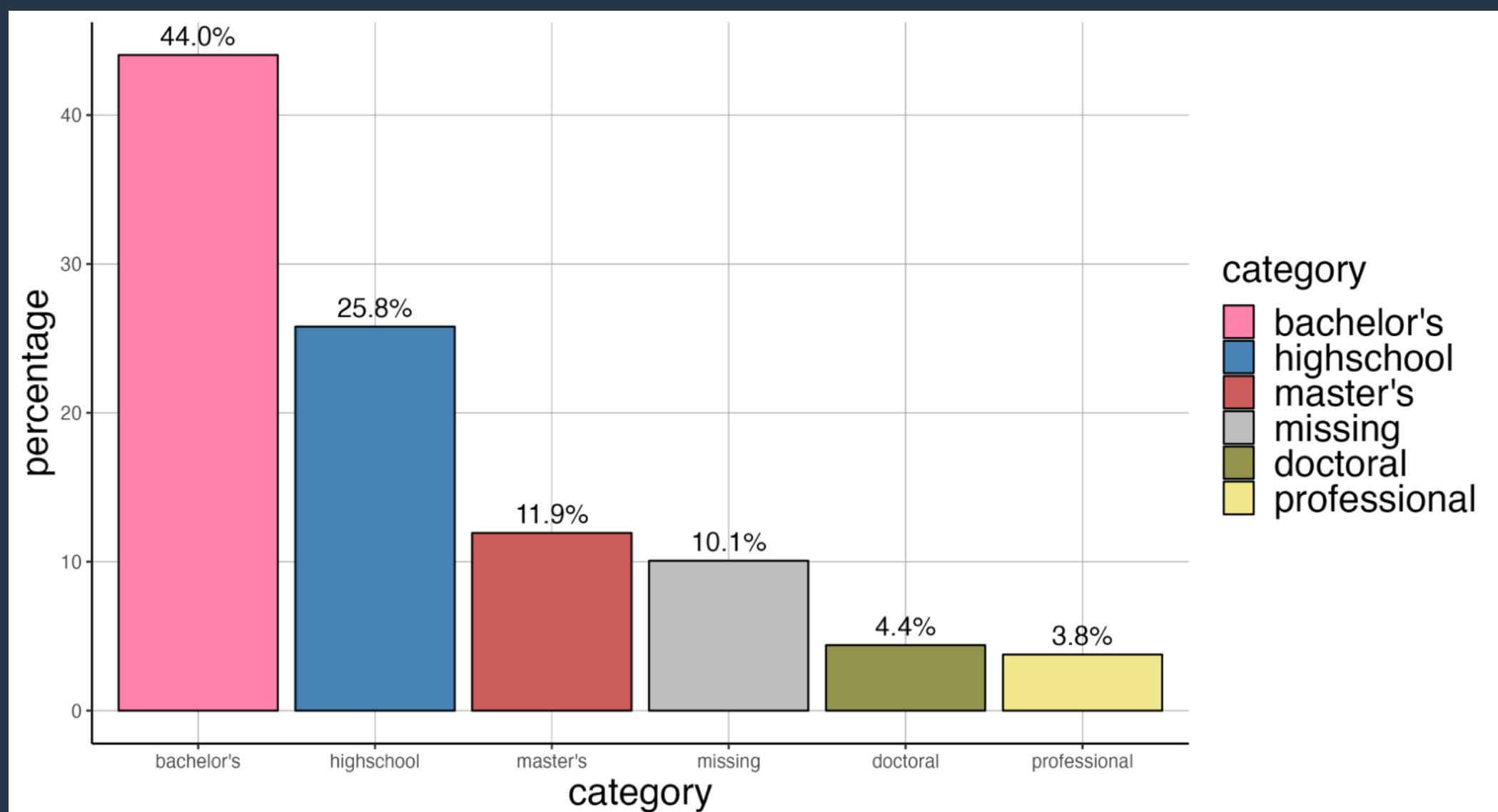


mainly identifying as deaf and hard-of-hearing

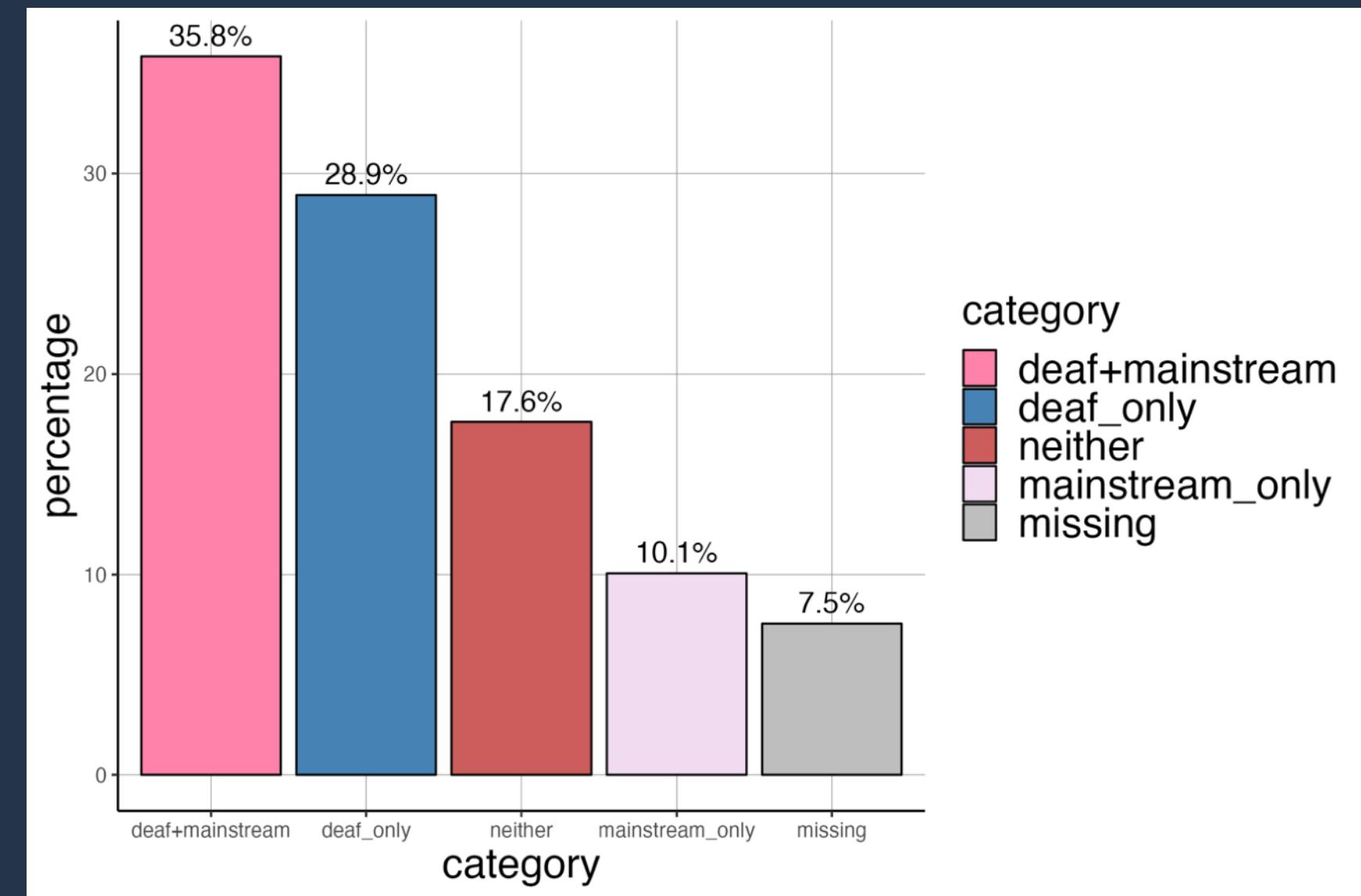
