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# Differences in Visual Imagery

*A Data Management Plan created using DMPonline*

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## **Project abstract:**

When most people are asked to close their eyes and picture a close friend or relative, they can conjure up some form of image in their mind. There is, however, an otherwise healthy population that experience a phenomenon known as aphantasia, who can see no visual imagery with their mind's eye whatsoever. In previous studies aphantasia has been associated with higher scores on measures of autistic spectrum traits and certain personality traits. This study aims to add to this body of research by employing measures of visual imagery, autism, and personality in one study to investigate potential links between these factors. Furthermore, this study aims to have a well-rounded assessment of the relationship between aphantasia and autistic spectrum traits by incorporating theory of mind based tasks called the 'strange stories'. A defining feature of autism is a lack of this ability. A dominant theory suggests that theory of mind is based on perspective taking, which involves the ability to switch between mental representations of one's body from first to third person. It has also been suggested that visual imagery may be a key function of this ability. This study aims to develop understanding in this area by using theory of mind based measures with an aphantasic population.

**ID:** 89585

**Start date:** 07-01-2022

**End date:** 01-08-2022

**Last modified:** 30-11-2021

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## Data

**If you are re-using existing data, what licences or terms of use will you have to comply with?**

N/A

**How will new data build on and relate to existing data?**

In previous studies aphantasia has been associated with higher scores on measures of autistic spectrum traits and certain personality traits. This study aims to add to this body of research by employing measures of visual imagery, autism, and personality in one study to investigate potential links between these factors. Furthermore, this study aims to have a well-rounded assessment of the relationship between aphantasia and autistic spectrum traits by incorporating theory of mind based tasks called the 'strange stories'. A defining feature of autism is a lack of this ability. A dominant theory suggests that theory of mind is based on perspective taking, which involves the ability to switch between mental representations of one's body from first to third person. It has also been suggested that visual imagery may be a key function of this ability. This study aims to develop understanding in this area by using theory of mind based measures with an aphantasic population.

**What types of new data will you create and in what format?**

All data collected from participants via questionnaire will be stored as quantitative data

**Can you estimate the size of the data you will create?**

As much data as possible will be collected by means of both targeted and convenience sampling. Therefore, it is difficult to estimate the final size of created data.

**What methods will you use to capture your data and how will these ensure that your data are high quality?**

This study will use published measures that are established and peer reviewed to capture high quality data.

## **Documentation and description**

### **What contextual information is needed for you or someone else to understand your data?**

The data created by this study will be associated with four established measures. To interpret the data it will be necessary to use the scoring systems developed in each of the four measures.

### **How will you capture contextual information?**

Using the established scales from each of the four measures.

### **Will you use any metadata standards?**

N/A

## **Data Protection**

### **Where will you store your data and how will you ensure that they are backed up? Will you use University-managed data storage or will you need to set up your own back-up procedures?**

Data will be stored in university-managed data storage and be backed up accordingly.

### **How will you secure your data? What methods will you use to restrict access to your sensitive data? Will you encrypt hardware when working off campus?**

All data will be password protected.

### **How will you protect your research participants? Will you obtain informed consent for data retention and sharing? How will you anonymise data to safeguard the privacy of your participants?**

Informed consent will be a prerequisite for participation. Data will be anonymised by assigning randomly generated participant identification numbers to participants data

before data analysis.

## **Retention and preservation**

**Which subsets of your data will you keep at the end of your project? Will you retain anonymised versions but destroy personal data and identification keys? Will you retain all of the raw data or is a processed version more suitable to preserve? Do you need to keep all intermediary files or would you only need to refer back to input files or a final version?**

Only anonymised versions of the data will be retained. All personal data and identification keys will be permanently deleted. There is no requirement to preserve raw data, so all reserved data will be processed.

**How will you prepare your data for long-term preservation? Are you able to convert your data to open file formats? What contextual information do you need to retain so that your data remain understandable and usable?**

The final report appendices will include the four measures used in this study that will make the data contextually appropriate.

**Where will you archive your data to ensure that they are preserved and sustained for several years after your project ends? Will you submit your data to a specialist data repository/centre and if so, have you consulted them about your requirements?**

Data will be stored in accordance with Exeter University's data storage policies.

**How big will your final dataset be and will there be any costs associated with archiving them, such as data deposit charges?**

The size of the final data set is unknown. There will be no costs associated with archiving.

