

Institution: Liverpool Hope University

Unit of Assessment: UoA4 Psychology, Psychiatry and Neuroscience

a. Overview

Research in Psychology at Liverpool Hope University has two aims. First, research contributes to the development of psychological theories. Second, where possible, our research will be applied to relevant issues in society. Strategically, the orientation of research will take into account the requirements of the ageing population, the effects of changes in lifestyle and work environment on health and well-being, and the challenges of the political development in a global framework.

The Psychology Department is part of the Faculty of Sciences and Social Sciences. The Department currently counts 18 members of academic staff, four of them working part time at fractioned contracts of 0.2, 0.2, 0.6 and 0.8 FTEs. Seventeen members of staff hold a PhD, and one member of staff is working towards her PhD. Three members of staff are full professors, two are associate professors/principal lecturers, three are senior lecturers, nine are lecturers and one is a Professorial Fellow. Even though the Department is a small department, we aim to cover the main areas of the BPS curriculum by promoting active research; in turn, teaching is researchinformed and students can be directly involved in academic research in the core areas of Psychology. To this end, the Department has changed its focus of research considerably over the last years. Whereas in the past, research was mainly based on collecting data via questionnaires, surveys and interviews, research is now more balanced with a strong focus on experimental research in biological and cognitive psychology. In 2010, the University conducted a strategic review of the Psychology Department. As a result, the Department was structured into three research groups: Cognitive Psychology, Biological Psychology, and Social and Applied Psychology. Each group is led by a professor. In addition, there is a cross-departmental research group in Sport Psychology including members of the Psychology Department and the School of Sport and Health Science. Recruitment of new staff is informed by the group structure. Strategically, particular focus will be laid on establishing a Developmental Psychology group. Research collaboration frequently develops within and between the research groups. Research groups meet informally to discuss their projects. In addition, at least once a month the Department holds a Research Seminar with invited speakers from the UK and overseas. The submission includes research from all three research groups in the Department as well as the crossdepartmental Sport-Psychology group.

b. Research strategy

The orientation of the Department towards experimental research in Cognitive and Biological Psychology has been a long-term strategic goal of the University. The development started in 2006 with the appointment of new staff and continued to be pursued systematically after the Research Assessment Exercise 2008 with further new appointments. Whereas in the past research was quite diverse, there are now four defined research groups, each led by a professor. Research areas that were not in line with the strategic goal were discontinued (e.g. Parapsychology).

Research is currently centred around the following topics:

(1) Cognitive Psychology

Research in Cognitive Psychology includes topics such as attention, feature binding, visual short-term memory, long-term memory, emotional memory, implicit learning, motor control, location memory, cognitive ageing and dementia, expertise, intuition, metacognition, development of working memory and learning of reading and writing. The group includes six members of staff. Three of them joined the Department within the assessment period. The group is led by Prof *Michael Ziessler*.

Michael Ziessler's research interests are in the field of motor control, implicit learning, concept formation, attention and perception. Based on the idea that our cognition has the function to control the organism's state in the environment, his research integrates these different areas with each other.

Simon Davies investigates the nature of representations that are supported and maintained in visual short-term memory. This includes the problem of feature binding. He is also interested in the phenomenon of inattentional blindness showing that one can miss information in the visual field, even if the information is presented to the fovea centralis of the eyes, if our attention is directed to processing of other information.

Dan Clark is mainly interested in memory for the location of objects. He enquires how multiple memory representations can interact in enhancing the accuracy of recall in spatial long-term



memory.

Philippe Chassy investigates how perception and memory contribute to the development of expertise and intuition. His particular interest is expertise in chess playing. A recent research project explores the interaction between memory, attention and emotions. The evaluation of websites including emotional and attentional parameters was subject of a HEIF-funded pilot project in the last academic year.

Davide Bruno's research interests are in memory, metacognition, the processing of emotions and cognitive ageing, with particular emphasis on dementia and Alzheimer's disease.

Lorna Bourke's expertise includes cognitive and developmental psychology. She investigates the development of literacy, in particular writing, and its interaction with the development of working memory.

The Professorial Fellow *Joachim Hoffmann* advises in particular the junior colleagues on their research. Together with Michael Ziessler he currently works on a project investigating the role of eye movements for the calibration of space perception.

