

Winter Newsletter

In this edition you will find:

- A report of the first research internship organised by Autism@Manchester (pages 5-9)
- Findings from a study investigating imitation in autism (pages 10-12)
- An interview with Dr Samantha Todd and Dr Jo Bromley (pages 13- 14)
- Opportunities to take part in research with Autism@Manchester and our affiliates (pages 15-18)

NEWS

Grant Success

Dr Kathy Leadbitter, Prof Jonathan Green, Prof Linda Davies, Dr Penny Bee from the University of Manchester in collaboration with Dr Latha Hackett and Dr Alison Dunkerley from Manchester University Hospitals NHS Foundation Trust and Dr Leo Kroll from Pennine Care NHS Foundation Trust, awarded £1.4m from the National Institute for Health Research for the 'REACH-ASD Trial' – a randomised controlled trial of a post-diagnostic programme for parents for children recently diagnosed with autism.



Social Media

We have expanded our social media presence by joining Twitter. Please follow [@AutismAtMCR](https://twitter.com/AutismAtMCR)

You can also find us on Facebook [@AutismAtManchester](https://www.facebook.com/AutismAtManchester)



Autism @ Manchester

@AutismAtMCR

Bringing academics and clinicians together with members of the autistic community.

📍 Manchester, England

🌐 autism.manchester.ac.uk

📅 Joined September 2018

Supporting Autistic Girls in Education Seminar

Dr Caroline Bond, Siobhan O'Hagan and Carla Tomlinson from The Manchester Institute of Education presented a seminar titled: Supporting Autistic Girls in Education, at the Annual Educational Psychology Conference. The seminar drew together academic research to date, personal accounts, small scale research studies and good practice to highlight key considerations for educational psychologists.



The seminar provided a brief overview of prevalence and some of the challenges in identifying autistic girls, particularly the emerging evidence for a female phenotype ([Mandy et al, 2012](#)) and limitations of current diagnostic tools. The findings of a small scale research study on the role of educational psychologists in identifying and supporting autistic girls was discussed and a case study of best practice in one secondary school was presented. The seminar was a popular choice with an engaged audience who took part in a fascinating and thought provoking discussion to conclude the session.

COMPASS trial

Dr Kathy Leadbitter and colleagues at the University of Manchester are working with a team in New Delhi, India, to run a large randomised controlled trial of a culturally adapted communication intervention similar to the [PACT-G](#) intervention. Local health visitors are being trained to deliver the intervention with parents of children with autism around the Delhi region. The trial, starting in 2019, is called COMPASS (you can read more about COMPASS at <http://www.sangath.in/compass/>).



In November, Kathy spent time with the research team in Delhi to find out more about how the research works ‘on the ground’. She also delivered training with the new Research Assistants in the research approach, many of which are the same as those used within PACT-G. Kathy said:

“It is an absolute privilege to collaborate with the COMPASS team and be part of the fantastic innovative work going on in India to develop scalable autism interventions and to contribute to the international evidence base”

Publications

Bond, C. (2018) Play therapy for autism. (Book chapter – accepted chapter available via University of Manchester [research portal](#))

Green, J., et al (2018). The Paediatric Autism Communication Therapy-Generalised (PACT-G) against treatment as usual for reducing symptom severity in young children with autism spectrum disorder: study protocol for a randomised controlled trial. *Trials*, 19: 514. [Open access](#)

Salomone, E., et al (2018). The Association Between Child and Family Characteristics and the Mental Health and Wellbeing of Caregivers of Children with Autism in Mid-Childhood. *Journal of Autism and Developmental Disorders*, 48(4), 1189-98. [Open access](#)

Upcoming seminars

We are currently planning two open seminars for 2019, one in spring and one in autumn. At the time of going to press, the details have not been finalised. Finalised details will be announced through the Autism@Manchester mailing list (<http://www.autism.manchester.ac.uk/about/newsletter/>) and our social media accounts.

Internship in an Autism Research Lab

My name is Jonathan Drew and I have a BEng (Hons) Electronic Engineering 2:2 from The University of Manchester. I am currently seeking to do something electronics orientated and am specifically interested in digital electronics with FPGA/VLSI technologies. My hope is to do research in the future in the field of FPGA/VLSI technologies.



