

Institution :Edge Hill University
Unit of Assessment: 4 - Psychology, Psychiatry and Neuroscience
<p>a. Overview</p> <p>The Department of Psychology came into being as an independent department in June 2011, with major recruitment of new staff since 2012 (12 in total, 92% of staff submitted). It has been a key beneficiary of Edge Hill University's ambitious strategy to transform itself from a teaching-led institution, noted for the excellence of its teaching in the NSS, to one that is to be based on excellence in both teaching and research. Since its formation the department has doubled in size, recruiting both a number of highly promising early career researchers (ECRs), with good early publications, and more senior established staff. The considerable investment in staff has been accompanied by a parallel investment in research infrastructure.</p> <p>Prior to 2011, psychological research at Edge Hill was situated in a multi-disciplinary social science department. However, the University recognised the significance of developing psychology independently and, importantly, to plan this strategically from the beginning with the focus on achieving internationally significant research in two main areas – cognitive science and health and social issues. This was to be achieved through establishing two supportive research groups and selective recruitment of ECRs with demonstrable potential, and of more senior staff with existing track records of the right calibre. The department was to be known for developing theoretically-driven research whose societal impact and relevance was considered from the very beginning. This would be our own litmus test of good research in this department.</p>
<p>b. Research strategy</p> <p>The formation of a stand-alone department led to the reorganisation of research groups and support structures and procedures with a view to developing a sustainable research culture. The departmental research strategy was based around the establishment of two research groups (the Cognitive Science Research Group (CSRG), and the Health and Social Issues Research Group, (HSIRG) both with strong links to the new Research Institutes, recently established as research priorities for the University as a whole (the Postgraduate Medical Institute (PGMI), the Institute for Public Policy and Professional Practice (I4P), and the Institute for Creative Enterprises (ICE). This would ensure significant University support and prioritisation. The research groups provide the bedrock for research activity within the department, with research mentoring provided by the professors/readers. Research strategy within the department is overseen by a newly established Research Management Group (consisting of professors/readers), and a departmental seminar series further fosters an increasingly vibrant research environment.</p> <p>Research is organised through the two research groups: CSRG (Balani, Humphries, Litchfield, Makris, Murphy, Powell, Qureshi, Yamaguchi) and HSIRG (Beattie, Heim, Monk, Wall). Both research groups have research applications as strategic priorities, for example, research into memory and memory development is a particular focus of CSRG's research portfolio. Balani studies the relationship between working memory and visual search using Event Related Potentials (ERP) while Murphy's research examines deficits in cognitive performance and memory related to the use of ecstasy (MDMA) and cannabis. Humphries' cognitive-developmental research examines how ageing affects memory with a view to informing best practice in legal proceedings. Litchfield's research examines the manner in which people alter their processing of objects based on their observation of others, especially the eye movements of experts, to reveal new insights into the pervasive nature of joint attention and decision-making. Makris uses behavioural and neurophysiological methods to explore the neural basis of automatic activation of the motor system when viewing objects, the perception and embodiment of on-going actions in experts and novices, as well as the modulation of neural motor activation by emotionally-laden stimuli. Powell's research utilizes neuroimaging technologies to explore brain structure and function in relation to social cognition and language, including people's ability to infer the mind states of others and how this ability can facilitate social cohesion. Her other research extends our understanding of brain asymmetry, brain laterality and how this is related to handedness and cognitive functioning. Qureshi's research is concerned with the neural relations between attention and working memory and human cognitive function following brain injury (e.g. problems in memory, action, cognitive control, attention and reading skills). The aim is to explore the relation</p>

between selective attention and working memory as well as establishing research collaboration with local health services working with various cognitive disorders. **Yamaguchi's** research investigates how people plan, maintain, and accomplish particular task goals. His research also focuses on the structure of cognitive processes that underlie skilled performance and the way such structures are acquired through training.

