Dr Rosie Clark
PhD, BSc

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Summary

I am currently working with Dr Cathy Williams and Professor Iain Gilchrist on a project investigating the efficacy of a novel app they designed and built with developer Kieren Pitts and artist Alex Lucas as a therapeutic tool to improve oculomotor control in children. Often children who have additional developmental or learning needs also have impaired control of their eye movements. This can impact on almost every aspect of life including learning to read, crossing a road and interacting with friends. This project involves research with children who have Special Educational Needs to see if 6 weeks of training using the app on an ipad improves oculomotor control.

If the results from this trial supports the efficacy of this app as a therapeutic tool, we aim to conduct a randomised controlled trial before releasing it as an evidence-based treatment. Currently there are no validated evidence-based treatments for children with impaired oculomotor control, so this is an exciting development that could potentially improve their quality of life.

Generally my research interests lie in eye movements and decision-making, visual impairments and the influence of surgical or therapeutic interventions on oculomotor control (particularly in children). These interventions may be addressing oculomotor control specifically or another neurological disorder. I am interested in understanding the comorbidity of eye movement impairments and other neurological disorders, and addressing how these impairments interact. Oculomotor impairments can have a significant impact on quality of life, so understanding the interaction with other disorders, developing interventions and making objective eye movement recordings is important. I am also interested in the interaction of oculomotor control with other areas of cognition, cognitive side effects associated with treatments that interact with the brain and how we can use objective eye-movement (and manual) recordings to understand more about decision-making and cognition.

Biography

I graduated from the University of Bristol in 2011 with a BSc (with First Class Honours) in Biology. In my final year I worked with Professor Nigel Franks for my undergraduate project, looking at the egress behaviour of different densities of *Temnothorax albipennis* (rock ant) colonies when presented with an emergency situation in the nest. This research led me to become very interested in the similarities between movement in humans in crowded and/or stressed conditions and the collective movement of social insect colonies. Additionally, the decision-making behaviours of these colonies show fascinating similarities to populations of neurons in the brain. Following my interests in human and animal decision-making, I started a PhD in 2011 in the interdisiplinary "Decision-making in an unstable world" research group.

Memberships

Organisations

Bristol Medical School (PHS)

Other sites

- Social-community-medicine

Recent publications

- Clark, R, Blundell, J, Dunn, MJ, Erichsen, JT, Giardini, ME, Gottlob, I, Harris, C, Lee, H, Mcilreavy, L, Olson, A, Self, JE, Vinuela-Navarro, V, Waddington, J, Woodhouse, JM, Gilchrist, ID & Williams, C, 2019, 'The potential and value of objective eye tracking in the ophthalmology clinic'. *Eye*.
- Golding, J, Gregory, S, Clark, R, Ellis, G, Iles-Caven, Y & Northstone, K, 2019, 'Associations between paracetamol (acetaminophen) intake between 18 and 32 weeks gestation and neurocognitive outcomes in the child: a longitudinal cohort study'. *Paediatric and Perinatal Epidemiology*., pp. 1-10
- Clark, R, Gregory, S, Ring, S, Jacobs, P, Ennis, S, Murray, A, Ellis, G, Golding, J, Northstone, K & Pembrey, M, 2019, 'The FRAXA and FRAXE allele repeat size of boys from the Avon Longitudinal Study of Parents and Children (ALSPAC)'. *Wellcome Open Research*.
- Clark, R & Gilchrist, ID, 2018, 'The relationship between reward and probability: Evidence that exploration may be intrinsically rewarding'. *Visual Cognition*, vol 26., pp. 672-694

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