This report is about my experience of doing an Internship in an autism research lab, [The Body, Eye and Movement \(BEAM\) lab](#), at The University of Manchester. I have Autism (though strictly speaking Asperger's Syndrome and Semantic Pragmatic Disorder). The Internship lasted 8 weeks (September-October) and was a joint initiative between Autism@Manchester, The Disability and Advisory Support Service (DASS) and the Careers Service at The University of Manchester. The objective of the Internship was about working alongside Dr Emma Gowen (line manager) to help analyse data from a small-scale research study investigating an aspect of perception and action. Also, to help academics to understand someone with Autism by giving feedback on their respective experiments. There was flexibility with working hours with the ability to work from home. I worked Monday to Friday 9:00am-4:30pm (including lunch break 30 mins) with Tuesdays and Thursdays working from home.



Internship in an Autism Research Lab (cont)

What I did

I started by analysing data using a software package called MATLAB. This involved reading Microsoft Excel files containing eye movement data into the program and then I had to determine whether the program had identified the correct eye movement using graphs plotted in MATLAB. Before I started I was given a paper and a lecture relating to the study and different eye movements. This study is run by a researcher in Autism called Andrius. I visited Andrius to see what the experiment setup was like and see how the eye and hand movements were performed and analysed.

I participated in three experiments as part of the Internship to help researchers get a better understanding of how and why autistic and non-autistic people show different responses. The goal of these experiments were to understand visual issues in autism, how autistic people predict other people's actions, and time awareness in autism. The researchers are still looking for more participant's Autistic and non-autistic for these experiments so if interested contact Dr Emma Gowen for further details.

I went to three lab journal club activities. The first one involved an academic at the University of Sheffield discussing her research on the psychosocial benefits of surgery for people with strabismus (lazy eye) and asking for feedback. The second talk was from a master's student discussing his experiment. The third was a discussion on a paper to do with eating disorders in Autism.

Internship in an Autism Research Lab (cont)

I also attended the Autism@Manchester expert by experience advisory group which consisted of two presentations from researchers talking about research that they are planning on carrying out. It was interesting seeing other Autistic people giving feedback. I asked some questions via email which hopefully will help the researchers with their projects. There is an opportunity to sign up for the meetings (next one is in December). They run every three months and if interested contact Dr Emma Gowen for further details.

I had discussions with another researcher in Autism called Ben about his experiment. Ben's was to do with identifying emotions from faces. This is currently in development and suggestions I made included improving the user interface, the time the clip appears on screen etc.

What I learnt

I learnt about the different eye movements (including saccades and fixation saccades) but more generally how sensory research in Autism is really important. I learnt how to use MATLAB for a specific program created by Dr Emma Gowen and from this learnt that data from people is challenging to analyse due to them showing variable eye movement behaviour. This was my first job and it has taught me a lot, including what it's like to work in a work environment and from home, time discipline, making notes etc. From this I can put transferrable skills onto my CV. Also, I have learnt how I am not alone with Autism. OK, I knew that before but the expert group emphasised that there are other people with Autism and we are often misunderstood.

Internship in an Autism Research Lab (cont)

What was the work environment like?

Dr Emma Gowen was supportive from the start. I met her for meetings once a week on Friday mornings. We discussed things of concerns or required further clarification. This included the data I was analysing, events and IT. Meetings with Norman Darwen have been key to the success of this Internship by having regular contact with him on a weekly basis has helped talk through some of my uncertainties about the Internship. Norman works at DASS and was acting as an in work support person. His support has been greatly appreciated. I think this sort of support should be made optionally available for the next student if he/she wants it. Overall the working environment has been very supportive and even though I had no work experience prior I managed to fit in.

What could be improved?

Although the Internship overall was a fantastic opportunity there were some areas which could be improved upon. I encountered some IT problems which included not being able to install MATLAB on my own computer for home working. IT found a work around by using a remote desktop which effectively allows me to log into that machine whilst at home. Analysing data is fine and I have been happy to do so although admittedly is a bit repetitive. Participating in lab experiments and going to meetings has helped keep variety. An improvement would be to allow the student to do literature searches to help gain better understanding of the topic.

Internship in an Autism Research Lab (cont)

Did you enjoy it?

