



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>



OSCCI Team Dinner, September 2013

The left and right sides of the brain

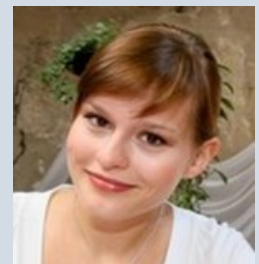
We've know for many years that the two sides of the brain function differently. In most people, the left side is important for language, and the right side for things like seeing visual patterns. But that's not true for everyone: about 10-15% of people don't show the usual pattern. They may have language controlled by the right side, or have both sides of the brain involved equally.

In OSCCI, we have been using a new method to study the two sides of the brain in children and adults. This is transcranial Doppler, which uses ultrasound to measure blood flow in the two sides of the brain while people do language tasks. We can see an increase in the left-sided blood flow in most children while they are talking – telling us a story they have just seen on video. But some go against the trend and have more activation on the right side when doing language tasks.

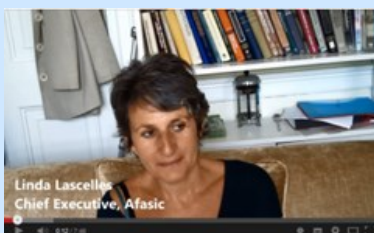
So are there any advantages to having language controlled by the left side of the brain?

Our recent studies have come up with an intriguing finding. First, if we compare children with left-sided and right-sided language, they don't differ in their language skills. But if we ask the question the other way around, we do find that children with poor language skills are more likely to have right-sided language. This makes us think that having language on the right side of the brain isn't in itself a bad thing, but it may make your language vulnerable when combined with some other risks.

One possibility is that some people use different sides of the brain for different language activities, such as remembering words or composing sentences. It could be that problems come if you use different sides of the brain for doing different language tasks. Graduate student **Lisa Bruckert** will be looking at this question over the next few years.



Update on the RALLI Campaign



Linda Lascelles talks about; "Things I wish I'd known: a parent's perspective" on RALLI

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.

We now have over 50 short videos on the channel, covering topics ranging from "SLI and reading", "Tips for teachers" to "Speech and language therapy". For a catalogue of videos see <http://ralliindex.blogspot.co.uk/>

Thanks to the **Waterloo Foundation**, **Afasic Cymru** and the **Economic and Social Research Council**, who have contributed to funding for RALLI over the past 18 months.

Imitation and motor skills in children with developmental problems

The term “motor skills” might make you think of driving a car, but in fact, this is the term that doctors and psychologists use to refer to the ability to do precise and rapid movements. “Fine” motor skills, involve movements of the fingers and hands, and “gross” motor skills involve the whole body- things like walking in a straight line, throwing a ball, or riding a bike. There’s no obvious reason why physical movements should be related to reading or language ability, but a number of studies have found that children who have difficulties with language or reading are on average worse than other children at both fine and gross motor skills. We were interested in finding out whether this gives us any clues about problems in neurological development that might lead to such difficulties. We looked specifically at a set of fine motor tasks. Some tasks just involved doing a simple movement very rapidly, so we could see whether the child was unusually slow in carrying out movements.

One task involved picking up small pins that had to be placed precisely into holes under time pressure.



Others involved copying a complicated hand posture without particular emphasis on speed. We looked at performance on all these tasks in four groups of children: some had no problems, some had poor language skills, some had poor reading ability and some were bad at both reading and language. The main result was that did not find any links between motor problems and reading difficulties, unless the child also had problems with spoken language. But children who had language difficulties were more likely to be bad at the peg-moving task, and worse at imitating complicated hand positions.



These results tie in well with findings by postdoc **Andrea Dohmen**. In her PhD research she found that some children with early language delay had problems in imitating postures and gestures.

This year she obtained a Fellowship from the Economic and Social Research Council which allowed her to see the same children again to test their language and social communication skills. She found that imitation skills at 2-3 years predicted which children were likely to still have language and communication impairments at 4-5 years. Poor imitation skills are recognised as a hallmark of autism, but have not previously been studied much in non-autistic children. Andrea has just had a grant from the Waterloo Foundation that will allow her to extend her research in 2014 to see whether children with language impairment and autism show similar or varying imitation skills and deficits. If the problems are similar, then this would suggest that interventions designed to improve imitation in children with autism might also benefit language development in non-autistic children.

Another project is looking at imitation in older children with autism or language impairment. **Hannah Hobson** wants to find out whether imitation problems are related to children’s difficulties with repeating words and sentences. We still need more families to take part in this research, so please contact Hannah for more details if interested:

hannah.buxton@psy.ox.ac.uk

Hannah is supported by the Medical Research Council, and has had help recruiting from ASD-UK.

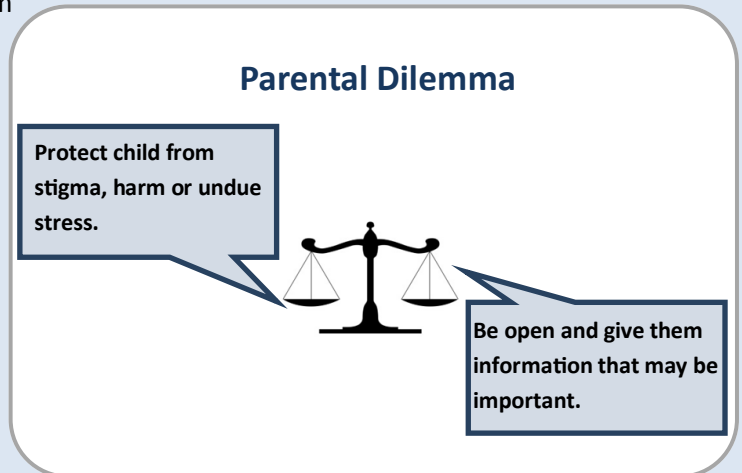


Materials for parents and children

Last year we described some booklets we are developing to help parents to decide if, when and how to tell their child that they have a genetic condition: either X trisomy (XXX syndrome) or XYY syndrome. Because the effects of these conditions are very variable, and sometimes very mild, it can be difficult to know whether to tell the child, or whether this will just cause upset. Every case is different, and our goal in the booklets for parents is to lay out the pros and cons, using examples from families who took part in a series of focus groups.

