

Children's Use of Memory Strategies and How they Work in the Brain

Researchers: Jonathan Jones, Dr Anna Adlam, and Dr Fraser Milton

Please take time to read the following information carefully and discuss it with others if you wish. Please do not hesitate to contact us if there is anything that is not clear or if you would like more information (contact details at the bottom of this sheet). Thank you for reading this.

What is this study about?

This study is examining the strategies that children use to help them remember information over a short period of time. Short-term memory is essential for learning and for consolidating information to long-term memory. In this study we are investigating what strategies children use, and how particular strategies might improve memory. Using Magnetic Resonance Imaging (MRI), we will examine which areas of the brain are more active as children perform memory tasks and use different strategies.

Why has my child been invited?

We are inviting 50 typically developing children/adolescents to take part who are between **10 and 13** years old. If more families express an interest in taking part than we are able to see, then we will let you know about other research studies that we are conducting in case they are also of interest to you.

Does my child have to take part?

No, it is up to you and your child to decide whether you wish to take part. If you and your child do decide to take part, we will ask you to sign a consent form and your child to give his/her assent before he/she begins the study. You are free to withdraw from the study at any time without reason and without consequence.

What will happen if my child takes part in the study?

If you and your child consent to participate, then we will ask you to visit us at the Exeter MR Research Centre on St. Luke's Campus (EX1 2LU) for approximately 1 hour. Your child will have a chance to practice the tasks that we will use in the scanner and they will be taught to use a memory strategy that may help them on the task. The MRI scan will involve your child lying down on their back inside a large cylindrical scanner. They will then be shown numbers on a screen which they must try to recall later, and other numbers which they need to classify as odd or even. This will be followed by a brief structural scan, where your child just needs to relax for 5 minutes. The scanning will take approximately 30 minutes in total. After the scanning, there will be another memory task that requires children to remember letters. We will be able to reimburse you for any reasonable transport costs that you incur when travelling to the MR Research Centre from within Devon.

Are there any risks to my child?

This study involves the use of MRI, which is a very safe procedure with no known side effects. If you agree to take part, we will provide you with a questionnaire to complete beforehand to fully ensure that it is safe for your child to take part. Children that have non-removable metallic implants in their body, or are susceptible to claustrophobia will not be allowed to participate for their safety. It may also be quite noisy inside the scanner, but we will give your child headphones which will reduce this noise. The headphones will also allow us to speak to your child throughout the session to ensure that they are comfortable. Your child will have access to an emergency stop button which will stop the scanning procedure immediately so that we can talk to them and let them out if need be. Although the chances are very small, it is possible that the MRI could reveal potentially serious abnormalities in your child's brain, of which you are unaware. If this is the case, we will contact you immediately and suggest that you follow-up with a medically trained professional, such as your GP.

What are the potential benefits?

By participating in this study, you will help us to understand how memory is strategically used in children's brains. As a thank you for participating, all children/adolescents will be given a £5 Amazon voucher for taking part. We can also give you 3D pictures of your child's brain which you can look through using freely available software.

Will my child's information be kept confidential?

Information collected about your child during the study will be kept anonymous and safe. This means we will not write your or your child's name or address on any questionnaires or score sheets. Information will be stored by the researcher in a locked filing cabinet or in encrypted files on a password protected computer. When the study is finished, all information collected from questionnaires and other study measures will be stored in a locked drawer at the University of Exeter. If you agree to have your contact details added on to the Volunteer Register we will contact you before 5 years passes to ask if you wish to remain on the Register. The only time we would disclose any of the information that you or your child has given us, would be if criminal or other potentially harmful behaviour was made known. We would, however, aim to discuss this with you first.

What will happen to the results of the study?

The results will be written up as part of a PhD thesis completed by Jonathan Jones, which will be made open access via the University of Exeter library. The results may also be submitted to peer-reviewed journals and presented at conferences and meetings. Your and your child's names will not be included on any research outputs, and all data will be presented anonymously. We can also give you an overall summary of the findings at the end of the study.

Who is organising the research?

The research study is being organised by the University of Exeter and funded by the Economic and Social Research Council PhD studentship awarded to Jonathan Jones (Reference: ES/J50015X/1). Jonathan is supervised by two senior lecturers, Dr Anna Adlam and Dr Fraser Milton.

Who has reviewed the study?

This study has been reviewed and approved by the University of Exeter Ethics Committee (Reference: eCLESPsy000108) to ensure that your safety, rights, well-being, and dignity is protected.

What to do if you would like you and your child take part?

Please take all the time you need to discuss this with your family. If you would like to participate in this research, please access our website and fill in the short questionnaire (URL below). Alternatively, you can get in touch using the other contact details listed.

<http://www.exeter.ac.uk/ccnr/getinvolved/education/memorystrategies>

Contact details for further information

For further information about the project please contact Jonathan Jones by email at jj256@exeter.ac.uk. Alternatively, if Jonathan is unavailable please contact Dr Anna Adlam (A.R.Adlam@exeter.ac.uk) or Dr Fraser Milton (F.N.M@exeter.ac.uk) at the University of Exeter, College of Life and Environmental Sciences, Psychology, Exeter, EX4 4QG. We will be happy to answer any questions that you might have.

What if there is a problem?

If you have questions regarding the ethical procedures or would like to make a formal complaint please contact Dr Lisa Leaver (L.A.Leaver@exeter.ac.uk, 01392 724641).

Thank you for reading this information sheet