

Brain Computer Interfacing: Word Recognition and Motor Imagery Experiments

Thank you for your interest in this study. Before you decide whether to take part, please read the following information carefully (this sheet is for you to keep). You may ask me any questions if you would like more information.

What is this research looking at?

We are investigating how the brain remembers and recalls information. Specifically, we are looking at how the brain encodes information and whether from that encoding we can successfully predict future recall. As a secondary objective, we are looking at how the brain encodes imagined motor movement information. Details about the design of the experiments themselves and what you will be doing can be found on the debrief sheet.

Do I have to take part?

It is up to you to decide to join the study. We will describe the study and go through this information sheet. If you agree to take part, we will then ask you to sign a consent form. You are free to withdraw at any time, without giving a reason. This would not affect you in any way.

What will happen if I agree to take part?

If you agree to take part, the procedure will entail recording your brain activity using electroencephalography (EEG). EEG is a safe and non-invasive technique that measures the electrical activity of the brain using electrodes placed on the scalp.

EEG – head measurement and gel use

EEG involves measuring your head to choose an appropriate cap. We will then place the cap on your head and attach some electrodes to it. Some electrodes will also be placed on your face to record your eye movements. We will tell you at each point what we are doing.

To record accurately, we need to put a water-based gel into your hair under each electrode using blunt syringes. This gel is easy to wash out after the experiment. We have facilities and private space for you to wash your hair. We will give you as much time as you like to wash your hair at the laboratory. During set-up, we will also carefully part your hair beneath the electrodes – this may involve making contact with your scalp, but should never hurt. We will ask you to provide feedback on any part of the procedure and will stop immediately if you feel uncomfortable at any point.

EEG – Movement and Blinking

The EEG recording can be disrupted if you move or blink excessively. So, you will be invited to find a comfortable position in your chair to limit movement as much as possible and to minimise eye-blinks and face movements. Your experimenter will give you very clear instructions about when it is OK to move and blink and when it is best to keep as still as possible, but ask for clarification if anything is not clear. We will give you breaks and water will be available whenever you need it, but please ask for additional breaks as needed.

EEG- Brain measurement

EEG only allows to record neural activity naturally occurring in your brain. It does not stimulate any part of your brain, nor allow to “read your mind”. It will not be used to diagnose any condition.

If you wish to receive more information about EEG before you decide to take part, please feel free to ask us. The experiment will take XX hours....

Are there any problems with taking part?

The placement of the EEG cap is not painful, although there may be minor discomfort. Some people find that their skin may be slightly reddened after the electrodes are removed. This reddening will disappear within a few hours. If you experience any irritation or inconvenience during the study, you can choose to stop at any time.

Will it help me if I take part?

Typically the answer is no, but it will benefit the programme of research. We will also provide an Amazon giftcard for the participant with the highest classification accuracy for the word recall task.

Other data recordings

Along with the EEG data, we will also be recording audio data via a microphone during the recall stage of the experiment.

How will you store the information that I give you?

All information which you provide during the study will be stored in accordance with the 2018 General Data Protection Regulations and kept strictly confidential. The chief investigator will be the custodian of the anonymous research data. Any identifiable data will be stored separately in a password protected file and will be securely disposed of as soon as it is no longer necessary, and within 5 years. All anonymized results will be stored indefinitely in order to comply with open practice standards. Electronic data will be on a password protected computer. Paper information will be stored in a locked storage area. Data will not be linked to anyone's name.

How will the data be used?

We aim to process the data and use it to form a machine learning classification problem based on successful or failed recall of words.

What happens if I agree to take part, but change my mind later?

You are free to withdraw from participating in the experiments at any time with no reason required.

How do I know that this research is safe for me to take part in?

. All research in the University is looked at by an independent group of people, called a Research Ethics Committee, to protect your safety, rights, wellbeing and dignity. This research was approved by the Research Ethics Committee at the University of East Anglia on [Date]

You are under no obligation to agree to take part in this research.

Do also contact us if you have any worries or concerns about this research.

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