

## **Individual differences in brain networks for memory**

### **Dear Participant**

We would like to invite you to take part in our research study. Before you decide, we would like you to understand why the research is being done and what it would involve for you if you took part. One member of our team will go through the information with you and answer any questions you may have. We'd suggest this should take about 10 minutes.

Talk to others about the study if you wish. Ask us if there is anything that is not clear or if you would like more information. Please take time to decide whether or not you wish to take part.

### **1. What is the purpose of the study?**

If two people witness the same event, they may later remember that event in quite different ways. We are interested in how memories differ across individuals. We think that differences in how events are remembered will be reflected in the brain regions engaged when people watch and remember short events shown in videos.

### **2. Who is organising and funding the research?**

The research is funded by the European Research Council and the Alzheimer's Society.

### **3. Why have I been invited?**

You have been chosen because you responded to one of our requests for participants to take part in the study.

### **4. Do I have to take part?**

No. It is up to you to decide whether or not you wish to join the study. We will describe the study and go through this information sheet. If you agree to take part, we will ask you to sign a consent form.

### **5. What will happen to me if I take part?**

#### ***Online Questionnaires and Memory Task at home***

First, we will check that it is safe for you to have an MRI brain scan and that you meet the criteria to be included in this study (See Section 6). You will then be sent this information sheet and a link to some questionnaires and a memory task.

If you are happy to participate, the link will take you to a consent form, a set of questionnaires and a memory task. Alternatively, you can be sent paper copies of the consent form and questionnaires which you can bring with you to the University of Sussex campus. If you choose this option, you will be able to complete the memory task when you attend your session at the University campus. The questionnaires aim to get an idea about how you feel about your memory, sleep, and imagination. You will also be asked about your personality

and wellbeing. This will take around half an hour to complete. The memory task involves looking at scenes which contain objects and then later remembering details about the objects within the scene. This will take around half an hour to complete.

### **Scanning Session**

After you have completed the questionnaires and memory test, the researcher will arrange a time for you to come to the University of Sussex campus to complete a session which combines an MRI scan and some additional tests of memory and attention. This session will take about 3 and a half hours in total (including breaks) and is made up of three parts.



*Part 1:* First you will have an MRI scan while completing a task. The task will involve watching short video clips showing events similar to those you experience in everyday life (e.g. having a conversation over dinner). After watching some videos you will be asked to remember them while you lie in the scanner.

Before going in the scanner, you will be asked to sign a consent form to participate in the study and the researcher will explain the scanning task to you. After this, a radiographer will go through the safety questionnaire with you and then ask you to remove all metal from your body. The radiographer may ask you to remove your make-up and it is possible that you will be asked to change into MRI compatible clothing, which will be provided. Then the radiographer will position you in the brain scanner, so the experiment can begin. The total time in the scanner will last around 60 minutes (including short in-scanner breaks), but please allow for up to 30 minutes of preparation time for the scanner.

*Break:* Following the scan you will be able to have a 15-minute break before starting the next part of the study. Feel free to bring a snack to eat during the break.

*Part 2:* Outside of the scanner you will be asked to remember all of the videos that you watched, and your responses will be audio recorded and later transcribed by the researchers. You will also be asked to rate each videothrough a series of questions. This will take around an hour.

*Part 3:* Finally, you will be asked to complete some tasks which assess your memory, attention, language and reasoning. This will take around 30 minutes.

## **6. Who can take part?**

Please note that you must fulfil the following criteria if you want to take part in this study: you must be

- 18-40 years old
- Right-handed
- A fluent English speaker
- Have no history of brain injury
- Have normal or corrected-to-normal vision

You cannot participate in the study if you:

- Do not fulfill the above criteria
- Have a medical condition which makes you unsuitable for MRI, such as a pacemaker, cochlear or other metallic implant, or a hydrocephalus shunt (see separate MRI safety questionnaire for details)

## **7. What are the possible benefits of taking part?**

There are no immediate benefits to you in taking part; however, you will be helping our research into understanding memory processes and factors which can affect it.

We can pay you £45 in compensation for your time (£10 per hour for around 4.5 hours of your time) and give you a movie and images of your brain. We can cover reasonable travel expenses to the University if agreed with the researcher in advance.

## **8. Are there any possible disadvantages or risks of taking part?**

MRI scanning has been used for over 20 years in medicine, and every year approximately 10 million people are scanned worldwide. There are no known side effects, and MRI causes no pain or damage.

Taking part in this study will involve being in the MRI scanner for a long period of time (approximately 1 hour) which is a small space and can generate loud noises. Throughout the study you will be able to take short breaks at the end of each session; and the videos you will be watching have audio which will limit the amount of noise you hear from the scanner. During the breaks you will remain in the scanner but the scanner will be switched off.

Please note that the images that will be acquired are not for diagnostic purposes and the examination should not be considered an alternative to a proper medical consultation. Occasionally, something may be found in the images and an expert opinion sought. If there are any unexpected findings that need further tests, your GP will be contacted in the first instance. The GP will then contact you if further tests are required. If you have any concerns about this, please contact a member of staff.

**9. Covid-19 Safety Information**

You will be asked to wear a mask from when you arrive at the Clinical Imaging Sciences Centre throughout scanning until you have left the building. We will be able to provide you with an MRI compatible mask.

**10. What about confidentiality?**

All the information about your participation in this study and all information collected during the course of the research will be kept strictly confidential, with the exception of rare circumstances in which the brain images reveal something that looks unusual. In these situations, we will consult an expert radiologist and may inform your GP. This means we might share your name, and details (e.g. Brain Images) with a radiologist and your GP.

You, and your data, will be assigned a unique identifier that will be used to name the files. Outputs arising from the research (e.g. scientific publications) will not contain any personal data that would permit identification. Your name and contact details will be stored separately from your data in a password protected file. Hard copies of your personal data will be stored in a locked filing cabinet in a locked office at the University and kept for up to five years and after this time will be destroyed. All data will be stored securely.

**11. What will happen if I don't want to carry on with the study?**

You are free to withdraw from the study at any time and without giving a reason. Should you wish to withdraw from the study after you have completed testing you can withdraw your data up until it is either: included in a publicly available report or, 5 years after the data collection has taken place. You will be reimbursed for any time you have dedicated to the study up to that point (a rate of £10 per hour).

**12. What if there is a problem?**

If you have any concerns about any aspect of this study or complaints about the way you have been treated during the study or possible harm you might suffer, you should ask to speak with the researchers who will do their best to answer your questions. The researchers contact details are provided at the end of this sheet. However, it is not expected that any problems will occur. If you have any concerns about any aspect of this study or complaints about the way you have been treated during the study or possible harm you might suffer, you are able to contact the University of Sussex Research Governance Office (rgoffice@sussex.ac.uk). They are an independent complaints process who can help with any ethical concerns.

**13. Insurance**

The Universities of Sussex and Brighton have insurance in place for any liabilities resulting from this study.

**14. What will happen to the results of the research study?**

The results of the study may be presented at research conferences or public meetings. The findings will be written up and published in a scientific journal/PhD thesis. If you wish, a summary of the findings can be sent to you at the end of the study.

**15. Who has approved this study?**

This study has received ethical approval from the Brighton and Sussex Medical School Research Governance and Ethics Committee (BSMS RGEC).

**Thank you for taking the time to read this information sheet.**

**16. Contact Details:**

If you have any queries about this project or your participation in it, please contact:

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