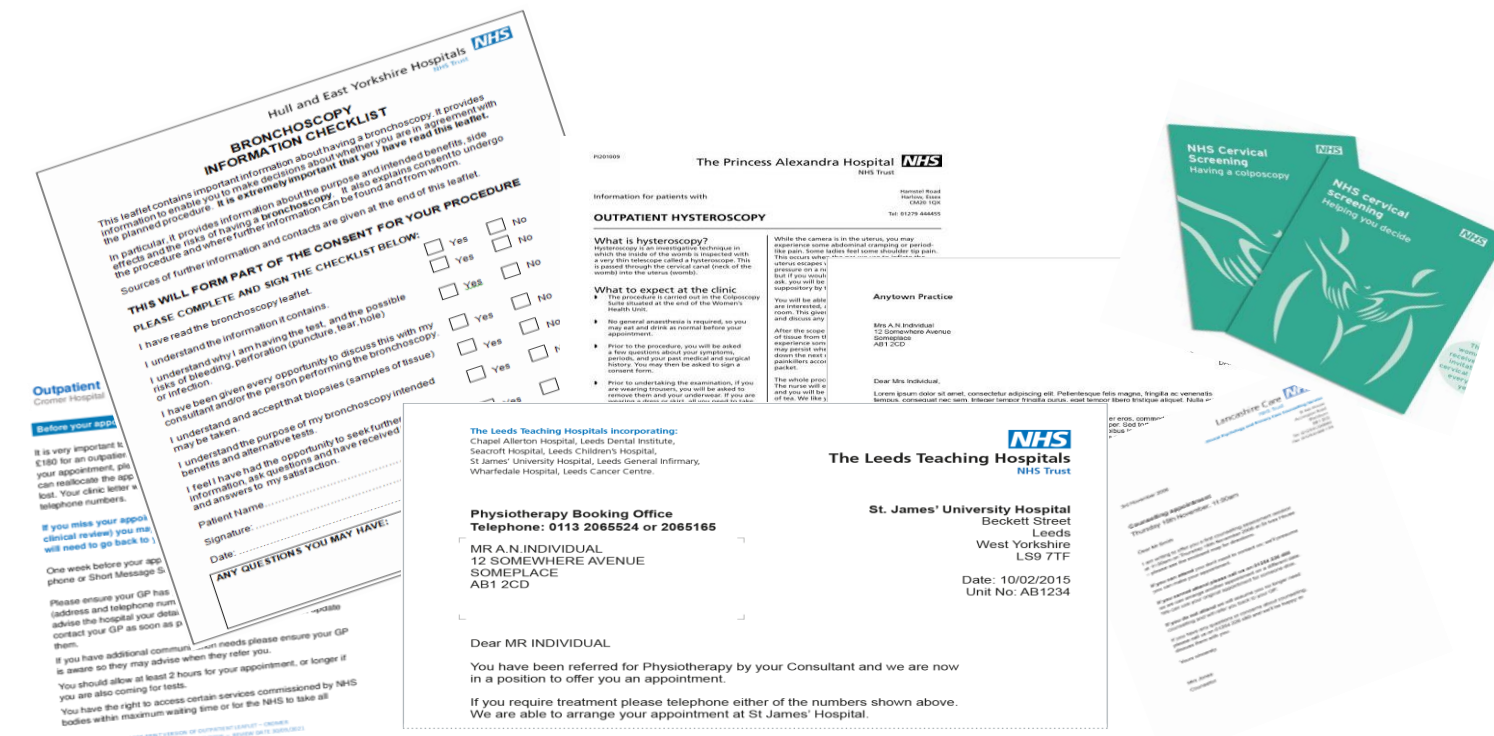


# Do You Know When You Understand?

## Examining the accuracy of self-evaluated comprehension of health information

### 1. Background

- Asking people how well they've understood something is a common question in a range of contexts.



- Judgements of understanding are used by the NHS to help produce effective patient information - documents are revised based on self-evaluated understanding of volunteers [e.g., 1].

### 2. Previous Research

- Research suggests that our perceptions of understanding don't always match reality, and some people may even report understanding the most when they understand the least [2,3].
- However, previous research in this area has methodological and analytic shortcomings and has not considered comprehension of health information.
- So, are self-evaluations of comprehension a useful tool to create effective patient information?