In summary, research in this group attempts to combine both basic and theoretical research with research that takes the potential societal and economic impact of their research into account. For example, the research on development of reading and writing is grounded on theoretical work, but also has direct implications for education programmes in nurseries and primary schools. Research on cognitive ageing and dementia is another example of research that responds to national and international health and economic priorities. In a long-term perspective, a common project on cognitive ageing based on inter-group collaboration will form one of the major research topics of the group for which funding can be sought from national and EU funds.

(2) Biological Psychology

Research topics of this group include colour perception, colour categorisation, multisensory integration, processing of emotional stimuli, memory and cognition, social cognition in clinical samples, and evolutionary explanations of human behaviour. The group is led by Prof *Galina Paramei*.

Galina Paramei employs methods of psychophysics for investigating colour discrimination in variant forms of colour vision (congenital and acquired forms of colour abnormality). Her recent work focuses on effects of ageing on colour discrimination whereby she published age related norms for the Cambridge Colour Test. In addition, Galina Paramei and Neil Harrison study preattentive effects of colour categorisation using ERPs.

Neil Harrison has expertise in using psychophysiological methods, in particular EEG and analysing ERPs. He investigates multisensory integration processes and enquiries how the integration problem is solved if auditory and visual information are in conflict. Recently he also became interested in effects of emotional stimuli on cognition, more specifically in the modulation of spatial attention by emotional information. In addition, Neil Harrison collaborates with colleagues from other research groups in experiments that involve EEG. For example, in a recent collaborative project with Michael Ziessler he investigated the anticipation of action effects in the process of action planning.

Jane McCagh is interested in the impact of chronic illness and neurological and psychiatric disorders on psychosocial and cognitive functioning. In her research she focused so far on patients with focal epilepsy. Currently the research is be extended to other patient groups.

Minna Lyons and *Sue Aitken* apply evolutionary theories to explain individual differences in personality and behaviour. Current projects include studying effects of inequality, poverty and subjective social status on behaviour and investigate how personality traits such as Machiavellianism relate to interpersonal relationships. Recently Minna Lyons became an active member of the Prosocial Place Programme led by researchers from the University of Liverpool. Within this programme she works on a project on Knowledge of Local History and Prosociality for which she attracted funding from the Richard Benjamin Trust.

Thus, the primary aim of research in this group is basic research to further our understanding of bio-psychological processes. But again, the planning of new research projects takes into consideration the potential impact. Knowledge of how perception of colour changes with age or how chronic illness affects cognitive functioning is important for health and well-being in an aging society. Effects of chronic illness on psychosocial and cognitive functions have also high



impact on health and well-being since those effects will increase with the on-going demographic change.

(3) Social and Applied Psychology

The Social and Applied Psychology group has the longest tradition at Liverpool Hope University. The group is led by Prof *Neil Ferguson*, who is mainly interested in the psychology of peace and conflict. In his research he follows a number of themes such as moral development, the impact of political violence on children, adolescents and adults, peace building and challenging violence. His research is linked with the University's interdisciplinary Desmond Tutu Centre for War and Peace Studies. The centre brings together academics from Politics, Philosophy, Education, History, Psychology and English Literature.

Eve Binks works on related topics in close collaboration with Neil Ferguson. Her main areas of research are social identity, the psychology of religion, the psychological impact of exposure to traumatic events and coping with these events.

Sal Watt's research interests lie within the fields of social, organizational and cultural psychology. Of particular interest are issues of identity and discursive communication processes. Another field of research interests is related to health and well-being including the evaluation of a vascular health check programme, the development of a walking intervention programme and the investigation of psycho-social and socio-economic issues that underlie student lifestyle choices in respect of exercise and diet motivation.

Social identity is also the main research focus of *Julienne McGeough*. Her current research has grown from an interest in online learning amongst online support groups. The research is part of her PhD project.

Compared to the other two groups this research group has a strong applied focus. Existing theories and frameworks are applied to particular cases or situations to develop theoretically founded solutions. Research on conflict resolution and peace building remain very important also in future years, in particular considering the increasing thread of our society by terrorism. Improvement and promotion of health and well-being are crucial tasks for the society considering the change of the lifestyle, the working environment and the increasing age of the population.

(4) Sport Psychology

Research in Sport Psychology has been based over the last two years in two departments, the Department of Psychology and the Department of Sports and Health Sciences.

