

Web-Probing: Motivating Detailed Responses in the Absence of an Interviewer

Robin L. Kaplan and Tywanquila Walker

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Background: Web Prompts

- Web prompts can encourage substantive responses and lead to lower item nonresponse (Baghal & Lynn, 2015; Derouvray & Couper, 2002; de Leeuw et al., 2015; Hadler, 2025)

Prompt Appeal	Wording
Importance	<ul style="list-style-type: none">• Please answer this important question.• This question is very important.• These questions are important to researchers and we would be grateful if you could try your best to answer them.
Confidentiality	<ul style="list-style-type: none">• If possible, please provide an answer to this question, as this is one of the key questions in this study. Please be assured that the information you give us will be treated confidentially.
Polite Second Request	<ul style="list-style-type: none">• We would very much like to have your answer to this question. If you would like to choose one of the proposed answers, please select “Back.”• Thank you, we have recorded your answer. Perhaps you can express a preference for either yes or no? That would help us very much.

Survey Pretesting: Cognitive Interviews

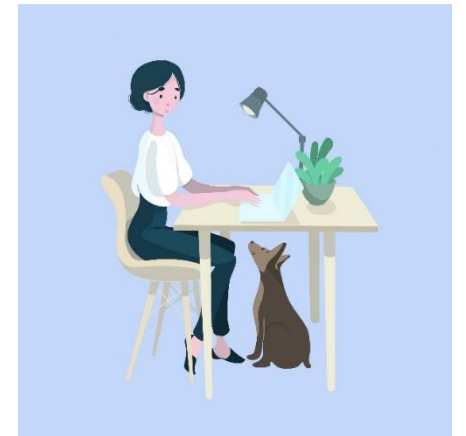
- Also known as **moderated** interviews
 - ▶ Survey evaluation technique where respondents reflect on survey questions and answers to them (Beatty & Willis, 2007)
 - ▶ Identifies problems with comprehension, recall, judgment, or response formation (Tourangeau et al., 2000)
- Traditionally done via face-to-face interviews
 - ▶ E.g., “What does the term outpatient mean to you?”



Web-Probing

- Also known as web-based **unmoderated** pretesting (Behr et al. 2017; Scanlon 2019)
 - ▶ Similar to moderated cognitive interviewing, but in a self-administered format
 - ▶ Uses a mix of open and closed-ended probes to get insight into response processes
- E.g. “What does the term outpatient mean to you?”

Type response here...



Pros and Cons of Web-Probing

■ Pros:

- ▶ Increased accessibility
- ▶ Larger samples
- ▶ More geographic diversity
- ▶ Lower costs

■ Cons:

- ▶ Interviewer can't probe in real-time or motivate respondents
- ▶ May obtain less detailed response
- ▶ May lead to more satisficing than moderated interviews

Open-Ended Probes

- Participants are asked to provide richer detail in the context of survey pretesting than when completing a survey consisting mostly of closed-ended questions
 - ▶ In particular, open-ended questions can increase item nonresponse and fatigue (Millar & Dillman, 2012)

Current Research

- While the use of motivational web prompts has been effective in self-administered surveys, they have not been assessed much in the context of web-probing
- Research questions:
 - ▶ Does response and response quality to open-ended web probes **decline as the number of open-ended probes increase**?
 - ▶ How effective are **motivational prompts** in improving data quality in the context of web-based, unmoderated pretesting?
 - Do prompts **reduce item nonresponse** to open-ended probes?
 - Do prompts **increase the length** of responses to open-ended probes?

Methods

- Participants with chronic health conditions (N=380) from a non-probability panel were randomly assigned to receive a motivational prompt (or no prompt) for up to 7 open-ended probes in a web-probing study
 - ▶ Topic = labor force participation and disability
 - ▶ Instrument included a mix of closed ended-probes and 7 open-ended, **concurrent** probes
 - ▶ Participants received \$2.00 for completing the survey
 - Median time spent on survey = 12.5 min
 - ▶ Data collected in May of 2023

Probes

1. Briefly **describe** your health condition or difficulty.
2. What are some examples of **mobility** impairments?
3. What are some examples of cognitive, intellectual, or **learning disabilities**?
4. What does the term “**Long-COVID**” mean to you?
5. What does “**Increased accessibility** to facilities” mean to you?
6. Please explain what “in-home **personal assistance** services” means to you.
7. Please explain what “potential loss of **public assistance**” means to you.



Motivational Prompt

- *Your response is critical to help us design surveys that work for everyone – please answer in the space below.*
 - ▶ Displayed alongside the probe/open-ended text box before participants entered anything
 - ▶ Chosen to appeal to the participant population, the importance of the survey, and as a polite request

Example Prompts

With Prompt

Briefly describe your health condition or difficulty.

