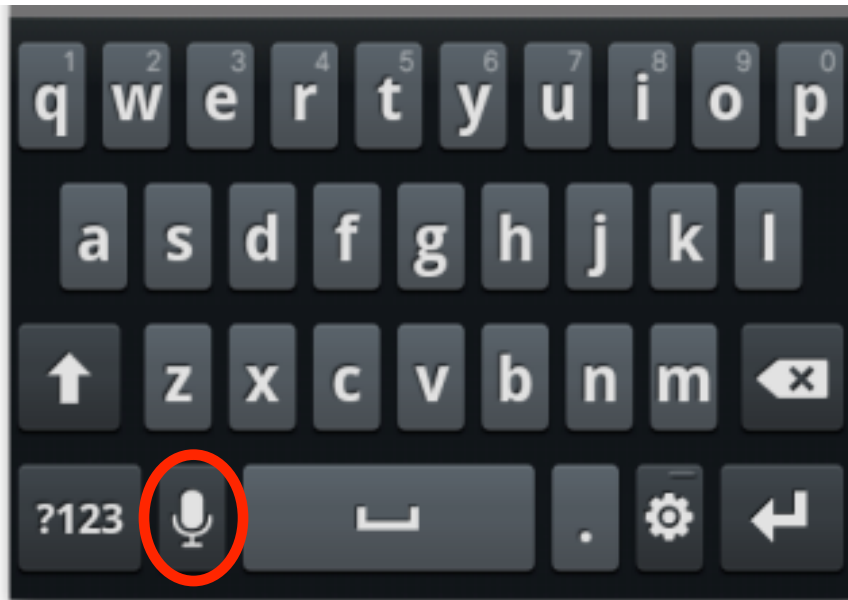


Exploring the Use of Speech Input by Blind People on Mobile Devices

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June 5, 2013

University of Washington



SURVEY

Patterns of Speech Input among Blind and Sighted People

Have you **recently** used dictation instead of a keyboard to enter text on a smartphone?

