

OSCCI NEWSLETTER

Oxford Study of Children's Communication Impairments, Department of Experimental Psychology, University of Oxford, OX1 3UD



<http://www.psy.ox.ac.uk/research/oxford-study-of-children-s-communication-impairments>



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Latest on the RALLI Campaign

RALLI stands for **Raising Awareness of Language Learning Impairments** and is a YouTube campaign which was started in 2012 by Dorothy Bishop with colleagues Maggie Snowling, Courtenay Norbury, Becky Clark and Gina Conti-Ramsden. Our YouTube channel is proving popular with teachers, therapists and parents, and provides a series of short films explaining different aspects of language learning impairments. Our latest film, *Where's that Word?* features children explaining the strategies they can use to help find a word when having difficulties.



<https://www.youtube.com/watch?v=y7TJ7Th8cY>



We have also recently extended the international section of RALLI with versions of 'What is SLI?' in Danish and Tamil. The Tamil version was made by Kuppuraj (left-most on photo on the left), a speech-and-language therapist from India, who was able to visit our group in the summer thanks to a Study Grant from the Experimental Psychology Society.



The CATALISE project

One longer-term goal of RALLI is to get an international consensus on criteria for identifying language problems and the words we use to describe these.

In the CATALISE project, we are using a process known as the Delphi method which involves a team of experts anonymously rating statements and giving justification for their views if there are differences of opinion. We assembled a team of 59 international experts from all English-speaking countries, and covering a range of professions to devise a set of criteria for identifying children with significant language difficulties, and to agree on appropriate terminology.

The project was started earlier this year, in May, to consider criteria, and we are happy to report that good agreement was achieved after two rounds of survey and discussion. A publication detailing the results is being prepared, and the second stage of the project, focusing on terminology, is now underway. A meeting of the experts and key policymakers is scheduled for early next year to discuss the implications for practitioners, researchers and policy. If you would like more information about this project, please contact Paul.Thompson@psy.ox.ac.uk.

Dorothy Bishop featured on the Life Scientific on Radio 4



We had a wonderful opportunity to put children's language impairments on the map when Dorothy was invited to be interviewed for the Life Scientific with Jim Al-Khalili.

You can hear the podcast on BBC Iplayer here

<http://www.bbc.co.uk/programmes/b060zq8m>

Two new faces at OSCCI

Paul Thompson brings welcome new skills in biostatistics to the OSCCI team. He has been working on a range of projects, including the CATALISE project mentioned on page 1, and other projects that focus on how to improve the quality of scientific studies. The topic of 'Reproducibility' of science has been much in the news this year, with growing recognition that some widely-used methods don't always yield robust results.

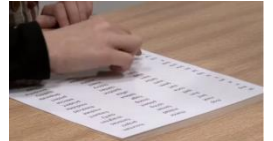


The latest recruit to OSCCI is Saloni Krishnan, who trained as a speech-and-language therapist in India before coming to the UK and doing a PhD in London, investigating aspects of language learning in children.

Saloni wants to find out more about different ways that children learn new words, finding out more about the brain systems that allow us to remember a sequence of sounds and relate this to a meaning. Currently, she is developing games that pit different learning conditions against each other. For example, would you learn the name of a new object more effectively if you tested yourself on the name of an object via a flashcard, or if you repeated the word a few times? Is it better to reveal the answer immediately or after a little delay? She is also going to use a technique called functional magnetic resonance imaging to investigate whether there are different areas of the brain that are responsible for learning differences.

Genetic risks for language and reading problems

Sarah Morris and Holly Thornton are continuing to work on our study which is looking at why some children have difficulties with learning to talk, understand or to read.



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We are looking at genetic differences which could help to explain why some children develop problems with language and others do not. Twins are really useful for looking at these differences. This is because we can compare identical twins (who share all of their genes) with non-identical twins (who share roughly half their genes). Twins grow up in the same environment which allows us to compare their language development and determine the role played by genes.

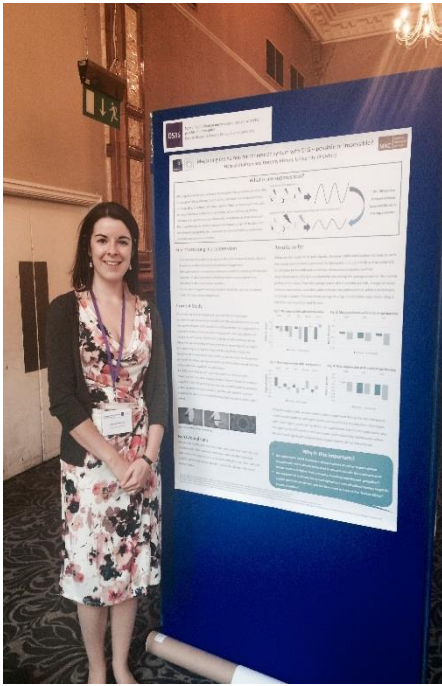
We are also doing a study with children with an extra X or Y chromosome, because we know that they are more likely than other children to have problems with language, reading or communication. However, sometimes an extra chromosome doesn't have obvious effects. We want to find out more about why some children have difficulties and others seem to be unaffected.