Your response is critical to help us design surveys that work for everyone - please answer in the space below.

Prev

Next

Without Prompt

Briefly describe your health condition or difficulty.

Prev

Next

Participants

- Mean age = 45 years old (range: 18 to 79)
- 64% female; 36% male
- Education:
 - ▶ Less than high school: 1.3%
 - ▶ High school, no college: 17.6%
 - ▶ Some college/associate's: 41.2%
 - ▶ Bachelor's degree or higher: 39.9%



Type of Health Condition

Condition	Percent Selected
Vision/Hearing	5.0%
Mobility	49.5%
Mental Health	20.9%
A cognitive, intellectual, or learning disability	4.0%
Other	20.6%

Prompts Received

Number of Prompts Received	Percentage
1	3.6%
2	13.6%
3	29.7%
4	28.5%
5	16.4%
6	3.6%
7	0.8%



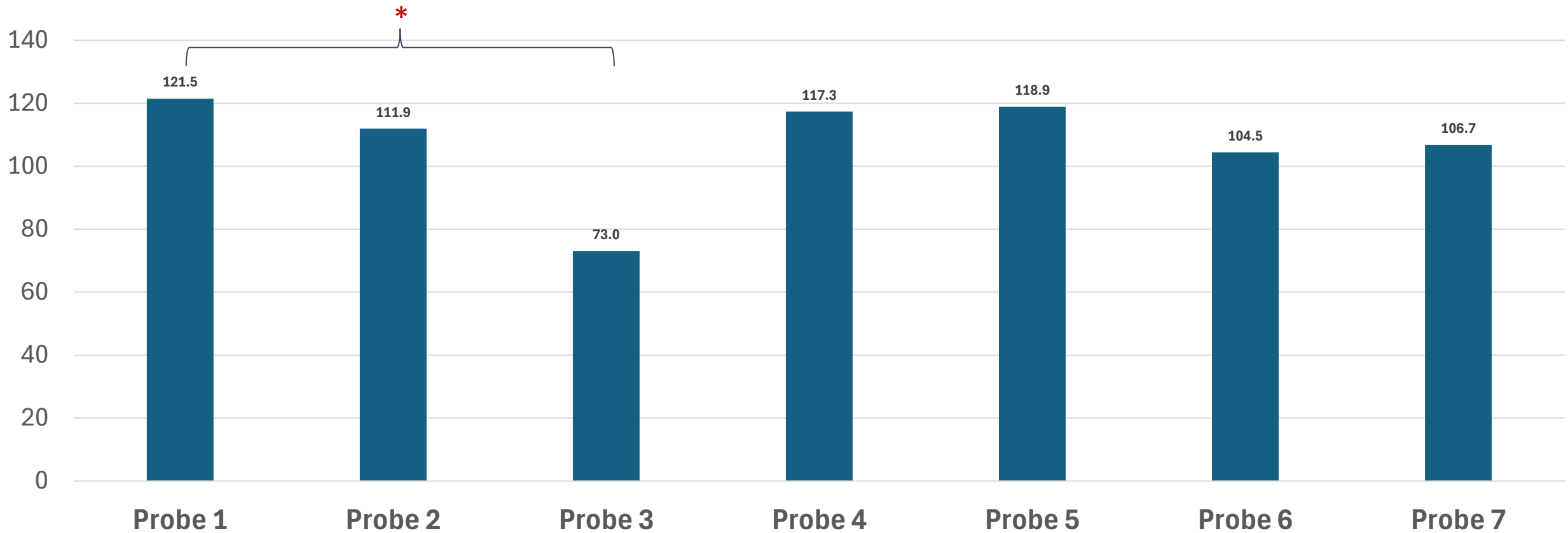
Results: % Item Missing

Probe Wording	With Prompt	No Prompt	Sig.
1.) Briefly describe your health condition or difficulty.	0.0%	0.0%	n.s.
2.) What are some examples of mobility impairments?	0.0%	1.1%	n.s.
3.) What are some examples of cognitive, intellectual, or learning disabilities?	1.5%	2.3%	n.s.
4.) What does the term “Long-COVID” mean to you?	0.0%	0.0%	n.s.
5.) What does “Increased accessibility to facilities” mean to you?	0.0%	0.0%	n.s.
6.) Please explain what “in-home personal assistance services” means to you.	0.0%	0.0%	n.s.
7.) Please explain what “potential loss of public assistance” means to you.	2.0%	3.9%	n.s.

