



UNIVERSITY *of York*

# SleepSmart

## Parent Information Sheet



Your child is being invited to take part in a scientific project exploring the role that sleep plays in learning and memory. The project is funded by the Economic and Social Research Council and is being carried out by researchers at the University of York.

In order to help you and your child decide if you would like to participate, we would like to provide you with some information about the research and what to expect if you choose to take part.

Please read the following information carefully. If you have any questions or would like more information, please see the contact information on the last page of this booklet.

## What is the purpose of this study?

The SleepSmart project explores the role that sleep plays in memory and learning, in children **with** and **without** a diagnosis on the autism spectrum and/or a diagnosis of Language Learning Impairment (LLI). Research in our lab has shown that children's memory for new words is improved after a period of sleep compared to a period of wake. Many children with developmental difficulties experience sleep problems. It is unclear however, to what extent sleep difficulties may impact on language learning in children with autism and LLI. It is anticipated that the findings of this research will have important implications for learning and teaching strategies for school-aged children.

Why has my child been asked to take part?

We are looking to recruit children aged 8 – 12 years old, **with** or **without** a diagnosis on the autism spectrum or a diagnosed LLI. Your child must be a monolingual English speaker and have normal or corrected to normal vision and hearing. Due to safety concerns regarding the overnight sleep recording, children with a diagnosis of epilepsy cannot participate in this part of study.

## What would the project involve?

**Pre-assessment:** Your child will complete some standardised tests to measure their non-verbal ability and language skills. These tests will take approximately one hour to complete. If your child has a diagnosis on the autism spectrum they will also be asked to complete a social skills assessment, called the Autism Diagnostic Observation Schedule (ADOS) which will last for an additional one hour. You will also be asked to complete some questionnaires about your child's behaviour and emotions, including communication skills, social abilities, and sleep habits. This session may take place at home, in your child's school (at the school's discretion), or in the Psychology Department here at the University of York. We will also ask your child to wear a small watch-like device, which measures sleep habits and movement for a few nights.

**Experimental sessions:** The experimental sessions will then take place across a 24 hour period, on a day which is convenient to both yourself and your child. These will consist of:

- **Session 1 (in school or at home):** Your child will be asked to complete their first training task, which will simply involve repeating words they hear a 'robot' say. This will take around 45 minutes, including breaks.
- **Session 2 (at home):** In the evening, our researchers will visit you and your child at home. Your child will complete a different task, which will involve learning some new words. We will then set up our sleep monitoring equipment which will measure your child's sleep patterns overnight (see our video for more information on this- [www.york.ac.uk/sleepsmart](http://www.york.ac.uk/sleepsmart)). This session will take approximately two hours in total.

- **Session 3/4 (in school or at home):** The following morning, your child will be given a short test to see how well they have remembered the new information that they learnt the day before. This will take approximately 30 minutes. Your child's memory will be briefly assessed again four weeks later.

All children will receive a £30 amazon voucher as a thank you for their participation.

### **What does overnight sleep monitoring involve?**

To record your child's sleep, we will set up small sensors on their head. These sensors are not dangerous in any way and are purely there to record brain activity. We attach the sensors using a gel and medical tape. A spray will be provided that helps you remove the medical tape easily the next morning. In order to ensure a good recording, we will need to clean the surface of the scalp where the sensor will be placed, using a gentle exfoliating agent. This set-up will take approximately 30 minutes. We are highly experienced in running these kind of studies and generally find that people fall to sleep very easily. Please see our SleepSmart video which shows each step of the set-up for monitoring your child's sleep.

The sensors will allow us to record EEG data (the electrical activity produced by the brain). We are not qualified to detect sleep abnormalities, to interpret sleep recordings clinically, or to give advice on medical problems.

### **What are the benefits of taking part in this research?**

Participating in this research will assist us with gaining new insights into the mechanisms of sleep, memory and learning in children; including children with a diagnosis on the autism spectrum and/or a diagnosis of language learning impairment.

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

Research at the Department of Psychology, University of York, is planned and conducted in a way that prevents children from any risk of harm. The study has been ethically approved by the University of York and funded by the Economic and Social Research Council. Each member of our research team has received an up-to-date enhanced DBS check and is trained and experienced in carrying out cognitive assessments with children.

### **What will happen to the data?**

All information collected in this study will remain confidential. Our procedures for handling, processing, storing, and destroying data are compliant with Data Protection and Child Protection laws. All hard copies of data will be anonymised and stored in locked filing cabinets and any electronic data will be password protected. Information will be disposed of in a confidential manner after 10 years.

The results of this research may be disseminated in scientific journals, conferences, and presentations. In doing so, all information will be used in such a way that protects confidentiality (i.e., participant codes) and prevents the identification of any individual.

### **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 an explanation. Any data gathered will remain confidential and will be stored securely and disposed of using the protocol described above. You may request for your data to be destroyed at any time by contacting a member of the research team.

### **Support for parents and children**

Some of the measures we use ask about your child's emotions and behaviours. If you are worried that your child is displaying emotional or behavioural problems, contact your doctor (GP) as they can provide advice and refer to the appropriate services if needed.

For more general advice or support, you can contact York Family Information Service by phoning 01904 554444 or emailing [fis@york.gov.uk](mailto:fis@york.gov.uk) (please note, if you do not live in York, this service can still be contacted to direct you to relevant services in your area). Alternatively you may speak to your child's school.

Childline also offers a free service for children to contact. They are there to help anyone under the age of 19. Children can call them on 0800 1111. They also can be contacted via email or for 1-2-1 chats online, please see [www.childline.org.uk](http://www.childline.org.uk) for more information.

*Thank you for taking the time to read this booklet.  
For more information please contact us :*

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### **Research Team:**

Lisa Henderson (Principal Investigator), Gareth Gaskell (Principal Investigator), Courtenay Norbury (Co-Investigator), Fay Fletcher (Research Fellow), Victoria Knowland (Research Fellow), Sarah Walker (Research Fellow).