In the Department of Sports and Health Sciences *Jim Adie* investigated the coach-athlete relationship, goal setting, achievement of goals, intrinsic motivation, the cognitive appraisal of competition and self-esteem. Similarly, *Simon Kawyzc* is interested in social support for athletes, their professional and personal development and the effects of such factors on performance. In application of his research Simon Kawycz worked in a consultancy role with a number of different athletes, coaches and teams within sports and outside of sport.

Caroline Wakefield's approach is more based in a cognitive-psychological framework. With her PhD research she has contributed to the development of a particular imagery programme for the training of sport skills. Subsequently she investigated how this imagery programme can be used for the improvement of a range of different sport skills. She is also interested in research areas such as body image, the psychology of weight loss, and exercise dependence. As member of the Psychology Department Caroline collaborates in this research with Sal Watt.

The Sport Psychology group is recently under reconstruction. After Jim Adie left the University, a new sport psychologist was appointed. Caroline Wakefield has moved from the Psychology Department into the Department of Sport and Health Sciences to strengthen the collaboration between the Sport Psychologists.

Research groups meet on a regular basis to discuss their research projects and future plans. In July 2013 members of the Biological and Cognitive Psychology groups and in September 2013 members of the Social and Applied Psychology group were on a three-day retreat to promote and intensify these discussions.

As a rule once a month the Department organises a Research Seminar for all research groups with invited speakers from the UK and overseas. The seminar aims to support the development of new research ideas and to develop collaborations within the Department and with national and



international institutions. Among the guest speakers were internationally renowned researchers such as Prof. John Mollon (Cambridge), Prof. John Archer (Lancashire), Dr. Sophie Wuerger (Liverpool), Prof. Andrea Kiesel (Würzburg), Prof. Jochen Müsseler (Aachen), Prof. Joachim Hoffmann (Würzburg), Prof. Martin Fischer (Dundee, now Potsdam) and Dr Panos Athanasopoulos (Bangor).

In addition, promoting collaboration between universities in the North West of England, the Department of Psychology at Liverpool Hope University initiated the MerseyLune Seminar of Cognitive Psychology and Neuroscience. The MerseyLune Seminar brings together Departments of Psychology of Liverpool Hope University, University of Liverpool, Liverpool John Moores University, University of Lancaster and University of Central Lancashire. Two to three times a year one of the Universities invites a world-leading expert to speak about their research. Staff and research students from all participating universities are invited to attend (http://www.hope.ac.uk/merseyluneseminar/). Distinguished speakers were Prof. Ehtibar Dzhafarov (USA), Prof. Bruce Bridgeman (USA), Prof. Biagio Pinna (Italy, Spain), Dr. Helen Ross (Sterling), Prof. Charles Spence (Oxford), Prof. Cees van Leeuwen (Belgium) and Prof. Anya Hurlbert (Newcastle).

The research groups also organise workshops and events related to their research topics at Liverpool Hope University or in form of symposia at international conferences. For example, in 2008 the Cognitive Psychology group and Department of Sports organised a workshop on Functional, Algorithmic and Implementational Aspects of Motor Control and Learning. The workshop brought together leading experts in the field from the UK, Ireland, the Netherlands and Germany. Further, in 2010 Galina Paramei organised a meeting of the Applied Vision Association (UK). In 2012 the Sport Psychologists organised a meeting of the international group for Research in Imagery and Observation at Liverpool Hope University. The meeting included speakers from the UK, Ireland, USA, Belgium, and the Netherlands. Also in 2012, Galina Paramei was invited to organise and led a symposium on Visual Perception at the 30th International Congress of Psychology in Cape Town (South Africa).

To disseminate research to a broader audience, Minna Lyons organised two events in the framework of the ESRC Festival of Social Science. The first event took place in 2009. The one-day interdisciplinary conference was entitled "Biology of Teenage Behaviour" and targeted academics, service providers, students and parents, with the aim of gaining a fuller understanding of adolescent behaviour. The second event, entitled "Using social sciences to tackle the toxicity of urban life" took place on 8th of November 2013. This interdisciplinary conference included speakers from psychology, health, geography and anthropology, and was open for the wider public. Similarly, in 2008 Galina Paramei was co-organiser (together with Sophie Wuerger from the University of Liverpool) of the theme session "Vision & Art" that took place in Liverpool (European Capital of Culture in 2008) as part of the British Festival of Science.