### 3. Current Study

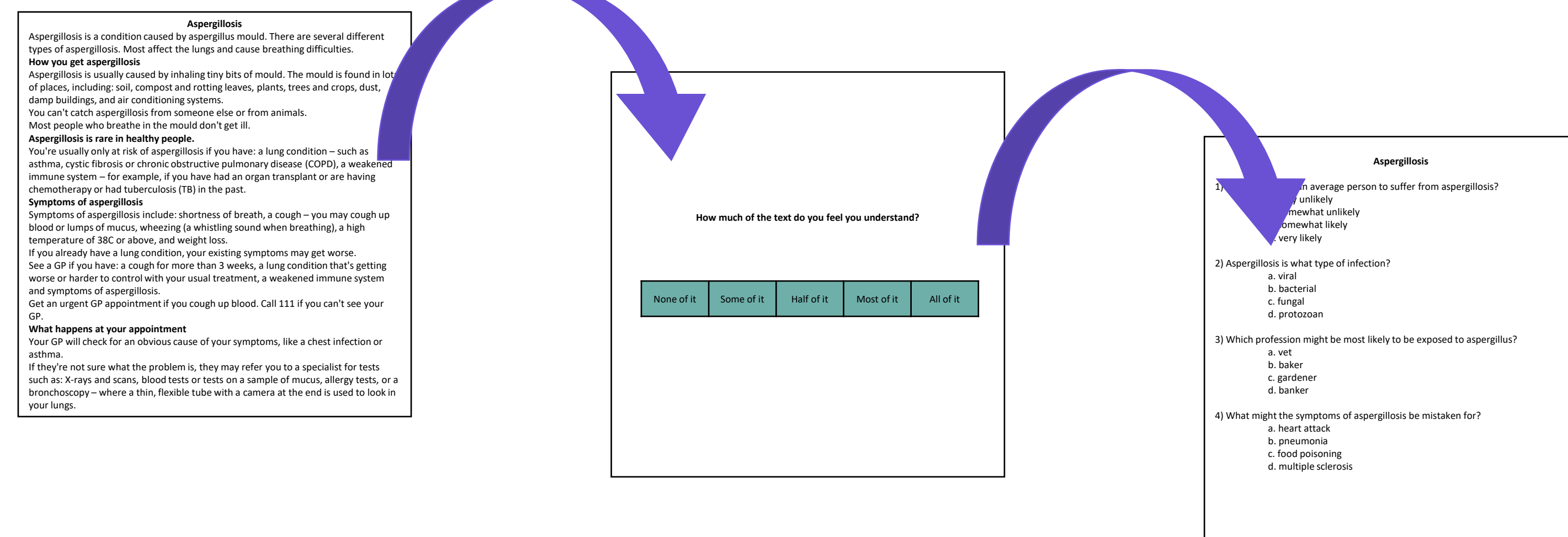
#### 3.1 Research Question:

- Are judgements of comprehension predictive of actual comprehension on health-related texts?

#### 3.2 Sample:

- 175 UK adults (aged 18-76) recruited using Prolific.
- 10 health texts created using the NHS Online A-Z of health conditions, approximately 300 words each.