most between 20 and 40

# Participants

## HIGHEST DEGREE



## SCHOOLING

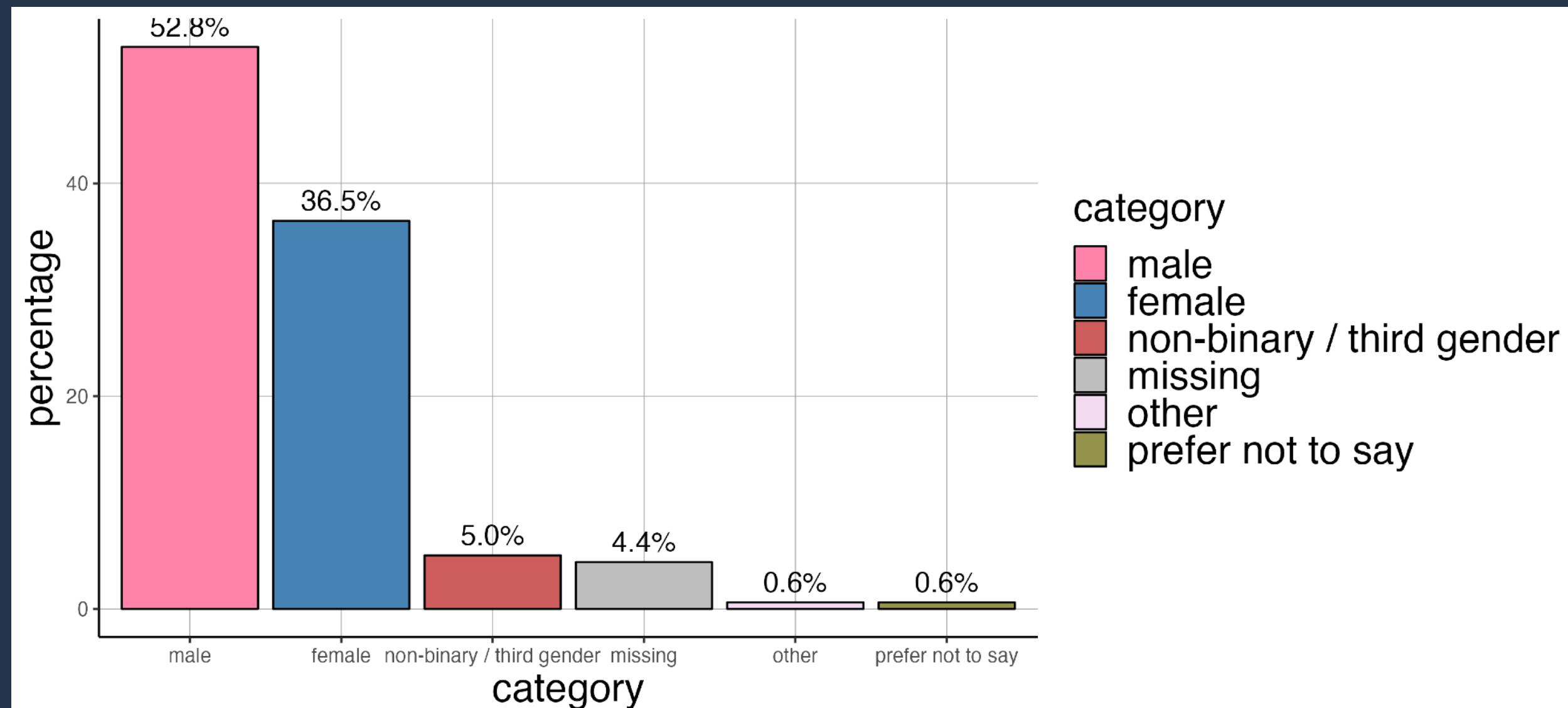


