

## Participant Information

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### Hearing and Movement Online Study

Dear Research Volunteer,

We invite you to take part in an online research study on how hearing ability affects speech processing in the brain. This information sheet broadly describes the experiment and answers some common questions. If you have further questions, please do not hesitate to contact Dr Helen Nuttall or Dr Kate Slade. This study has been reviewed by the Faculty of Science and Technology Research Ethics Committee.

#### What are the aims of the Study?

This research aims to understand if and how speech perception areas in the brain are affected by hearing ability. We will be investigating the hypothesis that the brain not only relies on the hearing areas of the brain during speech perception, but also the motor area that is involved with movement, such as the movement of our mouths when we speak. We aim to establish if speech perception in the brain's hearing area is complimented by the motor area; and how this integration is affected by hearing ability across the lifespan and by adverse listening situations (such as listening to speech in a noisy environment). To investigate this aim we will use an online experiment in which you will listen to some speech, and answer questions about what you heard. You may also be asked to do some specific mouth, or body movements when you are listening to the speech. The experiment will allow us to identify how the relationship between speech perception ability, and the brain's resources are affected by age-related hearing loss.

#### What are the possible disadvantages and risks of taking part?

There are no disadvantages or risks of taking part.

#### What should I expect if I decided to participate?

For this experiment, you will be required to complete some questionnaires and tasks online. The study will take place online, so you can do everything at home, but you will need access to a computer. If you decide you want to take part, the researcher will email you to explain the study and tasks in detail and to help you understand what you might need to do. Before you can do the online tasks, the researcher will ask you some questions over email or the phone to make sure that you are eligible to take part in the study, you do not have to answer these questions if you don't want to, but it may mean that you cannot participate.

If you decide that you would like to take part, and you are eligible, you will book a time slot with the researcher for your participation. In this timeslot you will

meet with the researcher online over Microsoft Teams (for a video call), during the meeting the researcher will direct you to the online platform to complete some questionnaires. When you open the online link you will be given some information about what you will need to do and you will be able to read the information sheet again. Then you will need to give consent to take part by ticking some boxes. But, just because you tick the boxes, it doesn't mean that you have to take part, you can withdraw at any time by closing down your internet browser.

After providing your consent you will complete a demographic questionnaire, as well as a questionnaires about your Musical abilities, your mental health, memory, and your hearing ability. The questions about your mental health contain some sensitive items that you may not want to answer, you don't have to answer them if you don't want to, you can just close down your browser. But, this may affect whether you can take part in the study.

After these questionnaires, you will be directed to another online platform to continue the experiment. If you like you can have a short break before continuing. You will again see some instructions about what you need to do and the researcher will help explain these if you need. Then you will complete some tasks in which you will have to listen to some speech. Sometimes the speech will be easy to understand, and sometimes there will be noise in the background, making understanding more difficult. After you've heard the speech, you will have to answer a short question about what you heard. Sometimes you will be asked to do this task only. But, other times you will be asked to do this task whilst doing some other movement with your mouth. The researcher will explain what movements you will need to do before you take part.

You would be paid £10 (or granted course credits, if your course offers this, as per your choice) for your time. And at all times, you would be welcome to stop participating without providing any advanced notice nor an explanation. The total time you would spend doing the online experiments will be around 1 hour.

### **Will my taking part in this study be kept confidential?**

All personal information that is collected about you during the course of the research would be kept strictly confidential. In fact, the research data will be anonymous so that it cannot be attributable to any individuals. You will have 2 weeks from the day of the experiment to withdraw your data from the study, after this time it will no longer be possible. If you do wish to withdraw your data within the 2-week period following the study, you should contact the researcher using the contact information given at the end of this information sheet.

### **What will happen to the results of the research study?**

We aim to publish the results of this study in a scientific journal. We may also present the results at a scientific conference or a seminar in a university. We may also publish results on our website but it would not be possible to identify you in any report or publication. We would be happy to discuss the results with you and send you a copy of the published results.

This research study is organised by Dr Helen Nuttal of Lancaster University, and has been funded by the BBSRC. The study has been approved by the Faculty of Science and Technology

Ethics committee.

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