HSIRG concerns a range of connected health and social issues. **Beattie** focuses on human multi-modal communication, especially the relationship between iconic gesture and speech in the conceptualization and generation of utterances in everyday talk and its implications for effective communication, including environmental communication. **Heim's** research focuses on psychosocial factors shaping substance use while **Monk** uses advanced technologies, such as smartphone technology and immersive projection to examine how social and environmental contextual factors impact health and substance-use-related behaviours and beliefs. **Beattie** and **Heim** investigate the implications of prejudice in contemporary society; this includes **Beattie's** research examining implicit prejudice and its effects on the selection of candidates for posts and **Heim's** research into psychosocial factors that modify adverse effects of negative experiences such as racism. **Wall's** research is focussed on the implicit processes of impression formation, **Humphries** (CSRG) considers how this applies to legal contexts. **Beattie** investigates how to promote sustainable consumption, in the context of anthropogenic climate change, focusing on consumer attitudes/behaviour, with a particular emphasis on implicit processes. Indeed, the role of implicit processes in social behaviour and decision making is a pervasive theme and area of interest throughout this research group. To illustrate, both Graduate Teaching Assistant (GTA) PhD students appointed in 2013 are undertaking research in this area.

Strategic recruitment of research active staff and investment in research resources have been primary means of developing our research capacity and capabilities. Since January 2012 we have appointed 12 new research active members of staff (11 of whom are being returned in this UoA). The considerable investment in staffing has been accompanied by investment in research infrastructure, including two state of the art Eyelink 1000 eye trackers, as well as a Near Infrared Spectroscopy (NIRS) and purpose-built research laboratories. Competitive start-up funds to pump prime new research have also been made available to staff and our ECRs, in particular, have benefitted from generous awards as part of our strategic priority to support their research development. In 2013 alone **Powell**, for example, received £36k to examine the effect of co-occurring autistic spectrum disorder and intellectual disability diagnosis on neuroanatomy, functional connectivity and behaviour, while **Humphries** was awarded £18k to research the influence of cross-examination style questioning on older adults' recall accuracy, and one of the eye trackers was purchased to facilitate **Litchfield's** research. The amount of University research support (per annum) for staff, including support for research assistants, conference attendance and research equipment has increased by a factor of five following the establishment of our department (between 2008 and 2011 the department received £48,674 for these purposes compared with £157,399 since 2012).

A shift from a part-time to a full-time PhD research student culture is taking place: prior to 2012 we did not have any full-time PhD students and we now have four full-time PhD students making significant contributions to our research activities. An additional PhD student who joined alongside her supervisor in 2012 completed in September 2013. Forming the nucleus for a vibrant full-time PhD culture, increasing the number of full-time PhD students was achieved primarily through the introduction of a new GTA scheme. PhD students are active members of the relevant research groups and are fully supported in their development both as researchers and future academics (e.g. by enrolling on the Postgraduate Certificate in Teaching in Higher Education). In addition, we are forging closer links to other research centres in our region. **Powell**, for example, is seconded to the Magnetic Resonance and Image Analysis Research Centre (MARIARC) at the University of Liverpool for 20% of her time. It provides us with access to an fMRI scanner and thus offers a realistic avenue for staff from the Psychology Department at Edge Hill University to engage in cutting edge neuroscience. Our recent investment in NIRS also contributes towards this goal. This strategic orientation towards neuroscience research capabilities – not commonly associated with newly formed psychology departments – is a further illustration of our research ambitions in the area of cognitive science.

Senior staff provide regular journal writing and grant preparation sessions for staff who are given access to previous successful grant applications from a variety of funding sources. All proposals benefit from a peer review process by members of the Research Management Group and, with support from the University's Research and Enterprise Support Office (RESO), paid external reviewers are also used to advise where appropriate. Departmental support is complemented by a university-wide mentoring scheme through the RESO which can be accessed by staff in any department to provide additional specific guidance and advice. RESO runs a comprehensive Research Capacity Building Programme that is aligned with the national Research Development Framework. This includes seminars to help ensure impact considerations feature in all stages of the research process. To build capacity, ECRs are invited to join PhD supervisory teams and partake in relevant training through the RESO and mentoring sessions dedicated to PGR supervision within the department.