mainly Bachelor's degree and high school diploma

most went to deaf+mainstream schools  
or deaf only schools

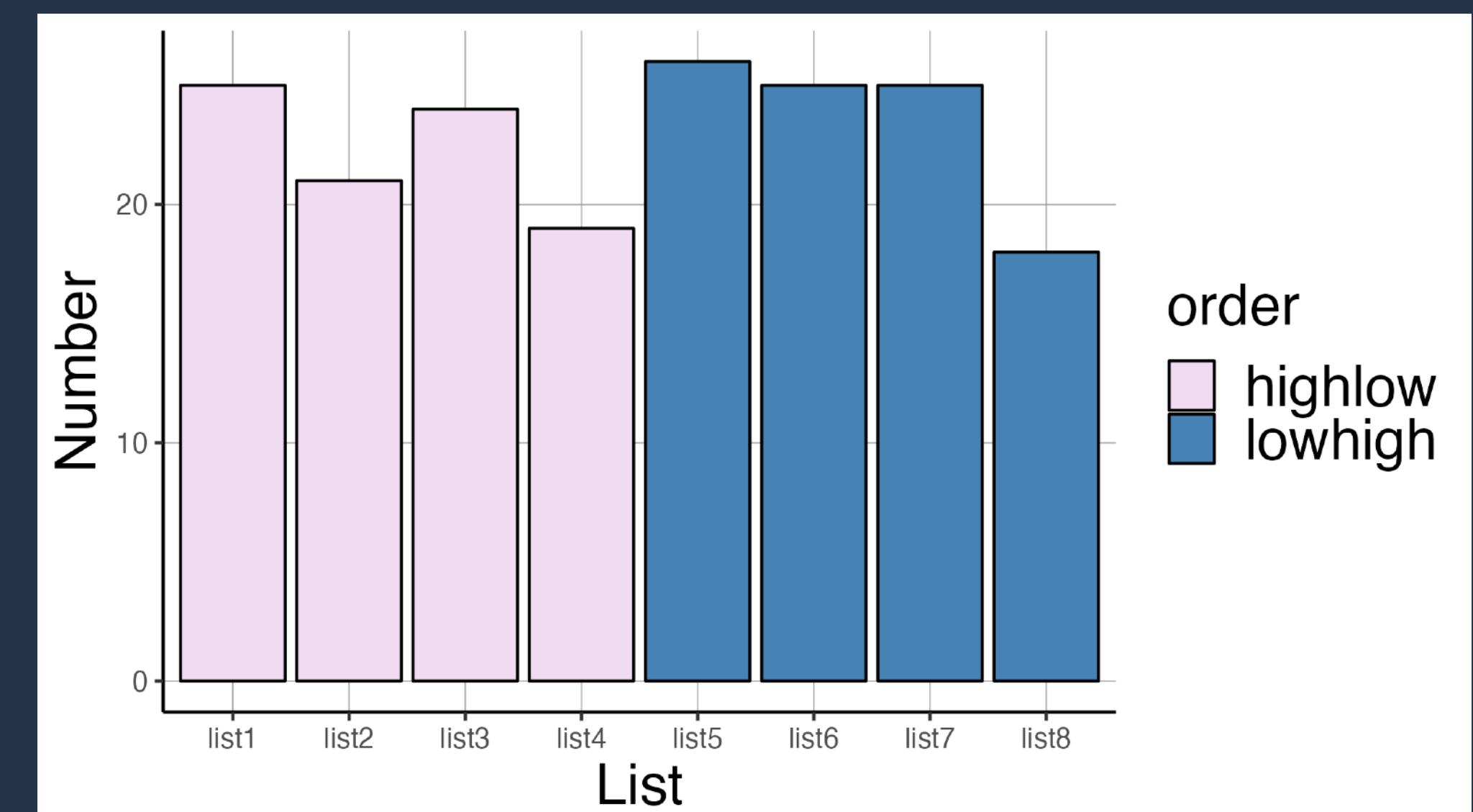
