NeuroSwipe: Crowdsourcing the Brain – Citizen Science in Neuroimaging Research

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Aims: Large-scale neuroimaging projects rely on automated pipelines to reconstruct white matter tracts from diffusion MRI (dMRI) data. However, these reconstructions are not always accurate and often require labour-intensive manual review to identify artefacts. To address this challenge and extend the reach of science engagement beyond traditionally accessible groups, we developed NeuroSwipe: a web-based platform designed to involve the public in evaluating the quality of dMRI data. This initiative also aimed to enhance participants' understanding of brain imaging techniques and the scientific process, fostering broader public involvement in research.
Methods: The initial concept was developed by a multidisciplinary team of computational neuroscientists, physicists, science engagement specialists, and clinical researchers. The NeuroSwipe prototype was created by students at the National Software Academy, Cardiff University, and co-designed with ten citizen scientists during a co-production workshop held at the Cardiff University Brain Research Imaging Centre (CUBRIC). The platform included a short interactive training module to guide participants. Users were tasked with approving or rejecting anonymised dMRI images based on their quality. To ensure diverse participation, we partnered with Diverse Cymru, a charity that facilitated engagement with BAME and traditionally harder-to-reach populations. User decisions were recorded and compared with expert classifications. A post-test questionnaire assessed usability, knowledge gains, and engagement.
Results: A total of 89 individuals, identified through community organisations, tested the NeuroSwipe platform over three months. Of these, 82 completed the training module before rating images. Classifications by citizen scientists showed high consistency with expert evaluations, with no significant differences observed. Post-test feedback indicated that 72% of participants found the platform 'easy' or 'very easy' to use, and 63% thought the training module provided 'about the right amount of information', although 9% felt it was insufficient. Importantly, 92% described the platform as 'engaging' or 'informative.' Free-text comments revealed increased understanding of brain imaging techniques and a sense of contribution to scientific research. The project was later publicised by BBC News and Wales Online, further amplifying its reach.
Conclusion: This project highlights the potential of engaging citizen scientists in neuroimaging research through a web-based platform like NeuroSwipe. The findings demonstrate that citizen scientists can meaningfully contribute to assessing dMRI data quality while enhancing their understanding of brain imaging research. Future developments could include scaling the platform to incorporate other imaging modalities and integrating more advanced training modules to further expand public participation in neuroimaging research.

Abstracts were reviewed by the RCPsych Academic Faculty rather than by the standard *BJPsych Open* peer review process and should not be quoted as peer-reviewed by *BJPsych Open* in any subsequent publication.

Prevalence of Burnout Among Healthcare Workers During the COVID-19 Pandemic: A Systematic Literature Review

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Aims: Burnout among healthcare workers has been a significant issue exacerbated by the COVID-19 pandemic. This review aims to synthesise the existing literature on the prevalence, signs, symptoms, and risk factors of burnout among healthcare workers during the pandemic.
Methods: This systematic review follows the PRISMA guidelines. We searched the Web of Science and Scopus for relevant studies published between January 2020 and December 2022. Inclusion criteria were studies reporting burnout prevalence among healthcare workers during the COVID-19 pandemic. Data were extracted and analysed using a structured framework
Results: The review included 50 studies, with a total sample size of 30,000 healthcare workers. Prevalence of burnout varied significantly across regions, with the highest rates reported in Saudi Arabia (75%) and Kuwait (76.9%). Common symptoms included emotional exhaustion, depersonalisation, and reduced personal accomplishment. Key risk factors identified were high work demands, lack of personal protective equipment (PPE), and prolonged working hours.
Conclusion: The COVID-19 pandemic has significantly impacted the mental health of healthcare workers, leading to high burnout rates. Tailored interventions are needed to address this issue and support healthcare workers during global health emergencies.

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Use of Transcranial Direct Current Stimulation via Flow FL-100 Within Community Mental Health Services (CMHT) for Patients with Depression

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Aims: The study evaluates the use of transcranial direct current stimulation (tDCS) via a portable device, called **Flow FL-100**, within Community Mental Health Services (CMHT) for patients with depression. This service targets individuals who either did not benefit from medication or sought alternatives to it.

Flow is a tDCS treatment for depression that patients can use at home. It is safe, well-tolerated, and free from the side effects commonly associated with antidepressants. Backed by over 30 years of research, tDCS has shown significant improvements in depressive symptoms, with high clinical response rates. Recent studies show remission rates of up to 45% with Flow. The treatment is CE-marked