Examples of dictation include:

- Asking Siri a question, e.g., "what's the weather like today?"
- Giving Siri a command, e.g., "call John Johnson"
- Dictating an email or text message

Required.

Yes

No

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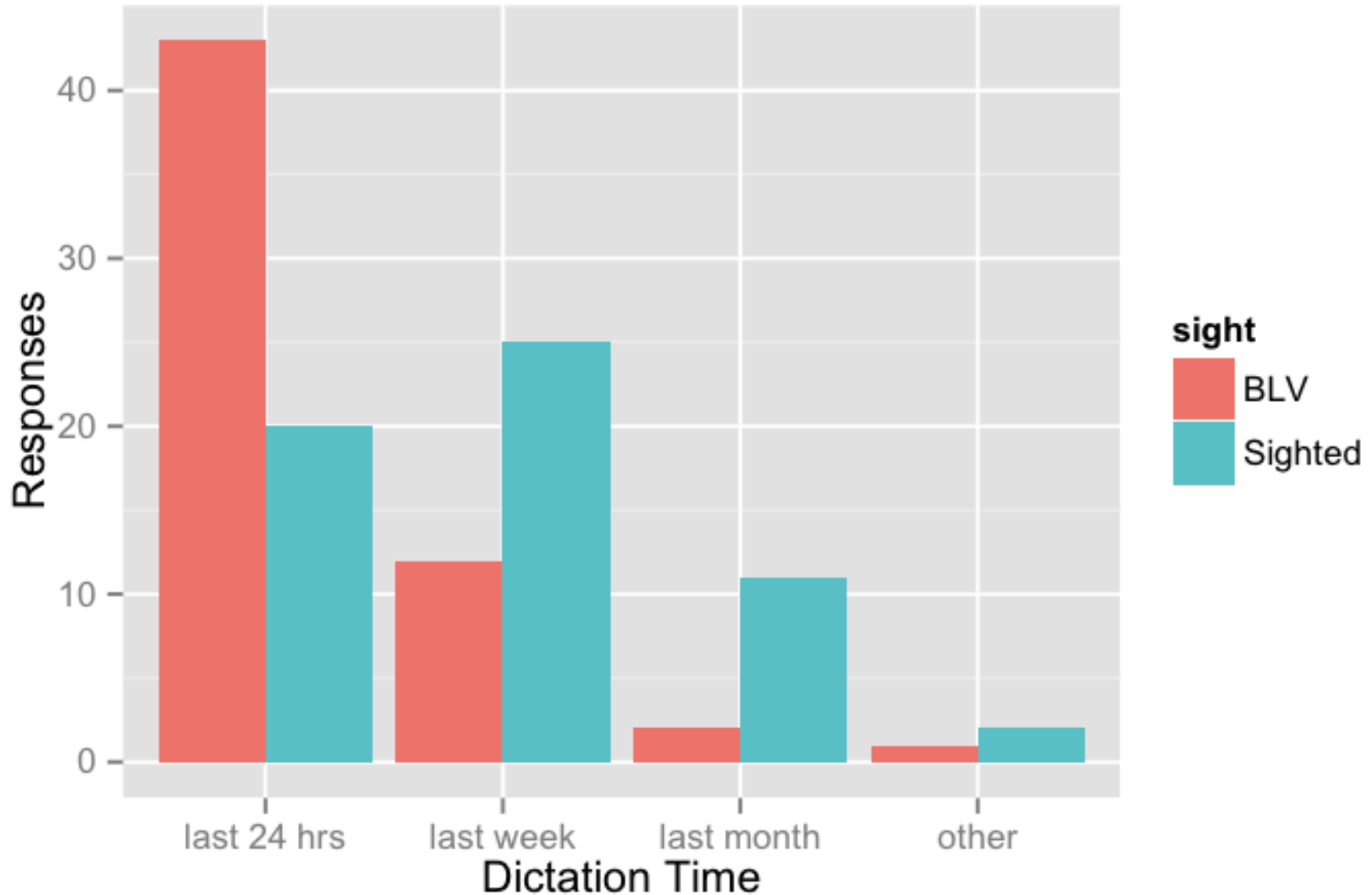
Yes