The Psychology Department has developed a strong record of research outputs within the assessment period. The current staff members (not including the Professorial Fellow) published from 2008 until now in total 132 peer-reviewed journal papers or book chapters. The number of published papers increased every year. Whereas in 2008 there were 15 publications, in 2012 the number increased to 27, and in 2013 by end of October 38 papers were already published. Research has also been presented at national and international conferences such as the Annual Meeting of the BPS, the ESCOP Meetings, the Annual Conferences of the Society for the Study of Artificial Intelligence and Simulation of Behaviour, the Annual Scientific Meetings of the International Society for Political Psychology, the Conference of the European Human Behaviour and Evolution Society, the Progress in Colour Studies Conference, the Annual Conference of the Association of Moral Education, the European Conference on Visual Perception, the International Congress of Psychology and many others. Overall members of the Psychology Department gave 149 conference presentations within the assessment period. Moreover, 57 invitations to members of the Department to present their research at other institutions indicate the recognition of our research by the national and international research community.

c. People, including:

i. Staffing strategy and staff development

As a result of the review of the Psychology Department in 2010, the University made strategic decisions about the staffing structure of the Department and the desired qualification and expertise of staff. It was decided to build up four research groups to support research-informed teaching in

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the main areas of the BPS curriculum. These research areas are Biological Psychology, Cognitive Psychology, Developmental Psychology and Social Psychology. Furthermore, linked to the provision of a degree in Sport Psychology, research in Sport Psychology should be supported by appropriate staffing. Each research group should have four to five members and should be led by a professor or associate professor. The staffing strategy has been determined by this structure. All newly appointed members of staff hold a PhD and have strong research records in one of the desired research areas. Up to now the Biological Psychology group, the Cognitive Psychology and the Social and Applied Psychology group have been established. The Department includes at present 15.4 FTEs. A first step to establish a Developmental Psychology group has been made with the appointment of Davide Bruno, who has expertise in cognitive ageing and dementia research. This will be followed up in the future. All together six new members of staff were appointed in the assessment period: two in Sport Psychology and four in Biological/Cognitive Psychology. Two of the new colleagues first received a contract as Teaching Fellows for one year; after they had successfully demonstrated their research and teaching skills during this time, their positions were converted into permanent lecturer positions.

All positions in the Department are Lecturer, Senior Lecturer, Associate Professor and Professor positions. None of the positions is dedicated solely to research. Staff shares teaching and administrative duties equally. The Department aims to keep about 1/3 of the annual working time for each member of staff available for research activities. Research work of staff is supported in many ways. This includes integration of all staff into research groups, collaboration between colleagues and financial support of research, scholarly activities and staff development. The University offers considerable funding for conference attendances provided that the research has the potential to contribute to the REF submission. Thus, the majority of the 149 conference attendances with presentations presentations were fully funded by the University. Staff development is supported by Departmental. Faculty and University funds. Examples are courses for Structural Equation Modelling, MatLab and for Qualitative Research Methods for which fees, travel costs and accommodation were paid. In addition, the University sponsors in-house conferences seminars (e.g., international workshop Functional, Algorithmic and and Implementational Aspects of Motor Control and Learning in May 2008; Symposium on Dementia and Technology in July 2014).

In 2012 the University appointed Joachim Hoffmann as Professorial Fellow in Cognitive Psychology (0.2 FTE). Joachim Hoffmann is an internationally recognised retired professor from the University of Würzburg. The position was created to boost research in cognitive psychology by supporting junior researchers and to contribute to the development of a coherent and rigorous research programme. The role includes regular discussions with junior researchers, advice on their research projects and review of manuscripts to improve their academic quality and increase publication rate.

ii. Research students

During the assessment period three research students supervised by Neil Ferguson completed their PhDs. One student, supervised by Galina Paramei and Hissam Tawfik (Computer Science), finished their postgraduate research studies with an MPhil. The Department has currently seven post-graudate research students. One of them has just submitted his Intention-to-submit form. It is expected that he will complete the PhD in 2013. All current research students are registered for PhD studies in part-time mode and fund themselves. The Department is aware that part-time study slows down the research process. The funding situation has forced students repeatedly to take a break. It is therefore our aim to obtain funding for PhD students (externally or internally) in future so that students can study full time without the need to earn money for fees and living.

