Cognitive Pretesting of a Discrete Choice Experiment on Mental Health Treatment Preferences Among Adults with Chronic Pain

Spoorthy Reddy,[1] Mahi Shah,[2,3] Sylvia M.S. Johnson, BS,[4] Fenan S. Rassu, PhD[4]

[1]Department of Biomedical Engineering, Johns Hopkins University; [2]Department of Biology, Johns Hopkins University; [3]Department of Psychological & Brain Sciences, Johns Hopkins University; [4]Department of Physical Medicine and Rehabilitation, Johns Hopkins University School of Medicine, Baltimore, MD, USA

1 - Background

- Chronic pain commonly co-occurs with anxiety and depression, and psychological treatments can modestly improve pain, functioning, and distress.
- Yet treatment programs differ in approach, format, wait time, cost, and expected benefit, and little is known about which features adults with chronic pain value most or may shape treatment uptake.
- A discrete choice experiment (DCE) measures these priorities through choices between hypothetical programs.
- Cognitive pretesting helps ensure those choices reflect preferences rather than confusion.

2 - Objective

To pretest and refine a DCE measuring mental health treatment preferences among adults with chronic pain.

3 - Methods

Participants
11 adults with chronic pain

Instrument
12 choice tasks; each compared two hypothetical treatment programs

Interviews
Participants completed tasks while thinking aloud, with targeted probes

Iterative refinement

Interview → Team review → Revise → Repeat

Interviews assessed four pretesting domains *(Campoamor et al., 2024)*: content, presentation, comprehension, and elicitation.

4 - Results: what pretesting found

Figure 1. Four domains assessed during cognitive pretesting

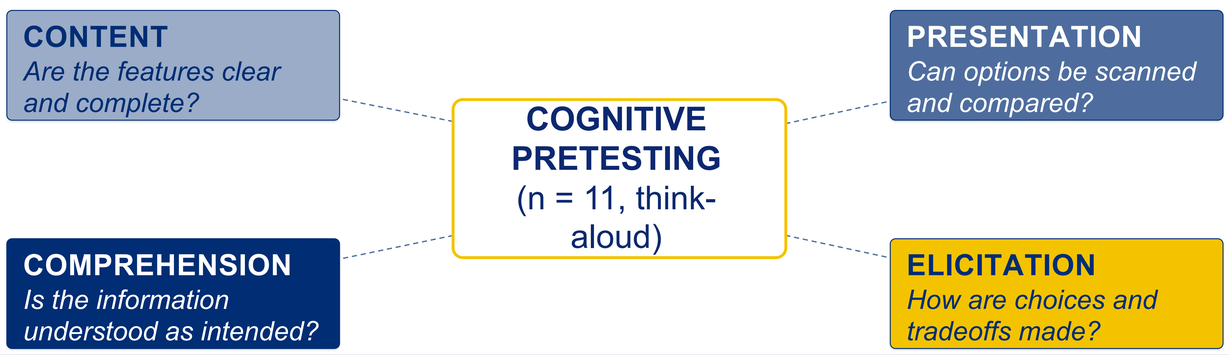

Figure 2. A sample choice task

Treatment feature	Program A	Program B
Approach	Integrated	Pain-coping skills
Session format	Video call	In person
Wait time	3 weeks	7 weeks
Out-of-pocket cost	$25	$0
Chance of improvement	7 of 10 improve	5 of 10 improve

"Which program would you choose?" Participants explained their reasoning aloud as they decided.

CONTENT

PROBLEMS IDENTIFIED
- "Mode of delivery" was unclear, and "treatment approach" was interpreted inconsistently.

CHANGES MADE
- Renamed "mode of delivery" to "session format."
- Clarified the treatment-approach labels.

PRESENTATION

PROBLEMS IDENTIFIED
- The choice table showed too much at once.
- The chance-of-improvement display was difficult to interpret quickly.

CHANGES MADE
- Reduced visual density in the choice table.
- Presented expected benefit as a frequency: "3 of 10 people improve."

COMPREHENSION

PROBLEMS IDENTIFIED
- Mental-health focus was sometimes read as treating pain as "all in your head."
- Some read "chance of improvement" as effort-dependent.
- Intro wording blurred mental health treatment with pain-coping.

CHANGES MADE
- Clarified that treatment addresses pain effects without dismissing physical pain.
- Reworded the improvement attribute.
- Rewrote the contradictory intro.

ELICITATION

PROBLEMS IDENTIFIED
- Cost sometimes acted as a near deal-breaker, but most participants still weighed it against benefit and wait time.
- Participants valued in-person visits partly for building a genuine, non-judgmental provider relationship.

WHAT WE LEARNED
- Think-aloud responses revealed decision processes that selected options alone could not show.
- Provider relationship may warrant evaluation in future preference studies.

5 - Conclusions

- Cognitive pretesting identified actionable problems across all four domains and improved the DCE before the larger survey launch.
- Think-aloud interviews also revealed how participants weighed cost, benefit, wait time, and provider relationships.
- Limitation: This qualitative pretest identified instrument problems; it was not designed to estimate the prevalence of preferences.
- Next Step: Administer the revised DCE to a larger sample to estimate which treatment features matter most and the tradeoffs people will make.

Scan for references, poster PDF, and supplemental materials.

References: Campoamor et al., The Patient, 2024; Katz et al., The Patient, 2018.

Contact: frassu1@jhmi.edu