Overall yes I did enjoy it. Having the opportunity to see what's happening with the research into Autism in terms of vision and to work alongside researchers has been beneficial. I would recommend this to anyone who is interested in Autism, because not only it gives you work experience, it helps to get a better understanding of Autism in yourself and/or others and see how researchers are trying find ways of better understanding people with Autism to help Autistic people more in the future.

The Internship overall has been most beneficial allowing me to overcome (mostly) a fear of getting employment due to being unknown and proving that employment is a possibility.

I thank Emma for giving me this opportunity and hope for all the best her and those related to the BEAM lab in the future. Thanks to Delia Goodwin and the Careers service for organising the internship. Also, thank you to Norman who has given me pastoral support during the Internship.



By Andrius Vabalas,
PhD student, School of Electrical and Electronic Engineering,
University of Manchester

Imitation is important for learning new actions and behaviours from others. For example, how children learn to speak

(<https://www.youtube.com/watch?v=eat6aBfo2mA>). In addition, copying behaviours of others strengthens social cooperation and mutual liking and is a somewhat automatic behaviour (e.g. <https://www.youtube.com/watch?v=wUkeF8tpVmc>).

Autistic people show reduced spontaneous imitation and the link between imitation and social behaviours suggests that reduced spontaneous imitation in autistic individuals might be linked to social deficits.

What was the study?

In this study we have looked at the differences in imitation of simple movements between autistic and non-autistic individuals. We have also explored if simply asking individuals to pay close attention to the movements to imitate would facilitate imitation.

Autistic and non-autistic participants copied [finger movement sequences](#) after watching them on the screen. The sequences were very simple and we were not interested if participants copied them correctly, however we have manipulated the style of the movements. Some movements were presented in a high trajectory and some in a low trajectory.

What was the study? (cont)

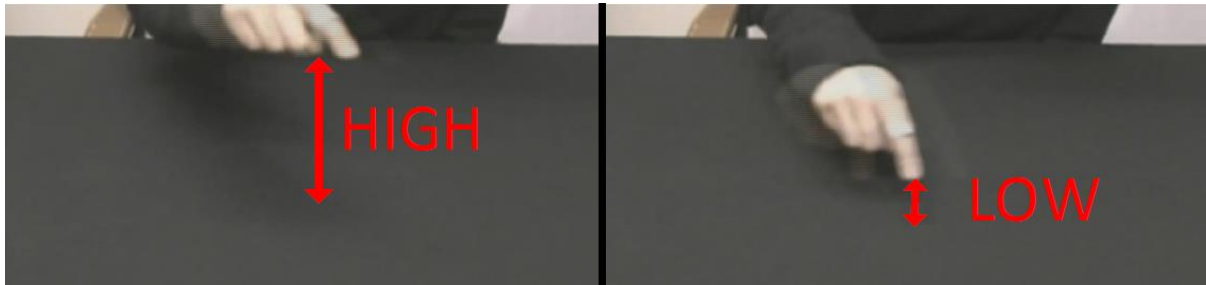


Figure 1: Sample finger movement videos which the participant was asked to imitate. The left image shows an example of a high movement trajectory and the right a low movement trajectory

We were interested how accurately participants copied the height of movements and in order to measure that we have tracked movements of an index finger with a motion sensor. We have also tracked eye movements to know where participants were looking when they watched videos with movement sequences.



Figure 2: The experimental set up. The computer displaying the videos with the eye tracker in front (left image) and motion sensor (right image).

What did we find out?

We found that when videos of movements were presented autistic participants looked at the hand performing a movement less than non-autistic participants. We have also found that after watching a video autistic participants copied the height of the movement less accurately compared to non-autistic participants.

Interestingly, when we asked participants to pay close attention to the characteristics of the movement, they copied movement height more accurately and the improvement was more marked for autistic participants.

What does this mean?

The results suggest that reduced attention is a significant contributing factor to lower levels of imitation in autistic individuals. Moreover, simply asking to pay attention to relevant features of a movement facilitates imitation. This may be useful when developing therapies that use imitation.

WHO ARE YOU?



We are Dr Samantha Todd, Principal Clinical Psychologist (*left of photo*) and Dr Jo Bromley, Consultant Clinical Psychologist and Service Lead, Clinical Service for Children with Disabilities (*right of photo*).

Both of us work at Child and Adolescent Health Services, Manchester University NHS Foundation Trust.