# Participants

## GENDER



primarily male-identifying

## LIST DISTRIBUTION

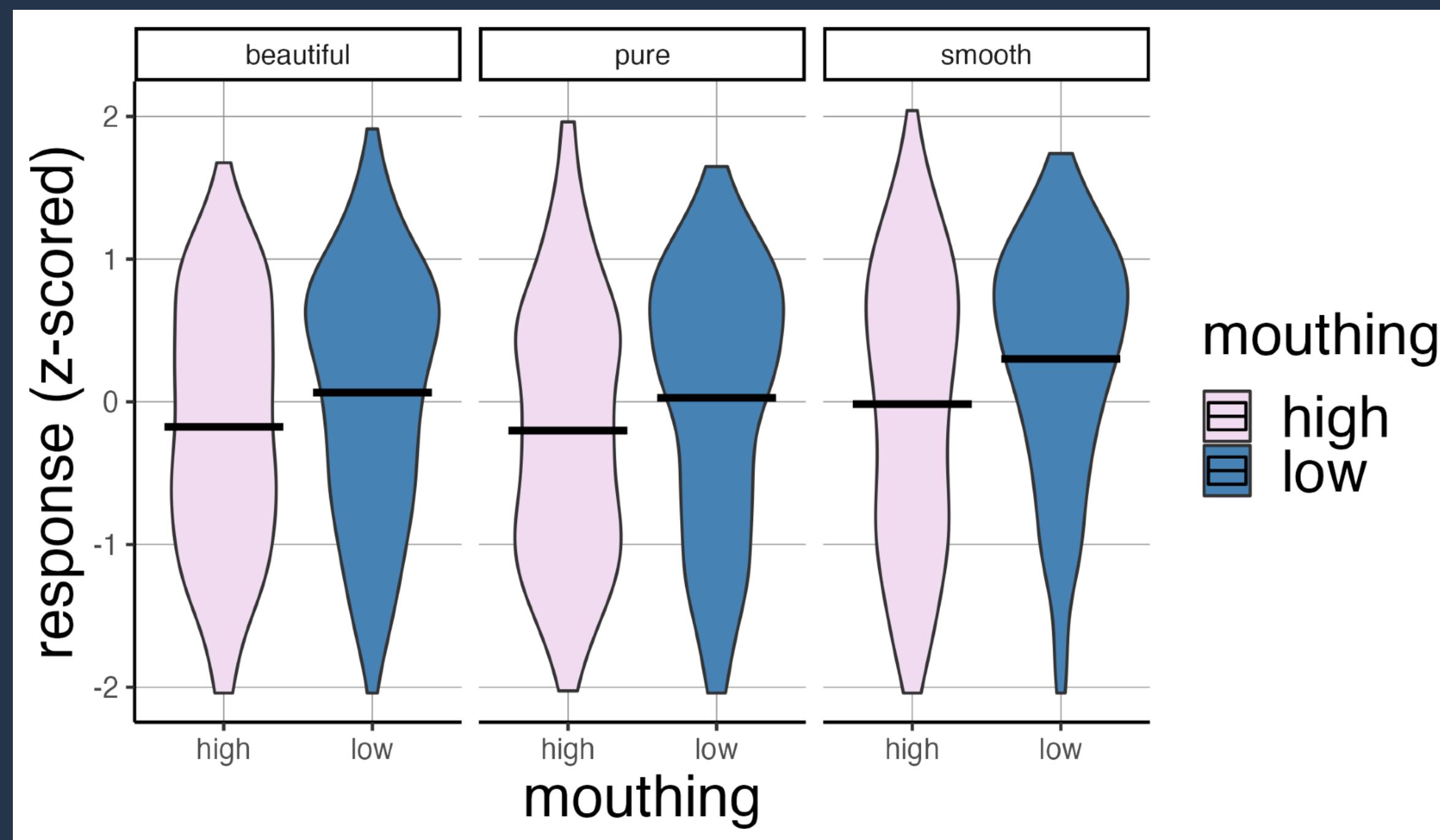