No

Sighted: 55.2%

Blind/Low-vision: 90.6%

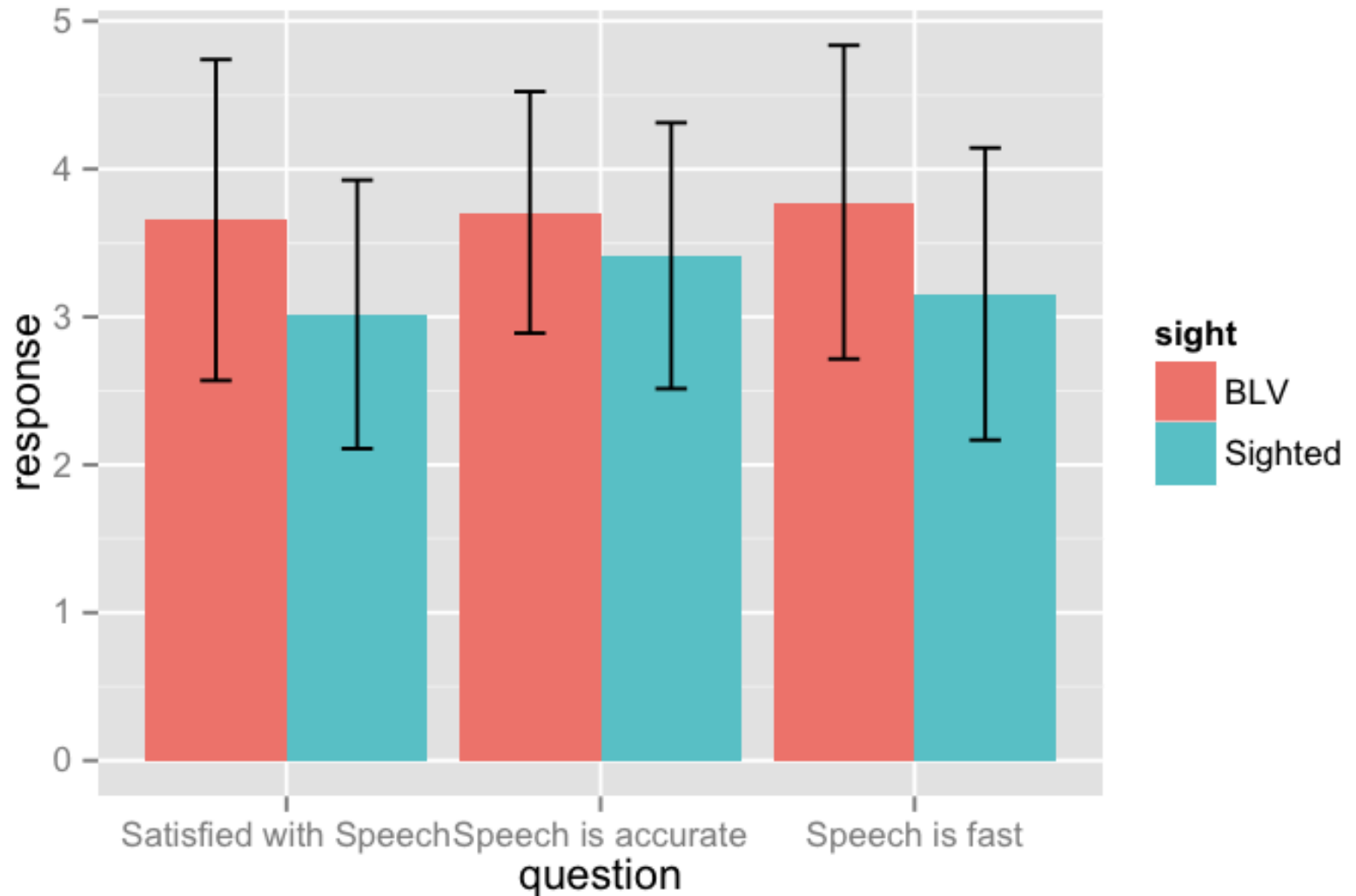
When Speech Input was Used



Message Length



Satisfaction, Accuracy, Speed



STUDY

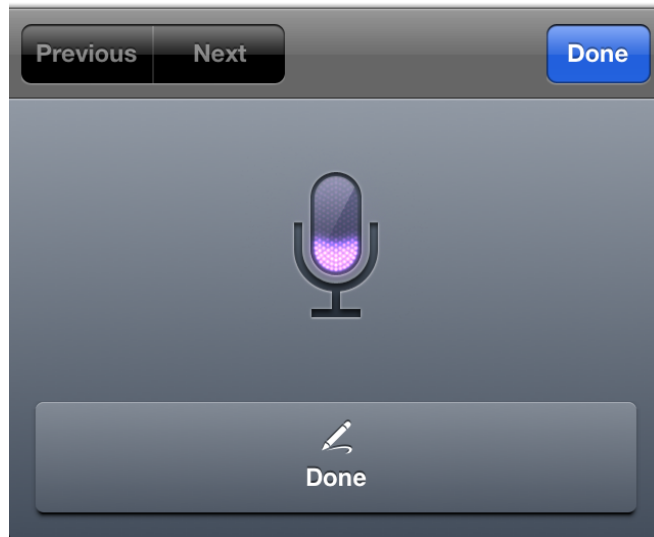
Observing the Use of
Speech Input by Blind People

Methods



Tell us about a movie you saw recently. What was it about?

submit



Entry Rate

Speech: 19.5 WPM (SD = 10.1)