All staff are offered training on the eye trackers and NIRS through specialist workshops; the aim is to build capacity and ensure that staff take full advantage of the research opportunities afforded by these technologies. New collaborations have already resulted from these workshops (including **Qureshi, Litchfield** and **Powell** on visual attention and theory of mind; **Beattie** and **Litchfield** on visual attention and the processing of product labels and consumer choice in the context of sustainability, implicit attitudes and visual search in the context of judgments about criminality, racial bias in interviews and alcohol consumption (**Humphries, Beattie, Wall, Monk, Heim, Litchfield**)). As a means of further embedding a collaborative research ethos, our departmental research groups timetable meetings dedicated specifically to exploring avenues for joint working.

Our research strategy is to increase capacity further by drawing on financial support from research councils and from commercial sources, made possible with the emphasis throughout our research on its societal implications and also by the experience of some of our senior staff (e.g. **Beattie**) at successfully accessing major commercial funds for research at previous institutions. The visit by the Head of Global Sustainability at Unilever to the department in October 2013 to discuss research opportunities in the area of sustainable consumption at Edge Hill University is one small early indication that this might well prove to be an appropriate strategy for this UoA. As part of our plans to increase PhD student numbers, staff are also encouraged to seek funding for studentships from organisations with aligned interests and an *Alcohol Research UK* studentship (with matched University funding) has already been secured. We also aim to embed further research into the curriculum as a strategic priority to ensure a good throughput of prospective research students. Interested students at undergraduate and postgraduate level are offered opportunities to work alongside staff on research agendas of mutual interest. All staff are encouraged to offer such extra-curricular voluntary opportunities to students. We are in the process of implementing an undergraduate research internship scheme, whereby students are awarded paid internships over the summer to assist with on-going research of the department. Benefits of this scheme are two-fold: students gain valuable hands-on experience of research while staff benefit from dedicated research support. Both are critical to the development of a strong research culture within the department.

Another important feature of our research strategy is the promotion of inter-disciplinary research on the assumption that complex challenges are unlikely to be solved by one discipline alone. A number of strands of interdisciplinary research within the University are already firmly established, with research links between the Faculty of Health and Social Care. Together with O'Brien, Jack, and Whitehead from the Evidence-based Practice Research Centre (situated in the Faculty of Health and Social Care), **Murphy** recently concluded a major nationally-funded research study on people with motor neurone disease (MND) in Lancashire and South Cumbria in collaboration with Lancashire Teaching Hospitals NHS Foundation Trust. There has been co-supervision of research students across disciplines and participation in cross departmental research seminars. **Beattie** is engaged on interdisciplinary activity on sustainability with the Bren School of Environmental Science at the University of California, Santa Barbara where he was Visiting Professor in 2012, and where he is developing theoretical ideas on how to optimise strategic environmental communication. Within our institution, we actively foster inter-disciplinary communication by inviting departments with shared research interests to 'research socials' with formal inter-departmental presentations of research activities that are followed with continued

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discussions in a more informal setting. This format is popular and expedites staff getting to know researchers from across the institution.

The development of a number of research institutes at the University provides a significant opportunity for some major new inter-disciplinary initiatives aimed at addressing national and international research priorities. There is thus considerable scope for our HSIRG to collaborate with Sport Science and Medical Education (through PGMI), to inform practitioners' work (through I4P) and research cultural and media influences on consumer choice and lifestyles relevant to sustainability, optimising strategic health and environmental communication (ICE). Plans are being developed at the institution to develop a new interdisciplinary sustainability institute, 'Sustainable Futures and Behaviour Change', with psychology at its centre (and pump priming already agreed). Ensuring strong psychological input into the interdisciplinary University-wide research institutes in the coming years is a cornerstone of our strategy that will also help us ensure we continue to align aspects of our research with funding priorities.

c. People, including:**i. Staffing strategy and staff development**

Expectation and encouragement of high level research activity that supports the growth of our two research groups drives our staff recruitment strategy. All recently appointed staff have been selected on the basis of research achievements and potential for research excellence as part of the research groups. Of the new permanent staff appointed in the period of assessment, all but one are returned in this UoA. The strategy of recruiting highly research active individuals to lecturer and senior lecturer positions was augmented by the recruitment of research leaders. Prior to 2012 Psychology at Edge Hill University did not have a professoriate and this vacuum in terms of research leadership was filled by recruiting externally two professors (**Beattie, Heim**) and promoting a reader to a chair (**Murphy**). The former provide research leadership to the Health and Social Issues Research Group (HSIRG) while the latter fulfils this role in the Cognitive Science Research Group (CSRG).