We are a multidisciplinary group, including Dorothy Bishop, Nikki Gratton and Gaia Scerif (psychologists), Diana Wellesley and Debbie Shears (Clinical Geneticists), Karen Melham (ethicist), Jessica Myring (genetic counsellor) as well as Sarah Wynn and Prisca Middlemiss from the charity **Unique**.

We thank the **Nuffield Foundation** for funding this work, and we look forward to having our materials available for distribution after further field trials over the next few months.



Why are some children slow readers?

When you read a text together with someone else, you may notice that not everybody reads at the same pace. But why is that the case? Why do people with dyslexia read so slowly? And are there genes that make it more likely that you become a fast or slow reader? To find out more about this, OSCI scientist Dr **Elsje van Bergen** has worked with scientists in the Netherlands, testing parents and children on their reading skills. The research team found a special location for their test lab: the Science Museum in Amsterdam. Lots of families who visit the museum were eager to take part in a real scientific experiment. Over 1200(!) fathers, mothers and siblings were happy to do the tests and give us some of their saliva. We now have enough data to keep us busy for quite a while! In the first analyses we have confirmed that children who can read well tend to have parents who read well and are well educated. Moreover, those children tend to come from families with lots of books at home.



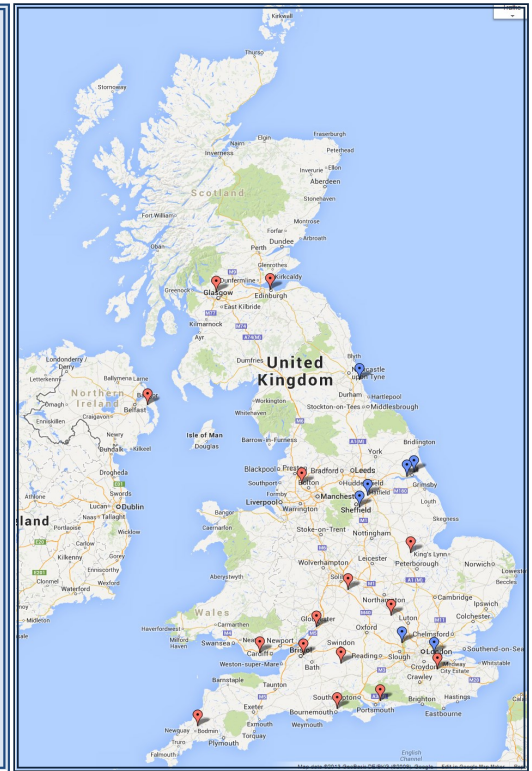
The difficult job is to sort out cause and effect. It makes sense that reading to your child will be good for their learning. But it is also the case that some parents don't read much to their children because they themselves have a genetic predisposition to reading difficulties. By studying genes and reading skills in different family members, we can start to disentangle the important causal factors for reading.

Thanks to the Netherlands Organisation for Scientific Research (NWO) for funding Elsje's fellowship.

Join OSCCI and see Britain!

Louise Atkins, Elaine Gray, Annie Brookman and Georgina Holt have formed a stalwart team of researchers who travel the country to see children for our projects on genetic influences on language development. Louise describes life as a research assistant on the OSCCI team.

“Having joined OSCCI in January 2013 I have had a great time visiting children and families all over the UK. As a team we have travelled over ten thousand miles to visit 80 different schools and homes this year. We have enjoyed sampling delicacies across the country, from the black pudding in East Riding of Yorkshire, the Battenberg cakes in Surrey and ice cream in Wales - we have tried it all! Adjusting our pronunciations so that we can be understood by many different dialects has been a challenge, but it has been a challenge we have very much enjoyed. Thank you to all of the families and children who we have visited over the past year, and we look forward to meeting more families in 2014.”



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 welcomed to OSCCI two new research assistants, Louise Atkins and Elaine Gray. As Louise describes above, they are now travelling the length and breadth of the UK seeing children for our projects on genetic influences on language development.

In September we had a special dinner to mark the End of an Era of OSCCI, with the departure of Mervyn Hardiman, Annie Brookman and Georgina Holt. Mervyn has been with OSCCI for over 10 years, during which time he has done a remarkably varied range of things, including setting up our electrophysiological lab, ensuring all our data are securely stored on a server, and devising and writing up experiments to look at brain function in children. He has been a very popular member of our team, unfailingly helpful to those of us who lack his kind of skills. Far from slowing down, he has now taken on the challenge of training a Labrador puppy! Annie has had the complicated job of combining the work of a research assistant – travelling the country to see children – with that of a personal assistant, which can mean dealing with the bureaucracy of an ethics committee one day and ordering equipment the next. She has always been calmly efficient and enormously helpful to everyone. She now has a great opportunity to move forward in a research career at the University of Southampton. Georgina is now



on maternity leave, expecting her second child. She has been a splendid addition to the OSCCI team, showing a remarkably degree of cheerfulness and efficiency while doing a very demanding job. Without these three colleagues, OSCCI now feels rather shrunken, but their legacy lives on in the research papers that are generated by their work.

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>