Overall Average Character Count

- Overall average character count = **107.7** (about 16-21 words)
 - ▶ SD = 78.4
 - ▶ Range 3.3 to 720.6
- No significant relationship found between word count and:
 - ▶ Age
 - ▶ Education
 - ▶ Sex

Mean Character Count by Probe

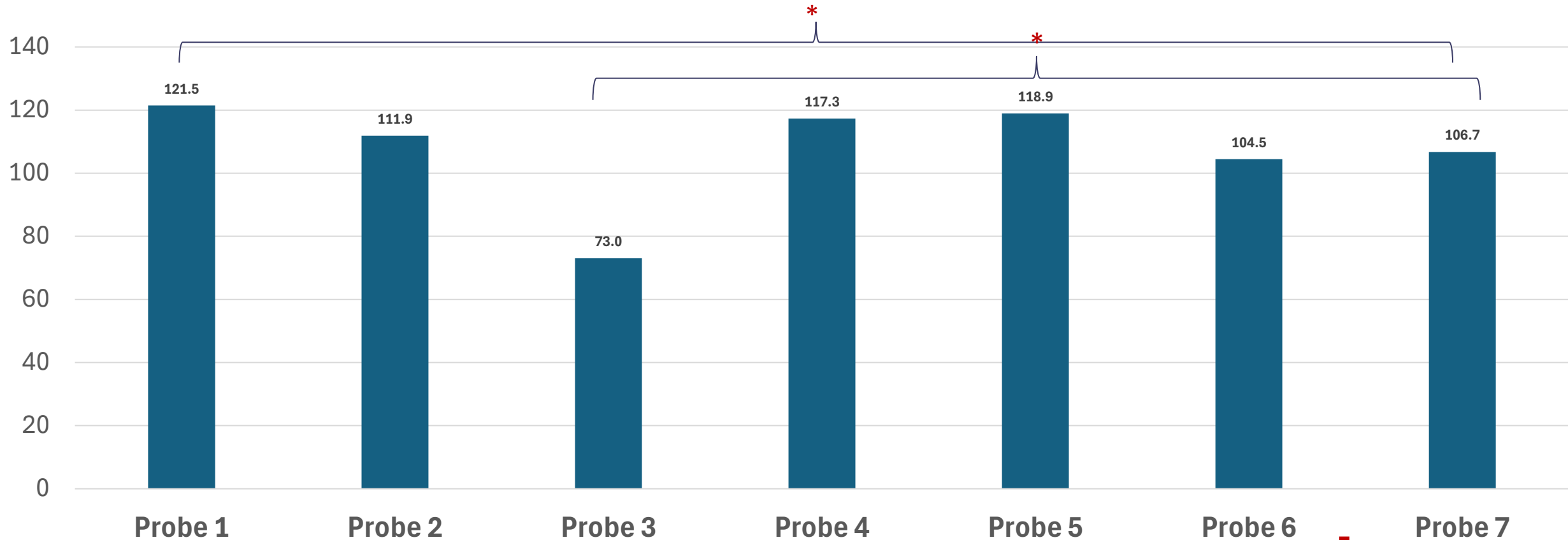


What are some examples of **cognitive, intellectual, or learning disabilities?**

* $p < .001$



Mean Character Count by Probe over Time



6. In home services
7. Loss of public assistance

* $p < .05$



Results: Mean Overall Character Count Condition

With Prompt	No Prompt	Difference	Sig.
115.5	102.1	13.4	$p < .001^{**}$
Difference of about 4 words			