We currently have nine ECRs in the department (**Balani, Humphries, Litchfield, Makris, Monk, Powell, Qureshi, Wall, Yamaguchi**). All have been recruited over the past two years and – in recognition of our high proportion of ECRs with evidenced research potential – it will be crucial to support effectively their continued development as successful researchers over the next few years as we continue to build towards a stable and sustainable staff structure. To this end the department will continue to proactively identify and reward research achievements of staff via promotion. In addition to support through pump-priming and research capacity building events, outlined above, all ECRs are given reduced teaching and administration loads to help establish their research. ECRs are also given research responsibilities to support their development. For example, our seminar series is organised by ECRs, and three out of seven members of our Departmental Ethics Committee also fall into this staff category. Particular attention is paid to encourage ECRs with regard to the development of future projects, opportunities for career development as researchers, and the provision of opportunities for networking with other researchers both inside and outside the University. Conference attendance is supported through dedicated funds that are managed by the RESO, and support is also made available for meetings with external collaborators.

In accordance with the Concordat to Support Career Development of Researchers research staff on temporary or fractional contracts are afforded full access to the same support as their permanent counterparts, and attend staff and research meetings. With a view to facilitating their transition to permanent contracts, Research Fellows are able to gain paid teaching experience by making appropriate contributions to delivery.

Personal development is reviewed annually. As part of this staff are required to present a detailed research plan which includes plans for funding and dissemination activities. In addition to formally being assigned a research mentor, we have also implemented successfully less formal regular research mentorship arrangements whereby the two professors without line-management constraints regularly meet with staff on a one-to-one basis to act as a 'critical friends' for research activities. Also designed to complement the formal mentoring for new members of staff, there is a university-wide research mentoring database where individuals can search for professors and

readers with relevant experience to support them with their research projects and personal development.

Edge Hill University is committed to supporting people in developing as researchers and is fully committed to equal opportunities in both its recruitment processes and its training and development for staff. Staff with recognised/declared disabilities are provided with support to enable them to progress their research careers and are supported to access funds from the Government's Access to Work scheme. The University has been awarded the Disability Two Ticks mark which guarantees an interview for an individual with a disability provided they meet the essential criteria for the post. As part of their induction, all new staff receive equality and diversity training. Staff members for whom English is not a first language have access to funds to provide assistance with writing for publication and new staff from overseas have a dedicated HR resource to help them settle into a new country and their new job. Within the department we operate a transparent workload model so that staff can see how their workload compares with that of others, and this gives staff confidence that workloads are fair. Administrative roles within the department and most committees evidence a good gender balance. However, we are sensitive to the fact that all of the Readers and Professors are currently male. The University is preparing an application for an Athena Swan award and is actively looking at ways to support more women in leadership roles including encouraging women to participate in Vitae's Leadership in Action programme. We offer extended mentoring with senior colleagues in or outside the department agreed through the AAR process. To build towards greater gender equality among senior staff in the department we have implemented a number of changes which are aimed particularly at supporting female staff in their career development: for example, we operate flexible working hours and afford all staff opportunity to work from home (when appropriate). This is aimed to ensure a degree of flexibility to help staff to successfully bridge work and child-caring demands. Moreover, staff returning from maternity/paternity breaks will be given reduced teaching loads commensurate with those of newly appointed staff, and career breaks will be taken into consideration favourably when pump-priming funds are allocated. We are also reviewing the membership of the currently all-male Research Management Group with a view to ensuring a better representation of female staff.

