

Research from Emily Farran and her group

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In the last WSNews, I welcomed Harry, Hannah and Jo to the team. You will see below that they have all been very busy over the last 6 months. Harry has visited many of you recently and is nearing completion of the first project within a 3-year programme of research. Jo and Hannah have been busy learning about WS and are now at the stage of designing their first studies. Many of you who worked with Kerry over the last three years will be pleased to know that she has now submitted her PhD thesis, and will be examined on it very soon. Susie is also nearing completion. They are both hugely grateful to the help that the families and people with WS have given them over the years.

Harry Purser

We have now almost completed the first stage of our project investigating the development of route learning abilities in people with WS. We have been using virtual reality mazes in trying to find out what kind of landmarks are particularly useful for navigation, and also what the main constraints are: memory, attention, general ability or language ability?

The exciting thing to report at this point in the project is that many participants with WS have found the maze task very easy. So, we have some evidence that route learning might be relative strength within the visuo-spatial domain for people with WS, at least under some circumstances. What we need to do now is figure out what these circumstances are, i.e., what kind of supporting information works best for helping people with WS to learn new routes?

We still have a few more people to see, so we'll let you know more of what we find out in the next newsletter. For now, we'd like to say a big 'thank you' to everyone that's helped by taking part so far!

Hannah Broadbent

I joined the Institute of Education as a PhD student in October. My main area of interest is the development of spatial knowledge and route-learning abilities in large-scale environments such as a school or a town.

Over the next few weeks I will be starting my first study into the types of strategies that people with WS use to learn a route and to navigate in their surroundings (for example understanding the location of landmarks in relation to your own body or in

relation to other landmarks). In particular, I will be looking at whether these strategies are related to other types of spatial abilities such as being able to imagine yourself or objects moving within an environment. The findings will be used to help us understand what strategies are needed for the development of a cognitive map (an understanding of spatial relationships between places in an area) and for successful navigation.

During this study, individuals with WS and typically developing children will be asked to complete a number of tabletop tasks and games and a virtual environment task presented on a computer screen. I hope to recruit about 20 people with WS for this study, so please do get in touch if you would like to be involved. I look forward to meeting many of you during this time and over the next few months and years as my research continues!

Finally, I would like to take this opportunity to thank the WSF for their part sponsorship of my PhD research. I am very grateful for this support and I hope to share some of my findings with you soon.

Jo Camp

I am now six months into my PhD. During my PhD I will investigate how the ability to solve problems develops over time, from young children to older children and teenagers. This will be across several groups of people with developmental disorders, including WS. I will be asking questions such as: when people are at a starting point and have a goal to get to, which strategies do they use to get to the goal and which abilities are useful in helping them to move towards it?

Problem solving happens constantly in everyday life and is involved in everything from catching a bus, to making a phonecall, to getting your bag read for school or work. It involves many different cognitive skills, drawing on memory, spatial awareness, the ability to focus on a goal and the ability to control which actions should be made next, to name a few. These abilities need to be drawn together and applied when attempting to solve a problem. On an everyday level and to use a real life example, when my goal is to find a clean plate and the only clean ones are in the dishwasher, the drawer must be pulled out before the plate can be reached. The goal of finding a plate (itself perhaps part of a larger goal of setting the table in order to have dinner) is reached by way of the subgoal of pulling out the dishwasher drawer.

The type of problems I will be investigating in my first study are often called 'tower-based' and involve arranging objects on pegs in order to make them match a goal state. In this way, specific problem solving capacities can be separated from the complex and unpredictable influences on problem solving in the real world. I would like to find out which skills are helpful when solving problems of this kind and

whether and how this might change as people develop over time. The more we know about the types of strategies used and patterns of errors that people with WS might make, and indeed the more we know in general about problem solving in WS, the better people with WS can be supported when solving problems in everyday life.

I am about to begin my study with typically developing children and then will be recruiting participants for my study with people with WS: I am looking forward to meeting lots of you soon.