#### 3.3 Design:



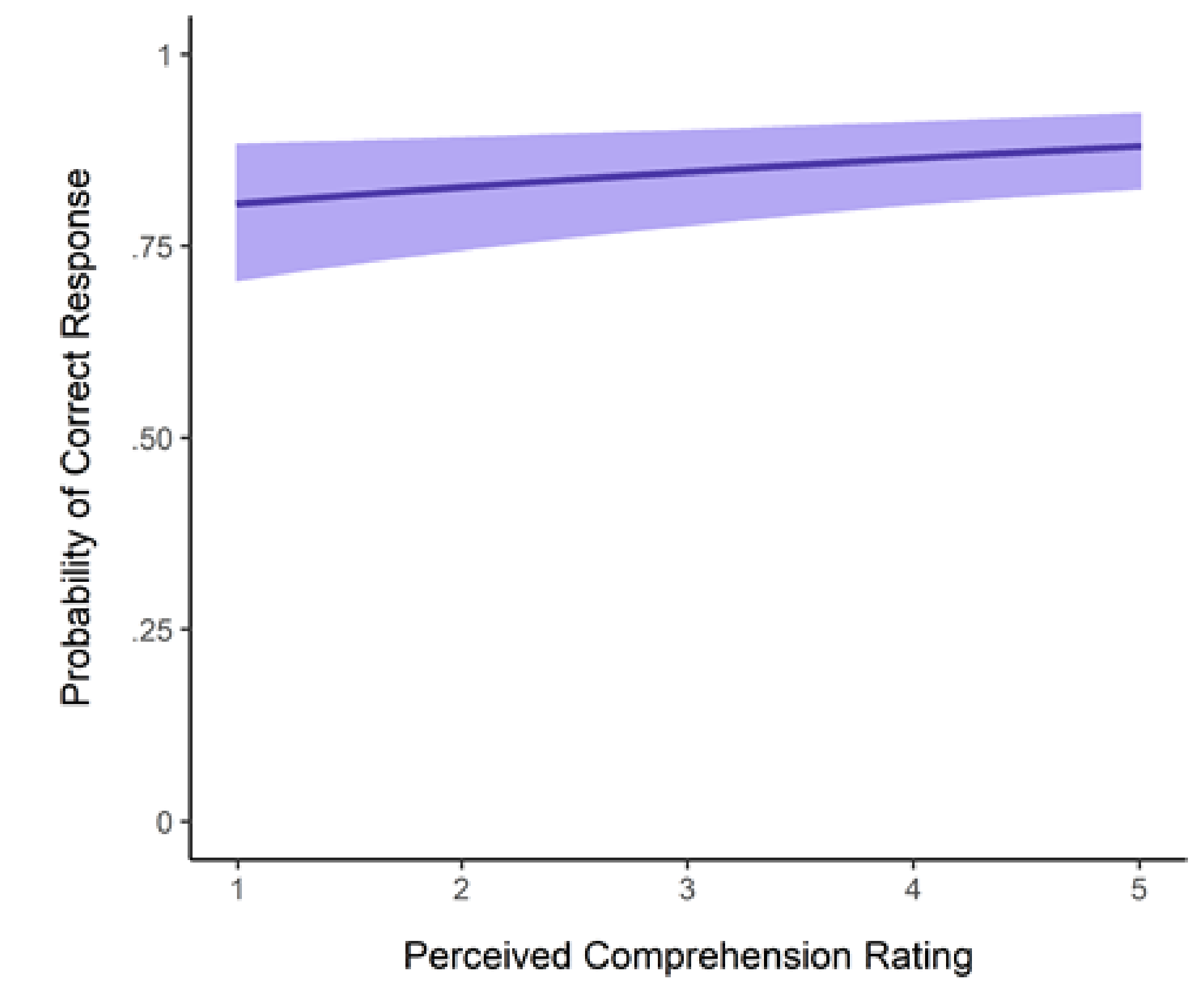
#### 3.4 Analysis:

- Bayesian multilevel logistic regression model:

$$\log\left(\frac{P_{ijk}}{1 - P_{ijk}}\right) = \beta_0 + (\beta_1 + u_{1i})X_{ij} + u_{0i} + u_{0j} + u_{0k} + \varepsilon_{ijk}$$

- Outcome: comprehension question response accuracy
- Predictor: self-evaluated text comprehension

### 4. Results



### 5. Conclusion

- Simply asking people if they understand a text is only weakly informative of their comprehension.
- Assessing patient information by eliciting self-evaluations of comprehension is likely not sufficient to ensure revised documents are more comprehensible.

### 6. References

[1] NHS Hertz Valley Clinical Commissioning Group (2021, April 15). *Reader Panel*. <https://hertsvalleysccg.nhs.uk/get-involved/reader-panel>

[2] Griffin, T.D., Wiley, J., & Thiede, K.W. (2018). The effects of comprehension-test expectancies on metacomprehension accuracy. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 45, 1066-1092. DOI: 10.1037/xlm0000634

[3] Prinz, A., Golke, S., & Wittwer, J. (2020). How accurately can learners discriminate their comprehension of texts? A comprehensive meta-analysis on relative metacomprehension accuracy and influencing factors. *Educational Research Review*, 31, 1-31. DOI: 10.1016/j.edurev.2020.100358