

An EEG study of words presented in different contexts Participant Information Sheet

You are being invited to take part in a research study being conducted in the Division of Neuroscience and Experimental Psychology at The University of Manchester. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for taking the time to read this.

Who will conduct the research?

The research is being conducted by students and research assistants under the supervision of Dr. Jason Taylor, a Lecturer in Cognitive Neuroscience. This particular project is being conducted by:

Laila Anani	Alexandra Kudra
Nikola Niziolek	Emily Pye
Spencer Finch	Stephen Ball
Sonalia Kaur	Josephine Kearney
Freya Amsbury	

What is the purpose of the research?

This project is investigating the brain's response to individual words of different types, (nouns, verbs, emotional words) presented in different contexts (repeated after a delay, immediately following a related word, etc.).

Why have I been chosen?

You are being contacted because you responded to an advertisement recruiting participants to the study.

What would I be asked to do if I took part?

If you choose to participate, you will attend a session in the EEG Lab in the Zochonis Building at the University of Manchester, where we will record your brain activity via electrodes placed on your head while you read and/or listen to words. EEG stands for electroencephalography, which is a non-invasive technique that uses electrodes placed on your scalp to measure the tiny electrical fields produced by your brain cells.

The session should last about 2 hours. Before EEG setup, we will ask you to complete some questionnaires about ruminative and negative thoughts, impulsivity, and stress, and some brief tests of general cognitive function and language ability. During the session, you will sit in a comfortable chair while a stretchy cap (like a swimming cap, but containing many holes lined by plastic discs – see the images below) is fitted to your head. An electrolyte gel will then be inserted into each hole, and electrodes will then be inserted into the gel-filled holes. Further electrodes will be placed near your eyes to monitor eye movements and blinks. This initial setup process takes about 30 minutes.



Once the EEG setup is complete, you will be asked to perform tasks that involve reading words presented on a computer screen or listening to words played through speakers (or both) and pressing keys on a keyboard to indicate your response. We will ask you to remain as still and relaxed as possible during the tasks because movement and muscle tension come through as noise on our

recordings. The tasks will take about 60 minutes total, and you will be given breaks at regular intervals. At the end of the testing session, we will remove the cap and electrodes, and you will be able to wash the gel out of your hair using local shower facilities.

Note that some of the words we present will have emotional content that is positive (LOVE, FRIEND) or negative (HATE, MURDER). These words will occur in a stream of other random words, so they are unlikely to be perceived as threatening. However, if you are not comfortable with this aspect of the study, you may wish to decline the invitation to participate.

EEG is passive and non-invasive, so there are very few risks associated with the technique. The gel used is hypo-allergenic; however, just to be sure your skin doesn't react to it, we will test a small patch on your arm before we proceed. To ensure the electrode cap fits comfortably, we will measure your head and use an appropriately sized cap. If the setup becomes uncomfortable during the session, we can adjust the cap and attempt to restore your comfort. You may stop the procedure and quit the experiment at any time and for any reason.

What happens to the data collected?

We will analyse the data to attempt to characterise the brain's response to words and how this response changes with the context (e.g., whether the preceding word was related or unrelated) or type of word (e.g., noun vs. verb). The anonymised data will be retained for possible use in future studies conducted by our research group or affiliated researchers.

How is confidentiality maintained?

You will be assigned a study-specific ID number at the beginning of the session, and any data we collect from you, including EEG, your responses during the tasks, and demographic information will all be stored with that ID. Your data will never be associated with your name or any other identifying information. Your signed consent form will be kept in a locked filing cabinet. Electronic data will be stored on University computers using encrypted and password-protected media. Study data will be kept for at least 5 years. Anonymised data collected for this study may be used in future studies and may be shared with other researchers.

What happens if I do not want to take part or if I change my mind?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time without giving a reason and without detriment to yourself. Further, if you wish for us to remove your data from the study, we will do so (unless you withdraw after completion of the testing session and your data have been anonymised).

Will I be paid for participating in the research?

As compensation for your time, you will receive £14 or the equivalent in high street vouchers. UoM Psychology students registered on the SEPS system can opt to receive 8 credits (1 per 15 minutes) instead of payment.

What is the duration of the research?

The study involves one session of about 2 hours.

Where will the research be conducted?

The study will take place in the EEG Lab, Zochonis Building, Brunswick Street, Manchester, M13 9PL. A researcher will meet you in the main entrance of the building (ground floor) at your session time.

Will the outcomes of the research be published?

Findings may be published in a suitable research journal and/or presented at scientific conferences.

Who has reviewed the research project?

This project has been reviewed by University of Manchester Research Ethics Committee 6 (UREC ref 15339).

What if something goes wrong?

If you have any questions before or after participating in the study, please contact the research team (see 'How can I contact you' below).

What if I want to complain?

If there are any issues regarding this research you should contact the research team in the first instance (see 'How can I contact you' below).

If you would prefer not to discuss with members of the research team, or if you wish to make a formal complaint about the conduct of the research you can contact a Research Governance and Integrity Manager, Research Office, Christie Building, University of Manchester, Oxford Road, Manchester, M13 9PL, by emailing: research.complaints@manchester.ac.uk or by telephoning 0161 275 2674 or 275 8093

How can I contact you?

Recruitment Coordinator, Multimodal Neuroimaging and Memory Lab:
Email: mnml.participation@manchester.ac.uk

Dr. Jason Taylor (Lecturer and Principal Investigator)
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This Project Has Been Approved by The University of Manchester's Research Ethics Committee [UREC Ref: 15339].