The study is still ongoing: if you have a child who may be suitable for the study, please visit our website <http://www.psy.ox.ac.uk/research/oxford-study-of-children-s-communication-impairments/research-projects/twins-study> for more details of what is involved.

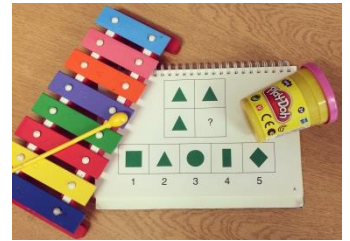
Thanks to the Wellcome Trust, Nuffield Foundation and MRC who have contributed to funding for OSCCI projects

Imitation and language learning



Hannah talking about her findings at the British Psychology Society Developmental Psychology section in Manchester

Hannah Hobson, a final year graduate student at OSCCI, has been studying imitation skills in children with communication problems. She's studying children with autism spectrum disorder (ASD) and children with specific language impairment (SLI). Understanding the similarities and differences between ASD and SLI is important, and there are several clues that suggest the two conditions might be related in some way. For example, language impairment is often treated as a "red flag" for autism and lots of children with an ASD have language difficulties. Also, a minority of children with SLI develop characteristics of autism. Hannah's preliminary findings suggest that children with language impairment do have problems with imitation, possibly because of problems coordinating their movements.



As well as her study with children, Hannah has been examining systems in the brain that are needed for imitation. She's been studying adults using a technique called EEG ("electroencephalography"). This is a method where we record brain waves using small sensors on the scalp. Hannah will be finding out how best to measure systems in the brain that underlie imitation abilities. Some researchers have suggested that these brain systems could be abnormal in children with autism.

Measuring EEGs in over 100 people has been a lot of work, but the study is now completed and about to be analysed. Hannah has been able to take her EEG caps and sensors into the schools she visits to talk to children about life as a PhD student, and all the tools psychologists use to understand our brains.



Do we really understand where language is in the brain?

Neuroscience textbooks say that for most people the left side of the brain is more important for language, i.e. language is *lateralised*. Graduate student Lisa Bruckert has been studying language lateralisation using a method called functional transcranial Doppler ultrasonography, which measures the blood flow to the left and right side of the brain during a language task. She has also obtained functional brain images using brain scanning to identify which side of the brain is more active when doing different language tasks, such as thinking of words that begin with a particular letter.

Her results challenge the idea that brain lateralisation can be easily categorised as left or right. It can vary from task to task, and also depends on the method used. This is important because unusual brain organisation is linked to some kinds of language difficulty; Lisa's study suggests that to understand this, we may need to consider how language processing varies from task to task, rather than thinking of lateralisation as either left or right.



Brain areas activated during language task in brain scanner

OSCCI Science Adventures

Over the October half-term, Hannah Hobson and Cathy Manning from OSCCI welcomed lots of children to the Experimental Psychology Department to take part in Oxford Science Adventures.

Children played some games about how the brain processes information, and did lots of craft activities, like making a molecule of DNA out of sweets, and making a big network of paperchains to represent how brain cells (or 'neurons') pass information around the brain.



Children also got the opportunity to participate in a range of studies being conducted by members of OSCCI and other research groups looking at children's development. These ranged from projects looking at children's understanding of thoughts and emotions, their reading and numeracy development, and how much they are affected by visual illusions.

You can find out more about Oxford Science Adventures here: <http://oxfordscienceadventures.weebly.com/>



A big THANK YOU to all those families, school staff and other professionals who have helped with all the studies featured in our newsletter.

Our research would not be possible without you!

The OSCCI team: Saloni Krishnan, Sarah Morris, Hannah Hobson, Paul Thompson, Lisa Bruckert, Holly Thornton, Dorothy Bishop, Cathy Manning

Farewell!

This year we bade farewell to Dr Elsje van Bergen, who has moved back to the Netherlands to take up a prestigious research fellowship at the University of Amsterdam, where she will continue to study genetic and family influences on children's reading development. Elsje continues to visit us here in Oxford to continue collaborations and we look forward to continuing to work with her.

Dr Andrea Dohmen, who has been on maternity leave, will be returning to her native Germany in the New Year to take up a position as a Professor for Speech and Language Therapy at the Healthcare Campus North Rhine-Westphalia.

For further information: please consult our website for details of research and publications - <http://www.psy.ox.ac.uk/research/oxford-study-of-children-s-communication-impairments>