## **Data sharing**

**Can you demonstrate that you'll plan ahead to maximise data sharing? For**

**example, will you only share a subset of the data where informed consent was granted for data sharing?**

Only a subset of processed data will be shared where informed consent was granted.

**Are there any reasons why you would not be able to share some of your data? Would they be covered by data protection legislation, licence restrictions, or contractual confidentiality clauses? Are there ethical reasons why your data should not be released?**

There are no known reasons why data should not be shared.

**When will you share your data? Will data be made available upon first publication of findings or within a limited period after the end of the project? Do you need to delay publication to allow for commercialisation or patent applications? Will you embargo your data to allow for a limited period of exclusive use?**

Data will be made available upon submission of the final report to Exeter University.

**How will you disseminate your research? Will you include a data access statement in published articles? Does your chosen method of data preservation provide a persistent identifier such as a Digital Object Identifier? What licences will you assign to your data?**

All data relevant to the findings of the study will be included in the final report in a processed format, with all necessary contextual materials attached. There is no requirement statements, identifiers, or licenses.

## **Data Protection Impact Assessment**

**Will your research involve human participants or personal data?**

**Examples of personal data could include names, addresses, photos, video, ID numbers, DNA, IP addresses, job titles etc.**

- Yes

**What do you require this personal data for? What is the purpose of using the personal data?**

Participants names will be stored temporarily so that, for the duration of the research, their data can be destroyed should they wish to withdraw from the study.

**How are you making people aware of how their personal data is being used? Do you need to update your privacy notice?**

Participants are required to read the information sheet that discloses how their personal data is being used before they participate.

**Which conditions for processing apply for your project? For Special Categories please ensure you select at least one from Section 1 and one from Section 2 below. Please select all that apply and provide any additional details.**

**Section 1: Conditions for Personal Data**

- **The data subject has given consent to the processing (please provide the consent wording and where it is stored)**
- **Contractual necessity (please confirm which contract this relates to)**
- **Compliance with any legal obligation (please document which legal obligation)**
- **To protect the vital interests of the data subject (please provide details)**
- **Functions of a public nature or task in the public interest (please provide details)**
- **Legitimate interest of the Data Controller (please provide details of legitimate interest)**

**Section 2: Conditions for Special Categories Data**

- **The data subject has given explicit consent to the processing**
- **Necessary so that you can comply with employment law**
- **To protect the vital interests of the data subject or other person**
- **The processing is carried out as part of the legitimate activities of a not-for-profit organisation**
- **The individual has deliberately made the information public**
- **The processing is necessary in relation to legal rights**
- **The processing is necessary for administering justice or for exercising statutory or governmental functions**
- **The processing is necessary for medical purposes**
- **The processing is necessary for monitoring equality of opportunity**

**Section 1:** The data subject has given consent to processing by signing the consent form that is associated with the information sheet which states "The answers you submit will be used as data for a University of Exeter undergraduate psychology research project by the researcher, Ben Griffith".

**Section 2:** The data subject has given explicit consent to the processing.

**Is all the personal data you are using necessary? Are you collecting enough to carry out the work, is there any you could do without to limit the risks to the individuals?**

All personal data collected is necessary. Personal data is only collected to ensure that the participants right to withdraw from research is enabled. No personal data will be used for the purposes of the research.

**How are you ensuring that personal data obtained from individuals or other organisations is accurate? How will you keep it updated?**

The names of participants is the only personal data collected in this study. It is reliant upon the participant accurately entering their name. There is no requirement for this information to be updated.

**How long will you keep the data and how will you dispose of it? Are the retention periods on the University Retention Schedule?**

Personal data will be kept up until the conclusion of the study on or before 01/08/2022. Personal data will be permanently deleted from the server.

**Where will the data be stored? If storage is in the cloud, where is the physical server? Will you need to transfer the data outside the EEA? If yes, how will you ensure adequate protection?**

Data will be stored on a University of Exeter server. Data will not be transferred.

**Will you be able to meet all the Data Subject Rights? Can you provide copies of data if requested? Are you able to fully delete the data (not just archive)?**

Data subject rights will be met. Copies of relevant data can be provided to individual participants for the duration of the study should it be requested.

**Please briefly document below any risks with the use of personal data and how you will control such risks. Include technical controls (IT security, encryption etc), physical controls (location, locked room etc), personnel controls (training, access control etc), and procedural controls (contract, policies etc).**

Risks include third part access to personal data. Such risks will be controlled using data encryption, separate password protection for both the storage of data and the device used to access the data. Access is limited to the lead researcher only.