

December 2014



OSCCI NEWSLETTER

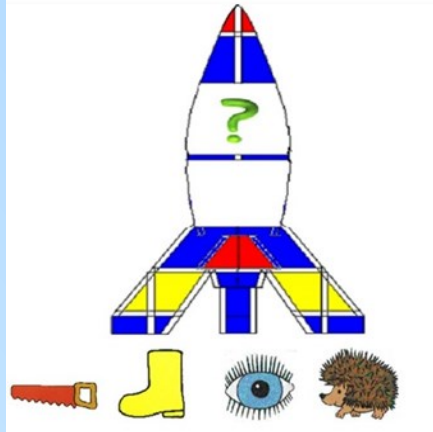
Oxford Study of Children's Communication Impairments, Department of Experimental Psychology,
University of Oxford, OX1 3UD

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

Why is language-learning so hard for some children?

Children with Specific Language Impairment (SLI) find it hard to learn language, despite normal intelligence. In a major project which started in 2010, Dr Julie Hsu and her team, funded by the Wellcome Trust, set out to study their language learning in detail. We developed computerised training programs that allowed us to look at learning as it took place over four days.

In one task, we trained children to move pictures of objects so they matched sentences that included simple prepositions such as "above" or "below". They had lots of practice with feedback, just using one pair of prepositions. We studied a group of children with SLI and found that they did improve over time, becoming faster and more accurate. However, many children continued to make errors and performed well below age level, despite



Screenshot of training program. The child hears a sentence such as: "the boot is above the hedgehog" and must select the pictures so they appear in the right positions in the rocket

concentrated practice.

We found that short-term memory was a good predictor of which children struggled with the task – some children found it challenging to hold three words in memory and work out the relationships between them. We found that we could make it easier for them if we repeated

the same nouns in the sentences: this seemed to help reduce the processing load. Children could then focus on the word order (i.e. the difference between 'the apple is above the chair' or 'the chair is above the apple').

This study, which is published in the Open Access journal PeerJ, emphasises the importance of working on children's language comprehension: it is easy to assume a child has understood what is said to them, when in fact they are just taking in a few words and trying to make sense of them. Our study also suggests some strategies that might help make learning more effective. We are now finalising analysis and write-up of another part of the project, which involved studying how children learn new words.

Latest on the RALLI Campaign

RALLI is a campaign for Raising Awareness of Language Learning Impairments that was started in 2012 and is supported by funding from the Waterloo Foundation, Afasic Cymru, and the Economic and Social Research Council. We are pleased to announce that we have just received funding from the Wellcome Trust for public engagement work, which we will use to make further films for teachers and parents. For a catalogue of videos see: <http://ralliindex.blogspot.co.uk/>

Above: Michael, the star of our most popular RALLI video with RALLI editor Becky Clark and Rt. Hon John Bercow at an event to celebrate 2 years of RALLI at the Houses of Parliament



Helping parents tell their child about a diagnosis of an extra sex chromosome

When a child is diagnosed with a chromosome disorder, one question that will arise sooner or later is how to discuss the diagnosis with the child and with other people. Things are particularly complicated for sex chromosome trisomies, XYY and XXX (also known as triple X or trisomy X), where the range of outcomes is very wide. Most children attend mainstream school and some will go on to university, but risk of educational difficulties is relatively high. Many parents are unsure whether or how to tell their child about the trisomy. With funding from the Nuffield Foundation, we developed booklets to help parents confronted with this issue.

Our goal was to produce, for each condition, two booklets. The first one is for parents, and discusses the pros and cons of disclosing the diagnosis. The aim is to give information that will help parents balance different factors in coming to a decision.

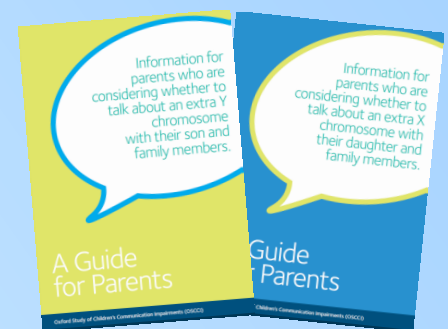
Why are we all so different?



For instance, many parents were concerned that if they disclosed the diagnosis, then this could lead to the child being stigmatised. On the other hand, the child might be relieved to have a diagnosis, particularly if it provided an explanation for developmental difficulties.



To help those parents who decide to disclose the diagnosis, we developed a picture book for each condition. This is suitable for children with a developmental level of around 6 to 10 years. It does not explain complex genetics, but focuses more on the idea that having an extra chromosome is just one way in which people can be different from one another. All our booklets can also be downloaded from the web: http://figshare.com/articles/Booklets_for_parents_and_children_XYY_and_Trisomy_X/1203560



(Images taken from booklets)

View from a Dutch postdoc at Oxford

Elsje van Bergen writes: "Two years ago I moved from Educational Sciences at the University of Amsterdam to OSCCI at Oxford and it has been great! In April I will start as a researcher in Behavioural Genetics at the VU University Amsterdam. I study the nature and causes of dyslexia and genetic and environmental influences on reading ability.

At OSCCI I have been studying reading skills in families. We tested hundreds of children and their parents. Does "like parent like child" apply to reading ability? We confirmed that this tends to be true. In my next job I will look at reading ability in twins and their family members. This will allow us to study how nature and nurture jointly influence children's reading development.

I like the UK: Brits are friendly and polite and I love British English. Oxford feels historic, academic and even a bit magic. It is an honour to be working here!"