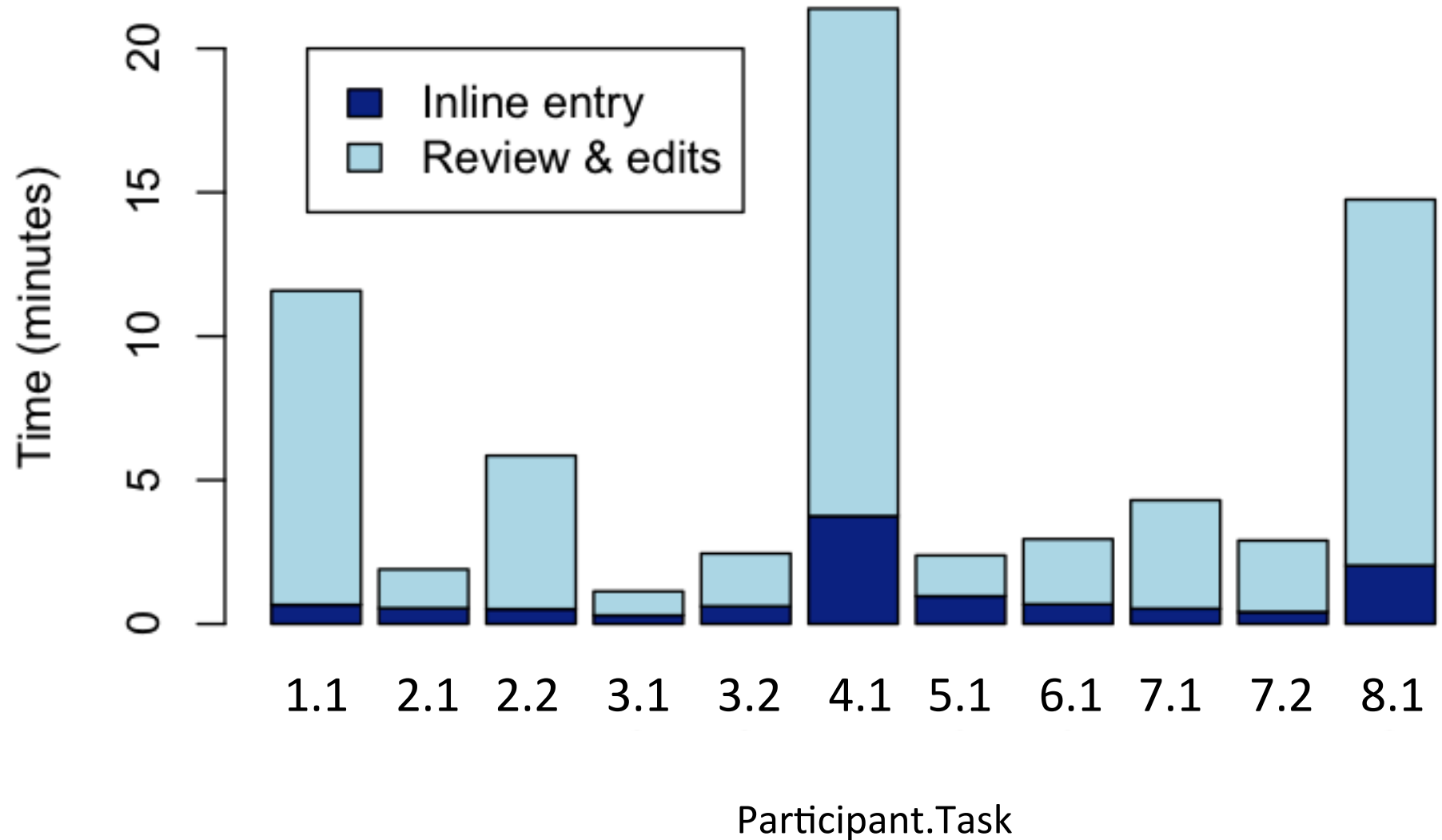
Keyboard: 4.3 WPM (SD = 1.5)

