Cognitive Task Overview: TestMyBrain Vocabulary

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TMB Test Name: TestMyBrain Vocabulary
Test Demo: Standard Moderate | Standard Hard
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The Many Brains Project

The Many Brains Project, is a 501(c)(3) non-profit that supports TestMyBrain (TMB) in collaboration with the Laboratory for Brain and Cognitive Health Technology at McLean Hospital and Harvard Medical School. We currently support many different types of research studies through our infrastructure for cognitive assessment - these range in size from small lab-based pilot studies to large longitudinal, multisite clinical research studies with tens of thousands of participants. As TestMyBrain has been continuously in operation since 2008, we provide a stable and secure platform for hosting and delivering mobile and web-based cognitive assessment protocols. Through TestMyBrain.org, data have been collected from over 3.7 million participants in a *citizen science* framework that includes structured return of research results toward the development, validation, and normative characterization of cognitive measures. We currently support research and education at over 2,000 sites worldwide engaged in digital neuropsychological assessment.

CITATION
Please credit The Many Brains Project and TestMyBrain in any papers, posters, or publications related to the TMB tests or data collected by TMB tests.

- Example:
    - All tasks were selected from and hosted on The Many Brains Project's web-based cognitive testing platform, TestMyBrain (Germine et al., 2012; The Many Brains Project).
        - Germine, L., Nakayama, K., Duchaine, B. C., Chabris, C. F., Chatterjee, G., & Wilmer, J. B. (2012). Is the Web as good as the lab? Comparable performance from Web and lab in cognitive/perceptual experiments. *Psychonomic Bulletin & Review*, *19*(5), 847-857.
        - The Many Brains Project. *TestMyBrain Cognitive Tests*. URL: www.manybrains.net

Test Overview

Background:
TestMyBrain Vocabulary (Chaytor et al., 2021; Hartshorne & Germine, 2015; Richler et al., 2017) is a vocabulary test adapted from the Wordsum test used in the General Social Survey (Smith, Marsden, & Hout, 2013) for remote, unsupervised administration.

Task Parameters:
On each trial, participants chose which of five response options is closest in meaning to a probe word. For example, for a probe word "person," with response options "chair," "persuade," "handle," "human," and "identical," the correct response would be "human." In the "Standard Moderate" version of the test, participants complete one practice trial and 30 test trials. In the "Standard Hard" version of the test, participants complete one practice trial and 20 test trials.

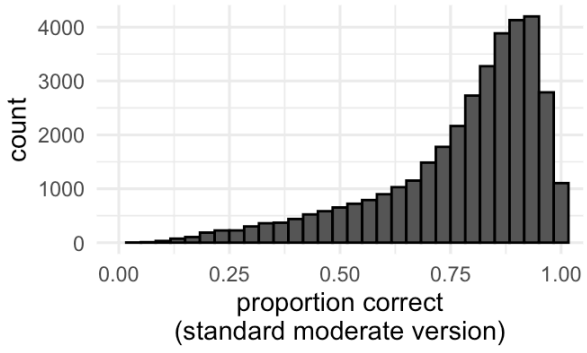
Primary Outcome:
The suggested primary outcome for the test is the proportion of test trials answered correctly (accuracy).

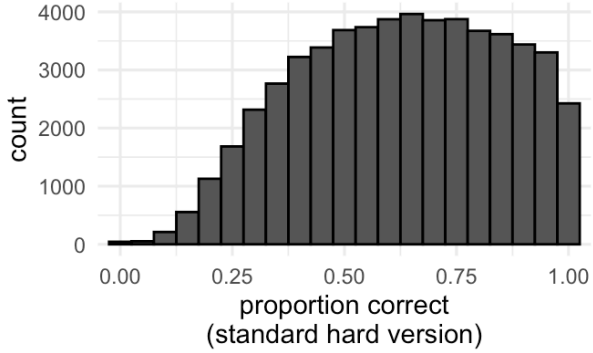
User Input:
Participants respond either by touching their selections (touch-compatible devices), clicking their selections, or using the 1-5 keyboard keys.

Alternate Task Versions: Two alternate forms of this test are available for the standard-length hard difficulty version of this test.

Psychometrics:

- **Reliability**: In single-session testing, variation in accuracy between participants has a split-half reliability of .89 for the standard moderate version, and a split-half reliability of .85 for the standard hard version.
- **Score distribution**:





References:

Chaytor, N. S., Barbosa-Leiker, C., Germine, L. T., Fonseca, L. M., McPherson, S. M., & Tuttle, K. R. (2021). Construct validity, ecological validity and acceptance of self-administered online neuropsychological assessment in adults. *The Clinical Neuropsychologist, 35*(1), 148-164.

Hartshorne, J., & Germine, L. (2015) When does cognitive functioning peak? The asynchronous rise and fall of different cognitive abilities across the lifespan. *Psychological Science, 26*(4), 433-443.

Richler, J. J., Wilmer, J. B., & Gauthier, I. (2017). General object recognition is specific: Evidence from novel and familiar objects. *Cognition, 166*, 42-55.

Smith TW, Marsden PV, Hout M. General Social Surveys, 1972–2012: Cumulative Codebook. National Opinion Research Center; Chicago, IL: 2013.