generally evenly distributed

# Findings

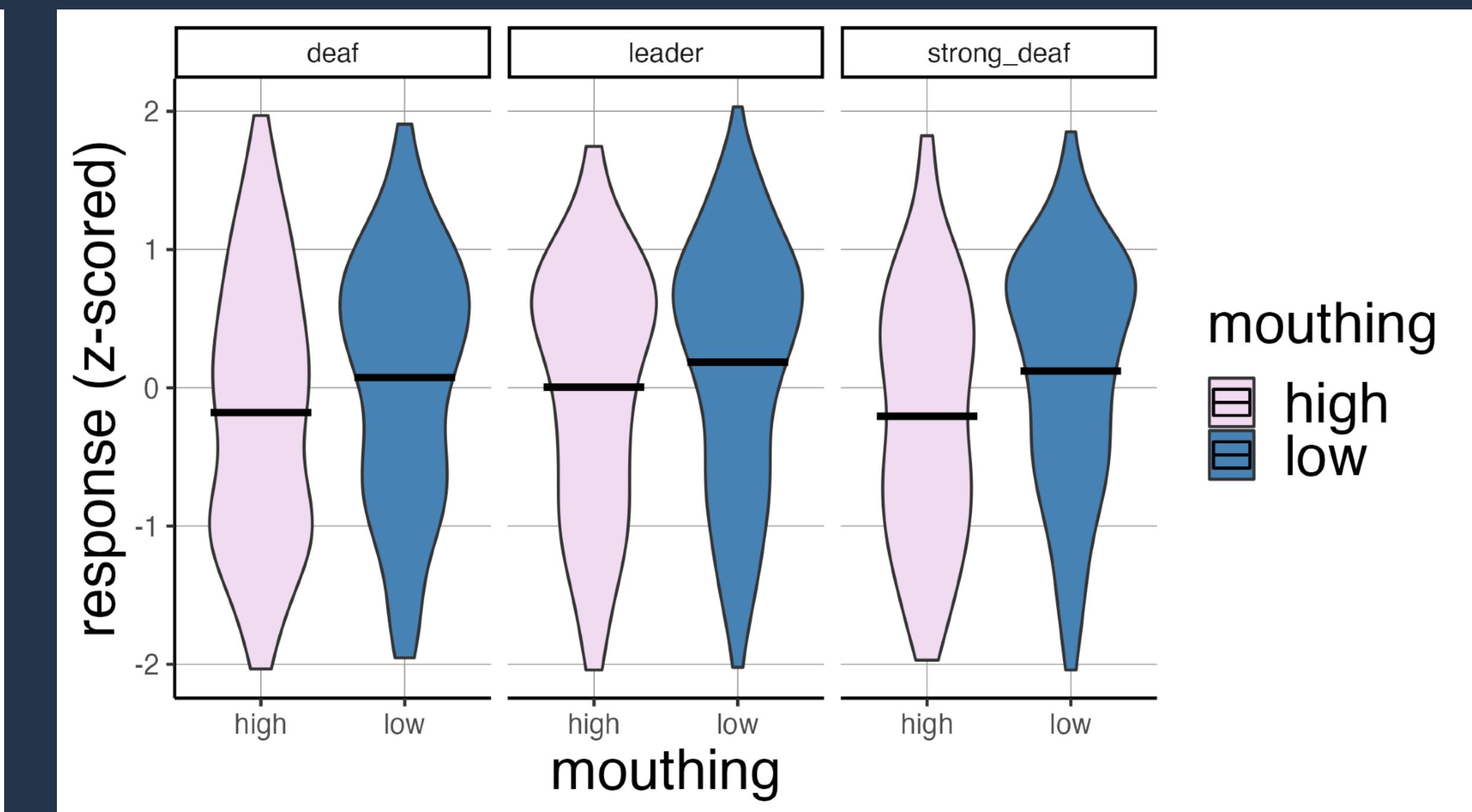
Model comparison via ANOVA shows **main effect of mouthing** on **signing aesthetics** and **identity rating** compared to the additive model and no interaction