ii. Research students

The Department is in the process of developing postgraduate research with its first full-time PhD students (four in total, all starting since 2012; one additional completion in 2013) funded through the University GTA scheme / Alcohol Research UK. We have annual monitoring and progression exercises (including progress / transfer reports and mock viva examinations) for all of our PhD students. All PhD students are integrated into the relevant research groups and are encouraged to attend seminars and to take part in the eye-tracking and NIRS training events with a view to broadening their methodological repertoire. Financial support is offered to attend training courses elsewhere (e.g. multilevel modelling), as required. We recently moved our full-time PhD students into new offices adjacent to those of staff to further improve their (physical) integration into the department. In keeping with our commitments to the Concordat to Support the Career Development of Researchers, all PhD students also have access to the full range of training events within the Department and through our centrally provided Research Capacity Building Programme. Utilising University support through the Graduate School for academic support and progress, the Department has ambitious plans to increase these numbers based on a number of sound principles which would make a PhD in Psychology at Edge Hill University particularly attractive. This includes (i) a strong applied aspect to the theoretically driven research and experience of inter-disciplinary research to attract potential employers beyond academia, (ii) the development of new feeder Masters courses through the new research institutes, (iii) full integration into the research groups for mentoring and other support, (iv) the opportunity to align research with the research institutes being developed at the University. Annual bursaries (up to £1000) are available on a competitive basis from central funds held by the University's Graduate School to promote conference attendance and research expenses.

We aim to develop our PhD provision by:

- a) Making further bids to the competitive University GTA scheme.
- b) Including PhD applications as part of grant applications.

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- c) Seeking commercial funding for PhDs.
- d) Promoting the research at Edge Hill University, which could attract international PhD students.
- e) Advertising more explicitly the career opportunities deriving from the particular research foci at Edge Hill University to attract more full-time self-funding students interested in careers both inside and outside academia (e.g. research skills in sustainability are of interest to the commercial world globally).

These developments depend critically on our success at mentoring and assisting PhD supervisors, particularly the ECRs. Taking advantage of eliciting expert external reviews on the quality of the work being done, the production of high quality publications by PhD students will serve as the principal route for achieving timely PhD completion.

d. Income, infrastructure and facilities

With the aim of building an environment conducive to high quality research, the strategic aims of the department have been underpinned by significant and continued institutional investments in our research infrastructure. In conjunction with our staff development and pump-priming initiatives, these investments also aim to increase funding applications to external sources as improving income is a strategic priority. Expansion in research space includes a dedicated cognitive testing laboratory containing partitioned testing booths, an observation suite equipped with a two-way mirror, cubicles for testing individual research participants, and a dedicated IT suite with specialist experiment testing software (E-prime, SuperLab) and analysis programmes (M-plus and Complete meta-analysis). In the summer of 2013 we purchased a new SR-Research Eyelink 1000 Eyetracker with associated SR Research Experiment Builder and Data Viewer Software and have just purchased a second identical eye tracker because of demands on its use (£68K in total). Equipment for NIRS (Oxymon: Artinis Medical Systems, £33k) was also acquired in 2013. An online participation recruitment scheme (<http://edgehill.sona-systems.com/>) for course credits and payments is in use, with a departmental ring-fenced participant payment budget (£5K per annum). A dedicated laboratory technician maintains the research facilities and equipment.

Collaborative use of research infrastructure occurs across the institution. For example, together with the Department of Sport and Physical Activity (SPA), we have recently purchased a microplate reader for analysis of salivary assays (Tecan infinite 200 Pro, £19K) and have access to a remote eye tracking system (ASL series 5000 system). SPA has a further four dedicated laboratory technicians and specialist equipment for the measurement of a range of psychological and physical responses.

Table 4b summarises all externally generated research income for the department within the relevant assessment period. Institutional level support for psychological research comes through the RESO as well as the Graduate School. The RESO funding stream 'pump-primed' new projects (including the salaries of research assistants) to lay foundations for external funding applications. Conference attendance is also supported alongside research meetings for interdisciplinary and external collaborations.

All research conducted by staff is subject to peer review in accordance with BPS / APA requirements. Within the University we operate a three-tier ethical review system with Research Ethics Committees at departmental, faculty and University levels. At present all research protocols are reviewed at both departmental and faculty levels and NHS ethical approval is sought for work with clinical populations. Staff are encouraged to seek ethical clearance for research programmes rather than individual small scale studies. Well-established low-risk data collection protocols are fast-tracked.

e. Collaboration or contribution to the discipline or research base

The staff listed in REF2 are integrated into relevant research networks of our discipline. All returned staff regularly act as reviewers for international peer-reviewed journals. Staff also regularly review grant applications for funding bodies. **Heim**, for example, is a member of the peer review college and rapporteur for the ESRC, as well as being a member of Alcohol Research UK's grant panel which sets research priorities and allocates funding. He also reviews for a number of

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other national (e.g. MRC; NIHR) and international funding bodies (e.g. The Netherlands Organisation for Scientific Research). Murphy reviews grant applications for MRC, the British Academy and the Neurological Foundation of New Zealand while Beattie and Balani review for the ESRC and BBSRC.