As clinical psychologists, we work with children and young people from around 3 to 18 who have an Autism spectrum diagnosis, along with their families and other professionals. Young people and families come to our service for assessment and intervention around mental health and emotional well-being, behaviour that challenges and sleep difficulties.

Our research interests are: effectiveness of group-based interventions for behaviour that challenges and emotional well-being; improving services for families who do not have English as a first language. We are currently working with the Social Policy and Research Unit at York University to develop a randomised controlled trial of our intervention, “Riding the Rapids: Living with Autism or Disability”.



WHO ARE YOU?

WHAT MADE YOU BEGIN RESEARCHING AUTISM?

Research is part of our clinical work, aimed at improving services and interventions for young people and their families. We see it as a necessary part of our practice to further the evidence base for people with diagnoses of Autism and/ or learning disabilities.

HOW WOULD YOU DEFINE THE AUTISM SPECTRUM?

Clinically we use diagnostic criteria such as DSM-V. However, we see children and young people as individuals, and find neurodiversity a helpful paradigm in thinking about our clients' strengths and needs.

IS IT POSSIBLE TO CARRY OUT RESEARCH IN YOUR FIELD WHICH APPLIES TO ALL ASPECTS OF THE AUTISM SPECTRUM?

Our field is principally concerned with young people, and specifically with their emotional well-being, mental health and behaviours that challenge. The young people we see come to our service because they are experiencing difficulties that are impacting on their lives; it follows that our research interests are aimed at understanding and ameliorating these difficulties.

HOW VALUABLE DO YOU EXPECT YOUR RESEARCH TO BE WITH AUTISTIC PEOPLE, OR SOCIETY AT LARGE, AND WHY?

Mental health and positive behaviour support are key to people's ability to live fulfilled lives within their community. For young people experiencing difficulties in these areas, we hope that our research will further our understanding of "what works", enabling young people to participate more in society at large.

WHAT RESEARCH IDEA WOULD YOU LIKE TO PURSUE IF FUNDING WAS NO BARRIER?

We are interested in the factors that protect Autistic young people from developing additional mental health difficulties such as depression, and those factors that improve resilience. We would also conduct research into ways of reducing loneliness and increasing a sense of social connectedness for young people.

THANK YOU JO AND SAM

TAKE PART

TIME PERCEPTION IN AUTISM



Daniel Poole



Martin Casassus



Our sense of time and duration are essential to how we experience and interact with the world around us. There are many reports that autistic people experience and perceive time differently to non-autistic people. However, to date timing has not been well characterised in autism and the extent to which differences in timing cause problems is unknown.

We are seeking volunteers for a research project which will systematically investigate the experience and perception of time in autism spectrum conditions.

We are recruiting adults with a diagnosis of autism, and non-autistic controls who are closely matched in age, sex and IQ.

We are looking for volunteers who are:

- Aged between 18-45
- Have normal or corrected vision (glasses are ok)
- Native English speakers who are able to read written English and communicate verbally in English
- Have no first degree relatives with a diagnosis of autism (applies to non-autistic control volunteers only)

All parts of the study will be conducted in the Zochonis building at the University of Manchester. Participants will be compensated for their time and reasonable travel expenses.

We have prepared a short video to display what participants would be asked to do:

<https://www.youtube.com/watch?v=cbHYxgqO8E0&feature=youtu.be>

For more information, contact Dan and Martin:



autismtimeperceptionstudy@gmail.com



0161 275 0953



[@AutismTimingStudy](https://www.facebook.com/AutismTimingStudy)

TAKE PART

MIMICRY OF FACIAL EXPRESSIONS IN AUTISM



Cassie Short



Pedro Vital



Teaching Intensive, Research Informed

We are conducting a study to explore social effects of interactive therapies provided to children with autism spectrum conditions that are reflective of real daily interactions.

Specifically, we are measuring:

- **Mimicry of facial expressions (reflective of emotion recognition and empathy)**
- **Mirror neuron system and orbitofrontal cortex activation in response to facial expressions (reflective of emotion understanding and social motivation), recorded using a non-invasive EEG cap (displayed right).**



We are looking for volunteers aged between 6-12 years old to take part with their parent/guardian. Child volunteers are eligible if either (1) they been diagnosed with an autism spectrum condition, or (2) are non-autistic control participants. Children who have been diagnosed with an autism spectrum condition are welcome to take part if they engage in either an interactive therapy, engage in speech and language therapy or engage in no therapy.

