Plan Overview

A Data Management Plan created using DMPonline

Title: Validating a new mental imagery scale: The Mental Simulations Questionnaire (MSQ)

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Template: DCC Template

Project abstract:

Visual mental imagery is the mental simulation of visual sensory information (i.e., the “mind’s eye”). Aphantasia is characterised as the inability to generate voluntary visual imagery (Zeman et al., 2015). In the few published research studies exploring this experience (e.g. Bainbridge, Pounder, Eardley & Baker, 2020; Milton, Fulford, Dance, et al., 2021) the Vividness of Visual Imagery Questionnaire (VVIQ; Marks, 1973) is typically used to distinguish between individuals with aphantasia and those with typical imagery. On this scale, people with aphantasia are often classified if they report scores between 16 (i.e., rating your imagery vividness as all 1s) and 23 (more than half of all ratings are 1s). However, this questionnaire only assesses visual (or object) imagery vividness (i.e. the visual or pictorial characteristics of visual imagery). The VVIQ does not consider spatial imagery (i.e. spatial relations and movements of objects and their parts) or non-visual imagery experience (e.g. auditory imagery). Although individuals with aphantasia self-report a lack of visual imagery, it has been proposed that they may have intact spatial imagery (Bainbridge et al., 2020; Pounder et al., submitted). This has been shown within self-reports such as the Object Spatial Imagery Questionnaire (OSIQ) whereby people with aphantasia provide higher scores for spatial imagery compared to their scores for object imagery (Bainbridge et al, 2020; Keogh & Pearson, 2018) and participants with aphantasia have been shown to perform similar to participants with typical imagery in spatial tasks such as mental rotation (Pounder et al., submitted). The potential validity of this self-reported difference is supported by the evidence of a double dissociation between object and spatial imagery has been proposed and supported by numerous patient studies (e.g. Farah et al., 1988; Corballis, 1997; Bisiach & Luzzatti, 1978).

Much of the published research undertaken on aphantasia has focused on the visual domain. Several studies have explored how people with aphantasia experience imagery within their other senses either anecdotally (Zeman et al., 2020) using out-dated scales (Dawes et al., 2020) or multiple scales to assess imagery experience in each sensory domain (Dance, Ward & Simner, 2021). Some of these studies (Dawes et al., 2020; Dance et al., 2021) also include self-report scales such as the Betts questionnaire (1909), which considers each sensory modality, however does not differentiate between sensory and spatial components within modalities. What is lacking in the literature is a questionnaire that encompasses the different subtypes of visual imagery (e.g. object and spatial imagery) and also non-visual imagery across sensory domains.

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Copyright information:

Validating a new mental imagery scale: The Mental Simulations Questionnaire (MSQ)

Data Collection

What data will you collect or create?

Internet volunteers: Anonymous responses on 4 mental imagery questionnaires: 3 established and validated questionnaires, and a 4th to be validated in the current research. Participants may optionally provide their age and/or gender.

Edge Hill Psychology students: Responses on 4 mental imagery questionnaires: 3 established and validated questionnaires, and a 4th to be validated in the current research, along with student number for identification purposes to students may receive research credit. Participants may optionally provide their age and/or gender.

How will the data be collected or created?

Data will be collected on Qualtrics and Google Forms.

Documentation and Metadata

What documentation and metadata will accompany the data?

Participants will all receive a Participant Information Sheet, a Consent Form, all questionnaires, and Debrief Form via Qualtrics or Google Forms. All Edge Hill Psychology student volunteers will be emailed a Data Consent Withdrawal Form.

Ethics and Legal Compliance

How will you manage any ethical issues?

All student numbers associated with Psychology student data will be saved in a password-protected form that only I have access to. Raw data will be downloaded to my personal password-protected computer. I will remove students numbers from raw data before uploading anonymous data to the Open Science Framework (OSF) data repository.

How will you manage copyright and Intellectual Property Rights (IPR) issues?

All raw data belong to me, the Principal Investigator. Anonymous data will be uploaded onto OSF under a CC-BY license, and therefore made available for public use.

Storage and Backup

How will the data be stored and backed up during the research?

All raw data will be stored on my personal Google Drive cloud storage, and also saved as an excel or csv file on my personal password-protected computer. Anonymous data will be uploaded to OSF for permanent public availability.

How will you manage access and security?

Although I will share the link to the study form with other collaborators, only I will have access to the raw data collected on the form, on my personal password-protected cloud storage account. Once data have been fully anonymized, I will upload complete datasets to OSF for public use.

Selection and Preservation

Which data are of long-term value and should be retained, shared, and/or preserved?

Anonymized data (responses on the questionnaires) will be preserved on OSF.

What is the long-term preservation plan for the dataset?

Only I will have access to the raw data collected on the form, on my personal password-protected cloud storage account. Once data have been fully anonymized, I will upload complete datasets to OSF for public use. This will be stored on OSF permanently.

Data Sharing

How will you share the data?

I will share anonymized data on OSF under a CC-BY license.

Are any restrictions on data sharing required?

Only that I will first remove student numbers from the dataset prior to uploading to OSF.

Responsibilities and Resources

Who will be responsible for data management?

Me, the Principal Investigator.

What resources will you require to deliver your plan?

None that are not already freely available to me and my collaborators. No funding or additional resources are required.