Errors

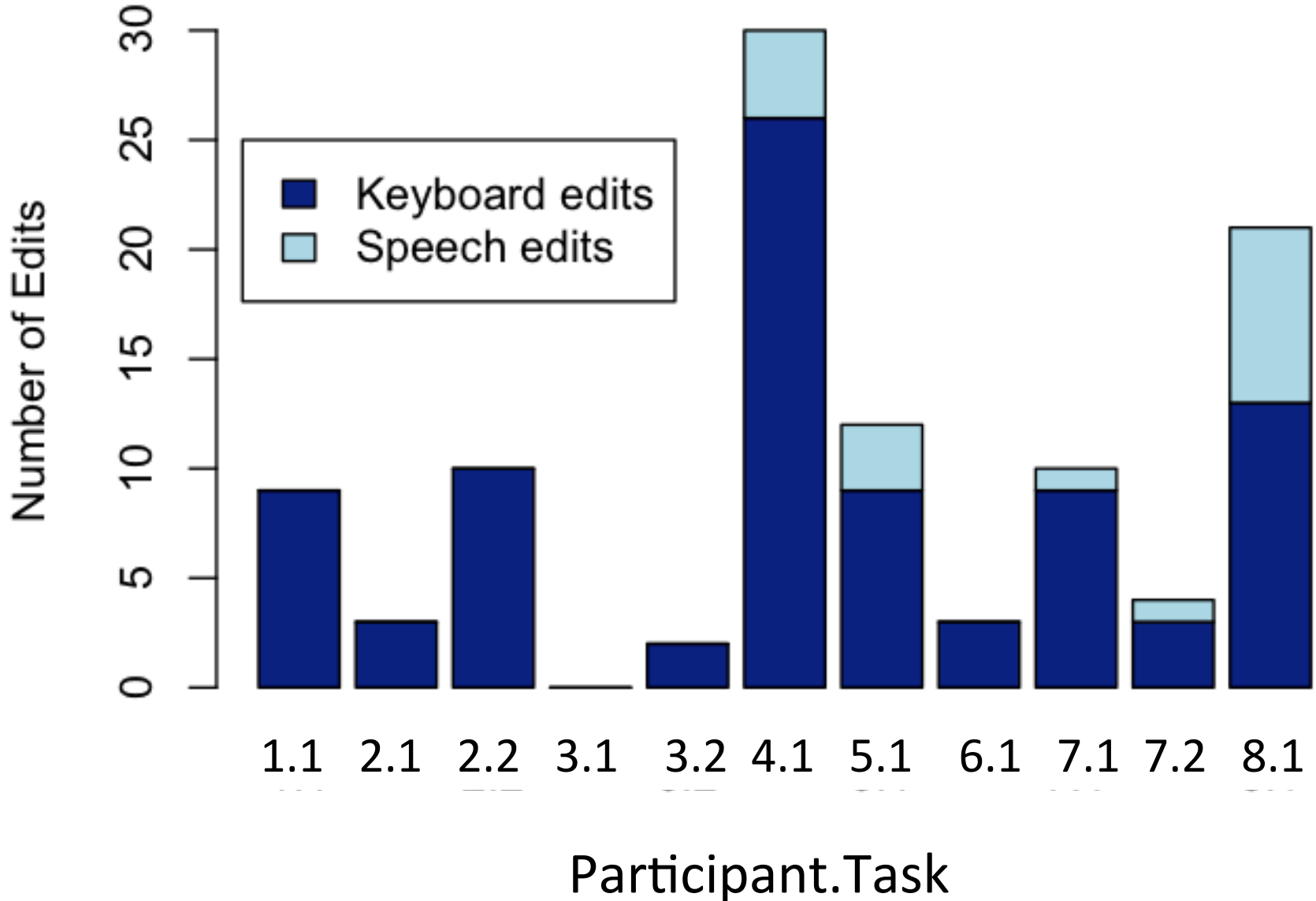
Speech WER: 3.2 (SD = 4.6)

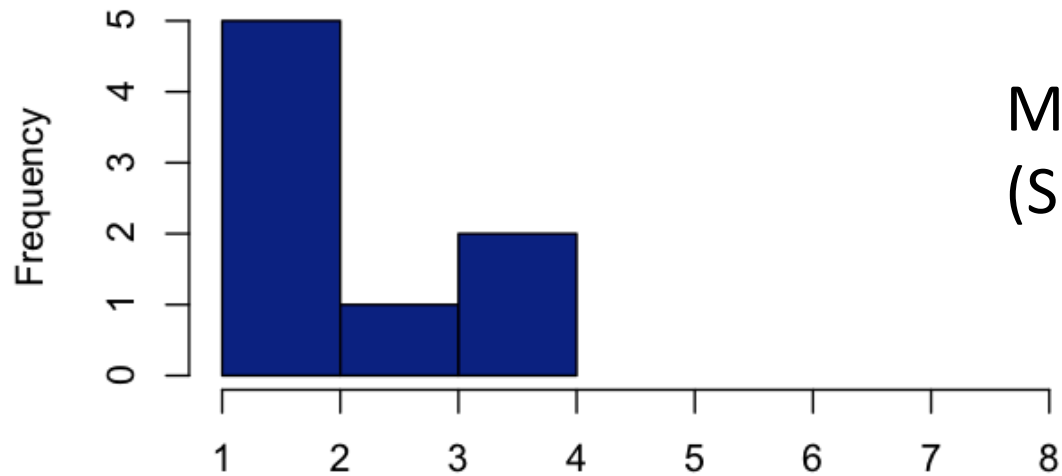
Keyboard WER: 4.0 (SD = 3.3)