## AESTHETICS



$$(\chi^2 = 43.478, df = 5, p < .001)$$

## IDENTITY



$$(\chi^2 = 39.304, df = 5, p < .001)$$

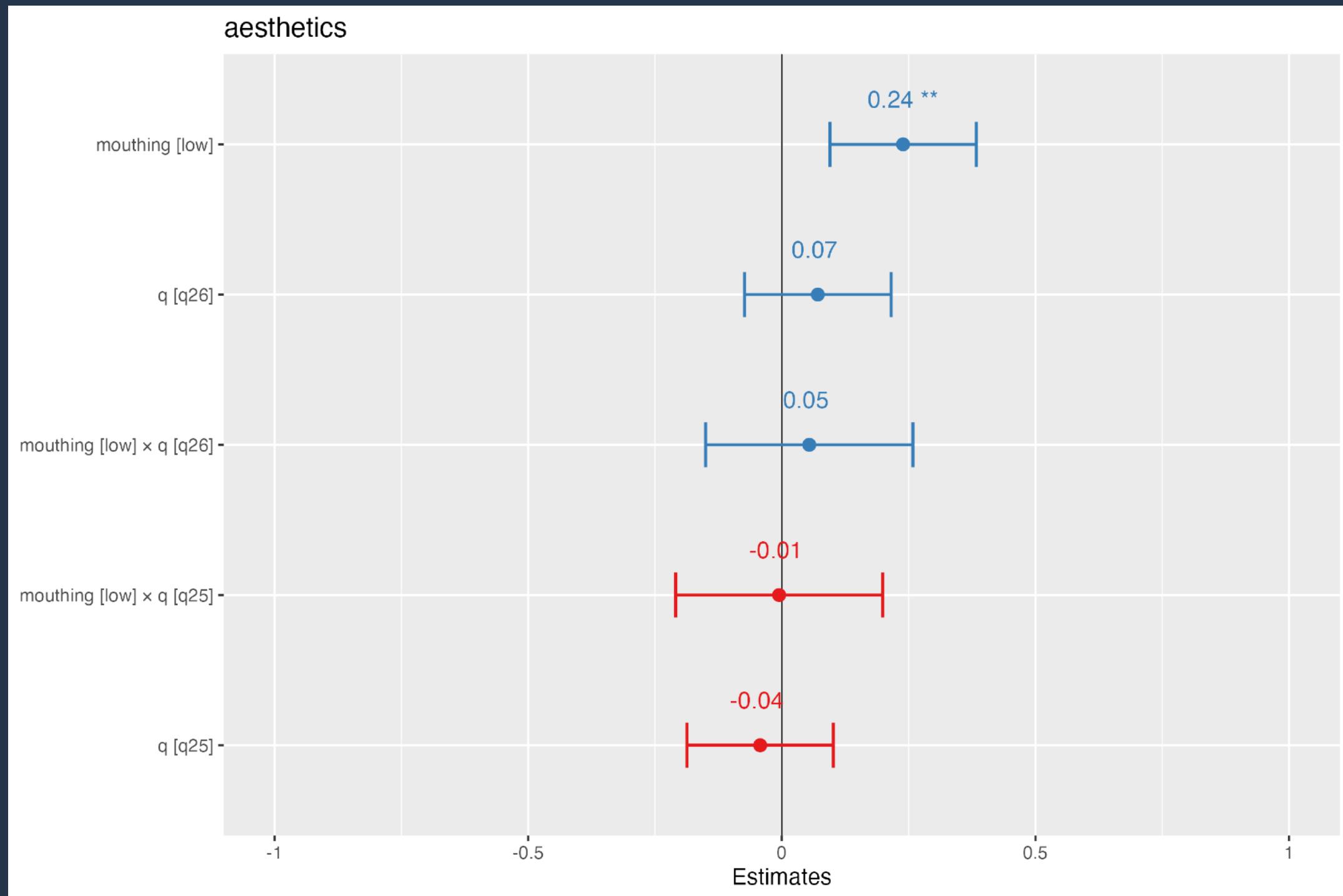
# Estimates

effects are different for participants who know the signer

**responsez ~ mouthing\*q + (1|response\_id) + (1|list)**

## AESTHETICS

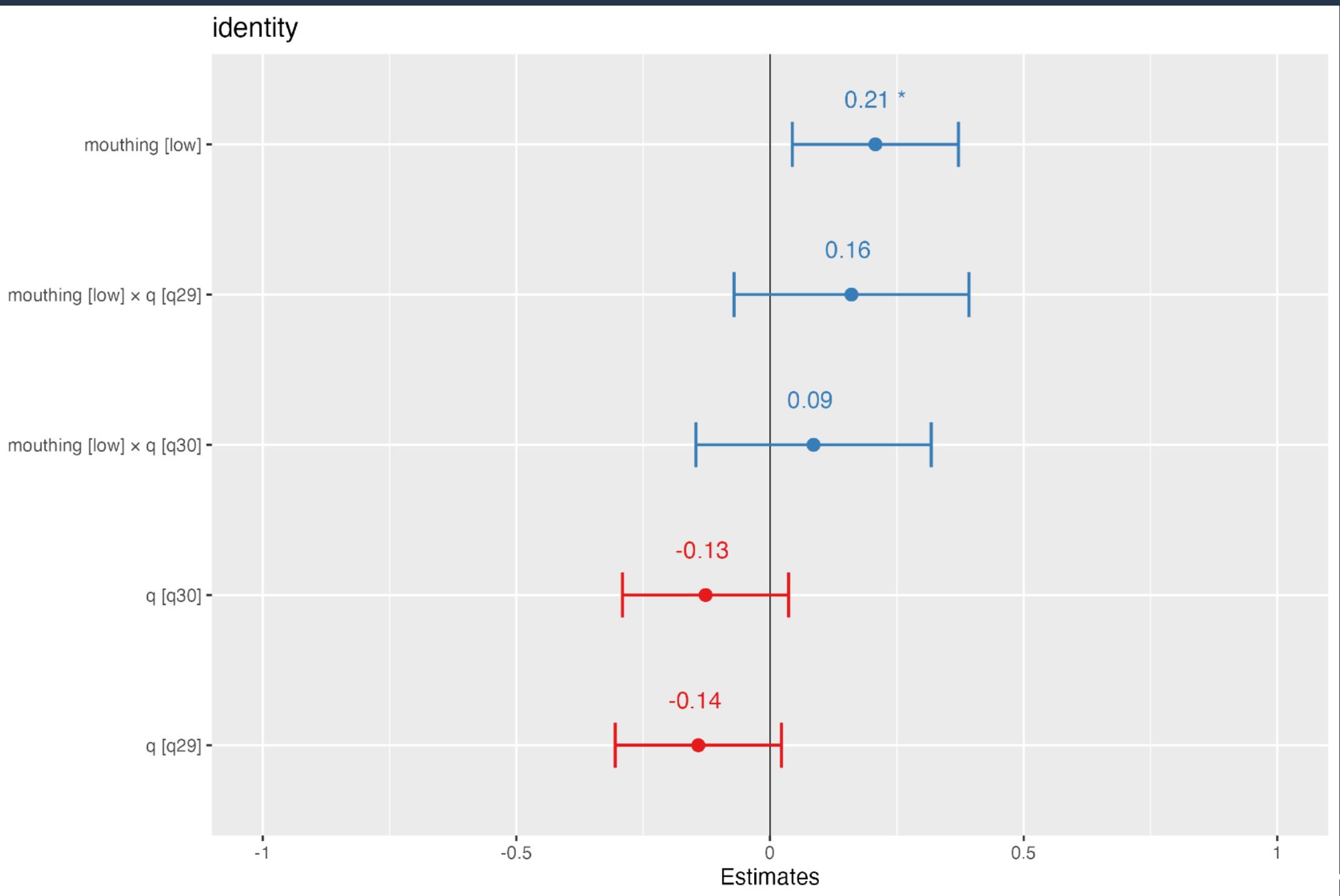
( $\chi^2 = 43.478, df = 5, p < .001$ )



q25 (PURE), q26 (BEAUTIFUL), q27 (SMOOTH), intercept:high x q25 (PURE)

## IDENTITY

( $\chi^2 = 39.304, df = 5, p < .001$ )



q28 (LEADER), q29 (STRONG DEAF), q30 (DEAF), intercept:high x q28 (LEADER)

# Discussion

- **Small effect sizes**
  - Possibly because low congruent mouthing is too unnatural
    - It was difficult to produce this condition
  - Might expect this hierarchy: high < low < medium (in development)
- **Models with only the structural property of mouthing modulated do not predict all the variation in aesthetics or identity data**
  - Factors outside of mouthing e.g. subjectivities and language experience of perceivers likely to be relevant (in progress)

# Discussion

- Show that signing with low congruent mouthing is
  - labelled as “ASL” more often
  - rated higher for signing aesthetics and deaf identity
- than signing with congruent English mouthing on all signs

# Discussion

- Aligns with research in **some** spoken language contexts that finds that contact varieties are rated lower
  - Chinese-English codeswitching rated lower for social likeability by mainland China participants (Liu 2019)
  - Spanish-English codeswitching received lower ratings than English and Spanish in 2 Texas border cities (Rangel et al. 2015)
    - Opposite pattern in Puerto Rico (Tamargo et al. 2017)
  - Relationship between attitude to code-switching and acceptability judgement ratings in Spanish-English bilinguals in the US (Badiola et al. 2018)

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