Staff are also represented on editorial boards of international journals. **Heim** is Editor-in-Chief of *Addiction Research and Theory*. **Murphy** has been a guest editor for *Human Psychopharmacology: Clinical and Experimental* in 2012, and was a member of the BPS Editorial Advisory Group from 2009 to 2012.

With regards to participation in professional bodies, **Murphy** was Chair of the Psychobiology Section of the British Psychological Society (BPS) for five years until 2013, served as a member of the BPS Research Board (2008 to 2012), and continues to lead consultation responses on behalf of the BPS concerning government policy initiatives. Members of each research group are actively engaged in research with collaborators nationally and internationally. **Murphy**, for instance, is engaged in collaboration with the University of Tasmania with regards to the effects of ecstasy and cannabis use on visuospatial memory performance. Interdisciplinary research occurs across the institution (e.g. with the Faculty of Health and Social Care and the DoSPA). Our ECRs are also already well integrated into the broader research community and collaborate with a range of national and international institutions. These include: Birmingham (**Balani**), Bologna (**Yamaguchi**), City (**Makris**), Erasmus (**Litchfield**), Exeter (**Qureshi**), Imperial College London (**Balani**), KTH Royal Institute of Technology (**Qureshi**), Lancaster (**Litchfield, Wall**), Leicester (**Humphries**), Liverpool (**Powell, Humphries**), Lund (**Litchfield**), Oxford (**Powell, Balani**), Purdue (**Yamaguchi**), Vanderbilt (**Yamaguchi**), Sydney (**Litchfield**), Université Catholique de Louvain (**Balani, Qureshi**), Università degli Studi di Udine (**Makris**), Plymouth (**Monk, Qureshi**), and Würzburg (**Yamaguchi**).

Research awards include a research paper by **Beattie** being shortlisted in 2009 for the International Award for Excellence by *The International Journal of Environmental, Cultural, Economic and Social Sustainability*. Beattie (with 2 colleagues) was also awarded the Mouton d'Or for the best paper in the area of semiotics (2010). **Monk** was awarded the Ron McKechnie prize for the best paper by the New Directions in the Study of Alcohol Group (2012). **Litchfield** received Honourable Mention at the SPIE Poster Award (2008) and won the best student paper at the same conference. **Wall** won a poster presentation at the European Conference in Personality, Tartu (2008) while **Makris** won the first prize poster at the BIT Life Sciences 3rd Annual World Congress in Beijing (2012).

Litchfield has given two invited talks since 2008 while **Heim** has given 5 invited presentations / key notes at national conferences. **Beattie** has presented 16 keynote lectures both to psychology audiences and to more general national and international audiences in this time. **Beattie** has published a number of books articulating the implications of his research for a more general readership. These have attracted major international reviews and all have appeared in the Amazon (topic-based) bestseller ranks, additionally a number of these books have international translations. The books includes *Our Racist Heart? An Exploration of Unconscious Prejudice in Everyday Life* (2012); *Get the Edge: How Simple Changes Will Transform Your Life* (2011); *Why Aren't We Saving the Planet? A Psychologist's Perspective* (2010). **Beattie** has been an expert commentator on BBC News, ITV News, CNN, Sky News, BBC News 24, BBC World Service, News Asia, GMTV, Channel 4 News, Channel 5 News, BBC Breakfast, BBC Radio 2, BBC Radio 5 Live. He was also writer and presenter of *The Ceasefire Generation*, Documentary of the Week, Radio 4. Major articles on Beattie's work have appeared in various international newspapers including the *New York Times*. **Powell's** research has featured in various national and international outlets including *The Daily Mail* and *New Scientist Magazine*.