Time Spent Entering & Editing



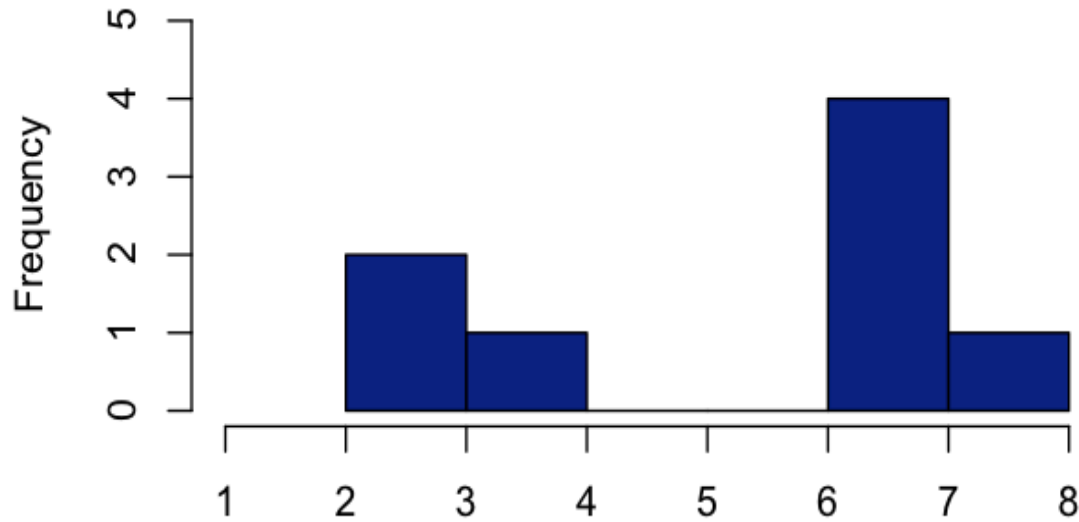
Number and Modality of Edits





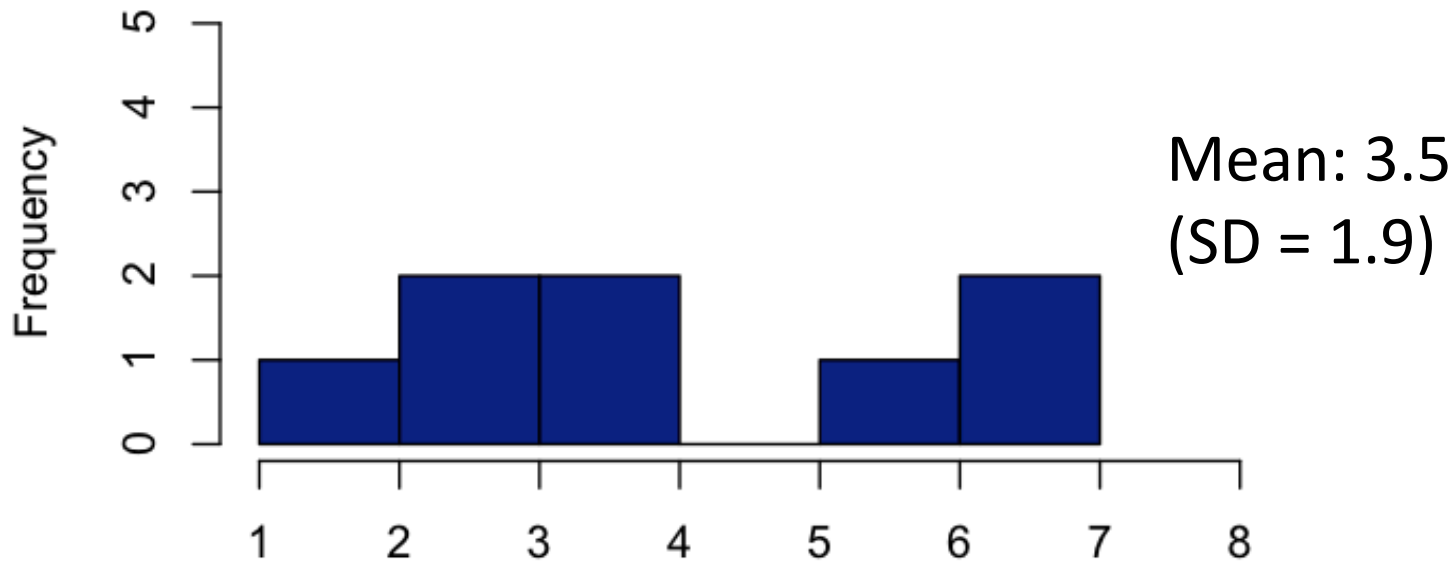
Mean: 1.6
(SD = 0.9)

Speech is **fast** compared to keyboard



Mean: 4.8
(SD = 2.1)

Speech is **frustrating** compared to keyboard



I am **satisfied** with speech compared with the keyboard

Future Work

- Text selection
- Error detection
- Cursor positioning
- Auto-correct

Thank you.