

## Visual perception difficulties after brain injury

### Background

Visual perception refers to how the brain interprets the information coming from the eyes. Our eyes might be working fine, but after a brain injury our brain might not be able to recognize objects or faces anymore, make up words from letters, or direct visual attention. There is anecdotal evidence from patients and carers that these issues can have a severe impact on daily life. It can make crossing the road life-threatening, using a phone impossible, and shopping stressful. It has indeed been demonstrated that sensory vision loss can considerably impact daily life (Rowe, 2017). However, the impact of visual perception problems after a stroke has not been systematically studied.



Research showed that people from a black ethnicity background are more likely to have a stroke and patients from the lowest socioeconomic groups have their first stroke a median of 7 years earlier than those from the highest (Bray et al. 2018). Little is known about the health inequalities in visual perception problems after stroke (Hanna & Rowe, 2017).

### Aims and Methods

The suggested project will investigate the impact of visual perception difficulties after stroke and its relationship with ethnicity, socioeconomic background, geographical location, age, and their living situation (e.g., living alone, with family support, in care home).

The methods used can include the new Brain Injury associated Visual Impairment

Impact Questionnaire and qualitative interviews. We plan to follow stroke survivors longitudinally to evaluate how their visual perception problems and its impact evolve over time.

For the analyses, we can use predictive and mediator models to evaluate how the above biographical factors influence the impact of visual perception problems in the long term.

### Relevance

The project will provide patients and clinicians with scientific evidence to support advocacy for the importance of screening and support for stroke survivors with visual perception issues.

### Training

The candidate's research activity will be based in Durham, Psychology. Besides a training in general research skills, the candidate will develop neuropsychological assessment skills. The candidate will receive varied training in quantitative and qualitative analyses.

### Suitable for

PhD and MSc by Research students.

### References and Further Read

Bray B.D., Paley, L.P., Hoffman, A., James, M., Gomperts, P., Wolfe, C.D.A., et al. (2018). Socioeconomic disparities in first stroke incidence, quality of care, and survival: a nationwide registry-based cohort study of 44 million adults in England. *The Lancet Public Health*, 3(4), E185-E193

Hanna, K.L. & Rowe, F. (2017) Health Inequalities Associated with Post-Stroke Visual Impairment in the United Kingdom and Ireland: A Systematic Review. *Neuroophthalmology*, 41(3), 117-136.

Rowe, F.J. (2017). Stroke survivors' views and experiences on impact of visual impairment. *Brain and Behavior*, 7, e00778