Elsje at Oriel College, Oxford

Elsje is funded by a Rubicon Fellowship from the Netherlands Organisation for Scientific Research

Oxford Science Adventures

“Oxford Science Adventures” are half term activity weeks for children in Oxford. In these sessions, families can visit the department to take part in neuroscience-themed craft and games, as well as developmental psychology studies investigating language, numeracy, attention and reading. Children get the chance to write poems about their brains, make pipe-cleaner brain cells, and hunt for brain cells around the department. These weeks have also helped graduate students interested in child development to see children for their research.

For more information, you can check out: <http://oxfordscienceadventures.weebly.com/about-oxford-science-adventures.html>

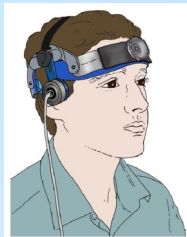


Hannah Hobson and Rebecca Merkley: Graduate students who set up Oxford Science Adventures

Variation in language in the brain

The two sides of our brain seem to be mirror images of each other, but they do differ in their function. For example, in most people language is **lateralised**: the left side is more important for language.

Using transcranial Doppler ultrasonography Lisa Bruckert has looked at blood flow to the left and right side of the brain during a language task. For example, one task involved thinking of as many words as possible beginning with a specific letter in a given time. Her aim is to compare people who show a left lateralisation for language with people who are right lateralised and to examine differences in brain structure and function using brain-imaging methods.



*The Doppler headset **

We hope that her results will help answer questions such as how language lateralisation develops, and whether it is disrupted in children and adults with language difficulties.

*Picture taken from <http://www.hindawi.com/journals/ijvm/2013/629378/fig2/>

Imitation and language

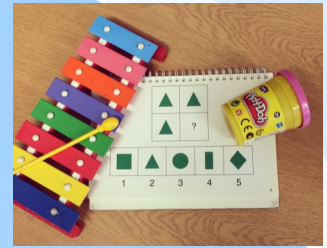
Graduate student Hannah Hobson is investigating imitation skills, and how they are related to children's language.

Typically developing toddlers imitate behaviours they see others do, and researchers believe that children who are better imitators tend to go on to develop better language skills. Children and adults with autism are less good at imitating others, and this has been suggested to be because of a problem “mapping” others' bodies onto theirs.

Hannah is interested in whether children with specific language impairment (SLI) also find imitating others difficult, and whether this might tell us something about how autism and SLI are related.

If you are interested in finding out more about her project, please email hannah.buxton@psy.ox.ac.uk.

Hannah is funded by an MRC scholarship



On the road with OSCCI

New OSCCI research assistants, Holly Thornton and Sarah Morris, write about their experiences so far...



(This is not actually Sarah's car!)

“The past few months have been challenging at times, but we've really enjoyed travelling all over the country and meeting so many friendly and enthusiastic children. A few highlights include a cow sitting on Sarah's car, struggling with very narrow country lanes and watching fireworks in London on Bonfire Night. We also came across a village in Norfolk with no shops or cafes but it did have a local llama. We even got to stay on the seafront in Torquay – luckily not Fawlty Towers! On our adventures we've sampled tea from all over the UK and we're proud to say that we are becoming tea connoisseurs!

Thank you to all the children and their families who have taken part in our research; we look forward to meeting even more in 2015.”

Perceptual differences in Autism

Cathy Manning has recently joined the OSCCI team as a Postdoctoral Research Fellow in Autism and Related Disorders*. Cathy's research looks at how children get better at judging speeds and directions as they get older, and how this might be different for children with autism. These abilities are important for doing everyday activities like catching a ball or crossing a road. It doesn't seem to be the case that children with autism have general difficulties in processing dynamic information. Instead, there are some tasks that children with autism find difficult, and others that they can do remarkably well. Cathy's PhD research suggests that children with autism can combine motion information well, but that they might not always know what information to combine and what information to ignore. Cathy will be following up these findings during her fellowship. To do this, she is looking for children with and without autism aged between 6 and 14 years to take part in her projects. Most involve playing fun computer games, such as the 'Hungry Fish Game' in which children are asked to work out the direction of a shoal of fish whilst playing against Scuba Sam.

If you'd like to find out more, please email catherine.manning@psy.ox.ac.uk.

* Thanks to the Scott Family for funding the fellowship!

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★ 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! ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Hellos and Goodbyes!

This year we bade farewell to research assistants Nikki Gratton, who will take up training in speech and language therapy, Louise Atkins, who has gone on to do a doctorate in clinical psychology, and Elaine Gray, who has started a doctorate in Cambridge. All of them made a huge contribution to our data collection; we are pleased to see them move on now to develop independent careers.

In their place we welcome two new research assistants, Sarah Morris and Holly Thornton, who are already becoming acquainted with the variety of life experiences that occur to an OSCCI research assistant (see p. 3!).

2014 was a bumper year for babies for OSCCI staff old and new! First Georgina Holt gave birth to Bertie on 19th December last year, Nic Badcock (now in Sydney) had a baby daughter, Ruby, on 24th April, Julie Hsu (now in Taiwan) had a daughter, Yongling on 25th April, and finally, Andrea Dohmen had a son, Matheo on 17th May.

The OSCCI team!

Lisa Bruckert
Dorothy Bishop
Sarah Morris
Holly Thornton
Hannah Hobson
Cathy Manning



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>

Or visit us on Facebook: 

https://www.facebook.com/oxfordstudyofchildrenscommunicationimpairments/timeline?ref=page_internal