

Research themes

Lifespan cognition

This theme makes links between research that has traditionally been conducted in specific age groups and seeks to understand developmental change across the whole lifespan.

It brings together new theories and methods to allow representations (such as those needed for spoken and written language) and processes (such as attention, decision-making and theory of mind) to be studied in multiple age-groups, including typically-developing participants, as well as those with or at risk for developmental disorders, mental illness, cognitive decline and dementia.

Contributors to this theme (Jane Raymond, Ian Apperly, Sarah Beck, Suzanne Higgs) recently secured an ESRC Transformative Research grant to study cognitive change in a large sample of adult participants using app-based online experiments and surveys.

For more information visit the website of the **Online Wisdom Lab (OWL)** (<http://owlbirmingham.blogspot.co.uk/>).

Memory and learning

This new theme aims to bring together researchers investigating memory and learning from a cognitive, neuroscientific and/or computational perspective.

The goal of the theme is to facilitate collaboration and joint funding applications among memory researchers by coordinating the already existing expertise in this area within the School of Psychology, by interlinking memory researchers across Schools (including Medical, Sports Exercise, and the Centre for Computational Neuroscience and Robotics), and by exploring new ways to translate memory research into applied and clinical contexts.

Memory and learning are areas that are already very strongly represented in the School, including several independent groups investigating such diverse functions as episodic long-term memory, motor learning and plasticity, working memory, and learning in artificial systems.

These groups use a variety of methods including neuroimaging, electrophysiology (including sleep monitoring), cellular approaches in humans and rodents, brain stimulation techniques, and computational modelling.

We believe that pooling this expertise will open exciting new routes to research with a broad impact.

New links will also be built with the Medical School and the School of Sports Exercise to investigate the potential of our research for clinical and non-clinical applications.

Such applications can range from developing experimentally based therapies for patients suffering from intrusive memories in post-traumatic stress disorder (PTSD), to investigating the potential of brain stimulation to aid motor rehabilitation after stroke, to developing targeted exercise regimens to preserve cognitive functioning in the elderly.

Aberrant / anomalous experience and beliefs

Aberrant / anomalous experience and beliefs are a core feature of several common neurological and psychiatric disorders, such as migraine, epilepsy and psychosis. They are also experienced by "healthy" individuals, either in attenuated form, or with lower frequency.

Understanding the origin and nature of these experiences and beliefs, and their role in health as well as ill-health requires that they be understood at multiple levels of description from the neurological, to the functional/cognitive, to the phenomenological.

This unique initiative unites researchers who are working at each of these levels, with different age groups, and with both healthy and disordered populations into a coherent approach.

For more information visit the **research theme page** (</research/activity/psychology/aberrant-experience/index.aspx>) or **Dr Jason Braithwaite's profile** (<http://www.birmingham.ac.uk/staff/profiles/psychology/braithwaite-jason.aspx>).

To celebrate and launch the theme, a **two-day conference** (</research/activity/psychology/aberrant-experience/conference.aspx>) will also be held in April 2015.

More themes will follow shortly.