By measuring responses to parent's facial expressions, the study aims to present findings that are reflective of daily interactions. We hope for the findings to further inform parents of the potential real-life effects of therapy, within the lines of the data collected.

Participation will take place over two visits to the University of Bolton. Each visit will last approximately 60 minutes, will be identical in procedure, will be 12 weeks apart and can be arranged for times most convenient for you. Reasonable travel costs will be reimbursed.

All participants will be provided with a report of the findings of the study. Additionally, if you provide us with your allocated participant number, we will be happy to provide you with your child's individual results.

For more information, contact Cassie on cas1ocd@bolton.ac.uk or cassieshort@hotmail.co.uk

TAKE PART

BILINGUALISM AND CHILDHOOD



Rachael Davis



THE UNIVERSITY
of EDINBURGH



Researchers from the University of Edinburgh are trying to understand more about the effects of growing up in a bilingual environment on development in children with autism. They are looking for autistic children aged 5-12 years who are exposed to more than one language.

They can visit you at home in the Greater Manchester area and will ask parents to complete some questionnaires and play some games with your autistic child'

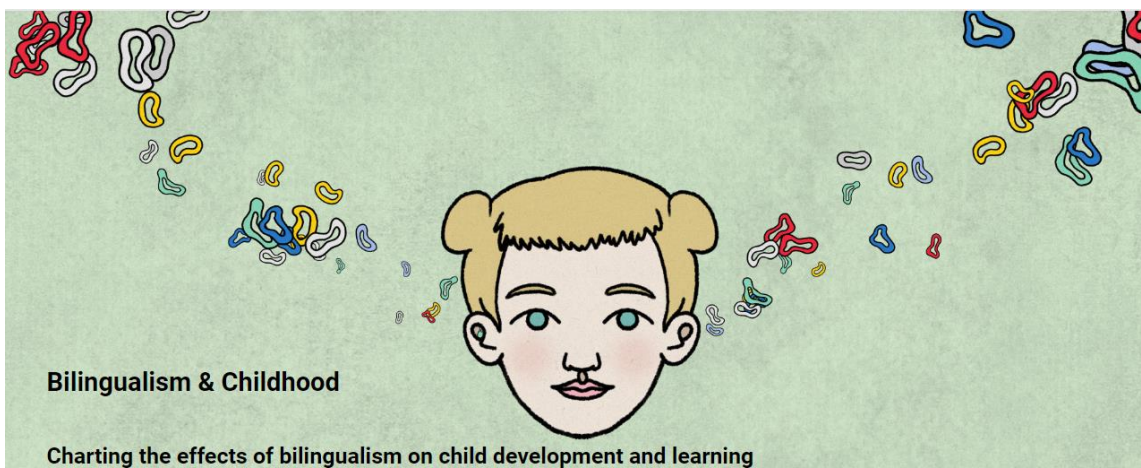
More information about this study is available from the study website (<http://dart.ed.ac.uk/research/bilingualism-childhood/>)

The researchers have also prepared an animation which explains more about the study (<http://dart.ed.ac.uk/research/bilingualism-childhood/>)

Please contact Rachael Davis with any questions and expressions of interest

Email: rdavis3@ed.ac.uk

Telephone: 07821 656 577/ 07709 043 806





TAKE PART

JOIN THE EXPERTS BY EXPERIENCE VIRTUAL GROUP

There are opportunities to join the Autism@Manchester Expert by Experience Virtual group. The group aims to connect the autism community with researchers by sharing information about research projects online. Members of the virtual group are asked to provide comments on materials that researchers send via a LISTSERVE mailing list (email). As the aim of the group is to get advice from people with a lived experience of autism, group members consist of autistic adults, parents, carers and family members of children or adults with autism.

To become involved, please contact Dr Emma Gowen (emma.gowen@manchester.ac.uk) after downloading and reading the induction pack found here (click on the virtual tab):

<http://www.autism.manchester.ac.uk/connect/expert-by-experience/>

If you have any comments on this newsletter,
please contact
Dr Daniel Poole
(daniel.poole@manchester.ac.uk)