



Faculty of Business, Law and Social Sciences

Proposed Title:

Building a dynamic network model of complex decision making development

School:

BLSS/ Psychology

Proposed Supervisory Team:

Dr Stacey Bedwell, Birmingham City University
 Dr Jack Rogers, University of Birmingham
 Prof Michael Brookes, Birmingham City University

Abstract:

Decision-making is arguably one of the most important human cognitive functions and an area of research prioritisation. In various neurological and psychological disorders, decision-making processes are often impaired, thought to be a result of abnormalities in underlying neuro-circuits incorporating the prefrontal cortex. Decision neuroscience aims to uncover these circuits and create a map of decision-making processes. The proposed research project will investigate the underlying complex functional network topology necessary for high-order decision processes, processes shown to be impaired in disorders such as autism and psychopathy. Specifically, this project will utilise neurophysiological methods to create a dynamic representation of decision-making development, providing a valuable basis for better understanding of developmental impairments. The uncovering of decision-making functional networks and their development will lead to an increase in understanding and eventually improved diagnostic clinical course and treatment of disorders including schizophrenia, psychopathy and autism. Identifying the underlying structure and development of decision-making networks provides an important neurophysiological phenotype that will ultimately improve psychological care, intervention and prevention.

Research Environment:

Birmingham City University has a growing reputation for world-class research, moving the Department of Psychology into a new building, with newly equipped laboratories for experiments. The department is equipped with state of the art eye-tracking, electroencephalogram (EEG) equipment. The PhD student on this project will benefit from close interactions with PhD students in Psychology/BLSS as well as collaborations with the University of Birmingham. The Department of Psychology holds regular seminars and research cluster meetings ensuring that the PhD student can participate and benefit from interactive discussion of research ideas. The student will also be able to participate in similar research communication activities at the University of Birmingham

Applicant Requirements:

The candidate should be a psychology graduate (with the degree qualification of 2:1 or above), and a good/advanced understanding of quantitative research methods and neuroscience. A master's degree, a genuine interest in the field, and some relevant voluntary or paid work experience working with children/adolescents and/or clinical populations would be highly desirable. Ideally the student should be offered the opportunity to undertake the PGCert in learning and teaching and to take part in some teaching activities. Note that a full DBS check will also be required.

Contact: Name, e-mail and telephone number:

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