**p<.001



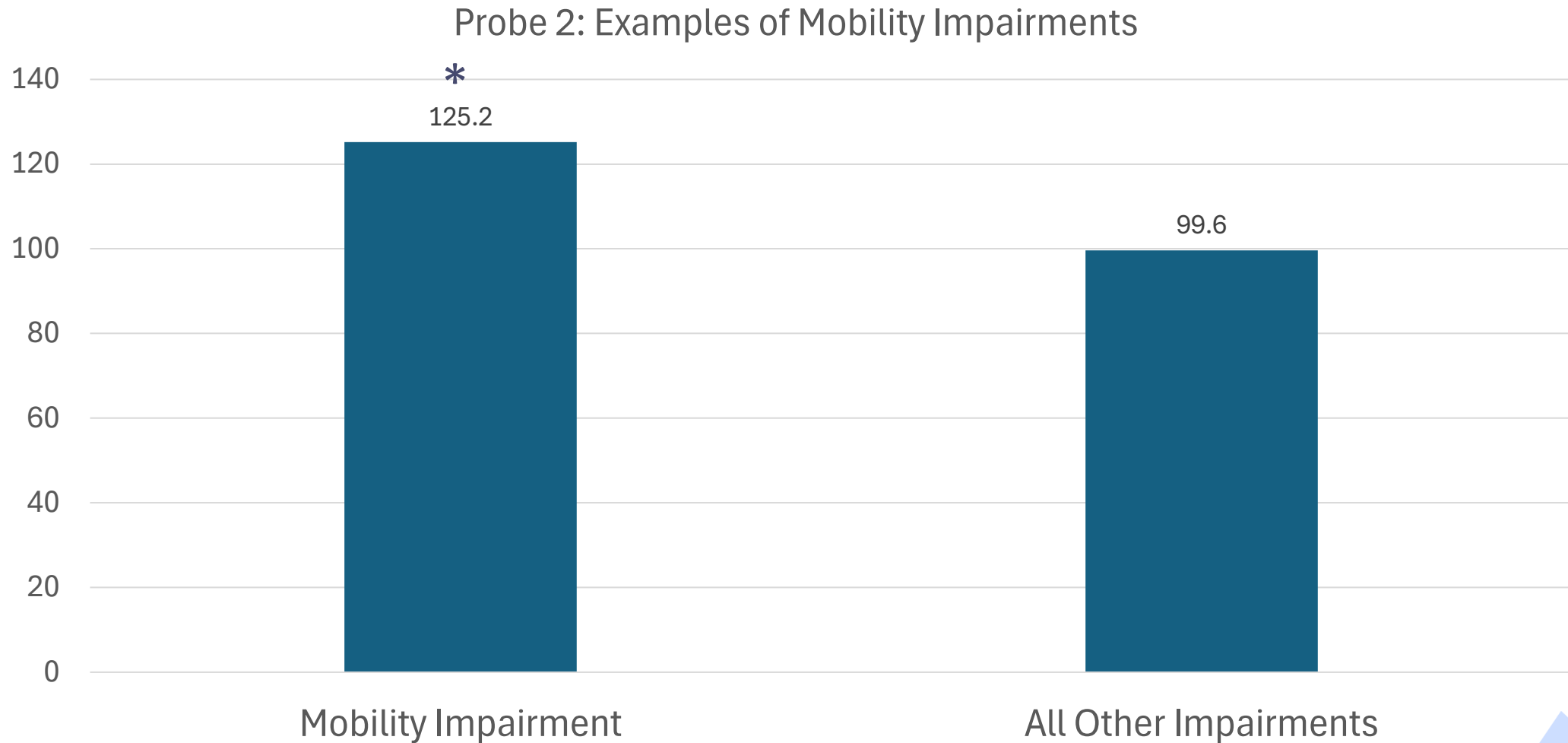
Results: Mean Character Count by Probe and Condition

Probe Wording	With Prompt	No Prompt	Difference	Sig.
1.) Briefly describe your health condition or difficulty.	142.8	94.7	48.1	p < .001**
2.) What are some examples of mobility impairments?	122.6	102.4	20.2	p = 0.04*
3.) What are some examples of cognitive, intellectual, or learning disabilities?	73.1	74.6	-1.5	n.s.
4.) What does the term “Long-COVID” mean to you?	127.4	110.6	16.8	n.s.
5.) What does “Increased accessibility to facilities” mean to you?	126.8	115.9	10.9	n.s.
6.) Please explain what “in-home personal assistance services” means to you.	112.8	99.7	13.1	n.s.
7.) Please explain what “potential loss of public assistance” means to you.	103.7	114.0	-10.3	n.s.

**p<.001; *p<.05



Probe on Mobility: Mean Word Count



*p = 0.01



Summary

- Does response and response quality to open-ended web probes **decline as the survey progresses** and number of probes increase?
 - ▶ Some evidence of this: the final probe had the most item nonresponse and character count declined compared to the first probe; however the third probe had the lowest character count, suggesting placement alone does not fully explain response quality
- How effective are **motivational prompts** in improving data quality in the context of web-based, unmoderated pretesting?
 - ▶ Do prompts **reduce item nonresponse** to open-ended probes?
 - No, item missingness was very low overall, perhaps partly due to the panel and survey topic
 - ▶ Do prompts **increase the length** of responses to open-ended probes?
 - Yes, overall prompts increased response length, but personal relevance also seemed to motivate response for some probes

Limitations/Conclusions

■ Limitations/Future Research:

- ▶ Non-probability panel
- ▶ Small sample size
- ▶ Confounded order with relevance -> most relevant probes came first in survey
- ▶ Character count -> imperfect proxy for quality
 - AI generated responses may be longer (e.g., Huang et al., 2025)

■ Conclusions:

- ▶ Supports the best practice of limiting the number of open-ended probes
- ▶ Put most important open-end probes towards beginning/middle rather than at the end
- ▶ Extends the effectiveness of motivational prompts not only to surveys, but also in the context of web-probing
 - Motivational prompts can be used to help **improve the quality of web-probing data**, not just production survey data
 - May motivate respondents to **provide more detail** in certain contexts



Contact Information

Robin L. Kaplan

Senior Research Psychologist

Office of Survey Methods Research

www.bls.gov/osmr

Kaplan.Robin@bls.gov