The PhD students are part of the research groups in the Department. Five of the seven students belong to the Social and Applied Psychology group, two to the Biological Psychology group. PhD students took part in the three-day research retreat of the Social and Applied Psychology group in September 2013 and reported about their projects. The integration of research students into research groups and the availability of office space in the Department provide the opportunity to the students to meet with each other and to discuss their projects.

The research students take part in the University wide Research Skills Training programme based on based the Research Council endorsed *Vitae* programme of competencies. In 2012/13 the programme included 24 sessions covering information about the PhD process, literature search, referencing, data collection and statistical analysis, presentation of results, preparation of

Environment template (REF5)



manuscripts for publications, research funding and writing of funding applications etc. The university also subscribes to the Research Skills Online training suite. In parallel to the students' training programme the University also offers a training programme for supervisors which includes topics such as the role of the supervisor in the PhD process and the University regulations for postgraduate research degrees. At Faculty level, PhD students get the opportunity to attend the Research Methods and Data Analysis modules of the MSc Research Methods programme offered by the Department of Psychology. The modules make students familiar with quantitative and qualitative methods and the use of SPSS for the advanced analysis of quantitative data. One of the registered for the PhD. As part of the academic development of the PhD students, the Department offers opportunities for hourly paid teaching to PhD students. Teaching experience adds to their academic qualification and increases employability after the degree.

In summary, the Department integrates research students as much as possible in the work of the research groups and offers opportunities to obtain teaching experience. Since all research students study in part-time mode their presence and availability is limited however. To further improve the situation it will be necessary to obtain funding for studentships. Funding will also be necessary to attract more PhD students for the Cognitive and Biological Psychology groups. Self-funded students are more interested in applied research that might support the career beyond academia.

c. Income, infrastructure and facilities

Over the period from 2008 to today the University spent a total of about £68,000 on the improvement of the research infrastructure and facilities available for Psychology. A major achievement was the creation of purpose-build lab space for experimental research. The following labs are now available:

- Cognitive lab: The lab includes six booths available for computer based experiments. The computers are equipped with E-prime 2 Professional. Using a network licence (purchased in 2013 £12,800) E-prime is available for programming on all office computers for staff and in computer lab rooms for students.
- Colour Vision lab: The lab has been build up with modern equipment for measuring colour sensitivity including ViSaGe (Cambridge Research Systems Ltd.) with the Cambridge Colour Test (CCT) (ca. £15,000); the Colour Assessment and Diagnosis (CAD) test (developed at the City University London, £4,910) and the Heidelberger Multi-Colour Anomaloscope (Oculus, £5,800).
- *EEG lab:* The lab houses a 64-channal EEG system with active electrodes (BioSemi) (bought in 2008 £29,000). Licences for MatLab and for the BESA software (bought in 2012 £11,260) for the analysis of EEG data are available.
- *Eye-tracker lab:* The Department purchased the EyeLink 1000/2000 system (SR Research) in 2007. Whereas the equipment was first based in the Cognitive Lab it has recently been moved into a separate room. In 2012 the system was upgraded by a new computer with higher processor performance and a new screen with faster response rate (£1,800). This allows changing the display during the execution of a saccade.
- Cognition and Emotion lab: The lab is equipped with the FlexComp Infiniti system (Bio-Medical Instruments Inc.) (bought in 2012 £4,100). The system records a set of physiological parameters such as Electroencephalogram, electromyogram, electrocardiogram, blood volume pulse, respiration, temperature, skin conductance response and others.
- Observation lab: The Observation lab was moved from its previous place to new rooms adjacent to the office space of the Department in January 2013. The lab consists of two rooms: the observation room itself and the monitor room which houses the recording equipment. The relocation of the lab included a refurbishment and upgrade of the equipment.

In addition to the labs, a range of psychological tests and questionnaires is available for research. Recently purchased test materials include, for example, the Dyslexia Adult Screening Test, the Dyslexia Early Screening Test, the Brown ADD scales, the Gillian Aspergers Disorder Scale and the Wechsler PreSchool and Primary Scale of Intelligence (Test battery purchased in 2012 - \pounds 3,060).

All research facilities and test materials are available for research of staff, research students and

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students in the taught undergraduate and postgraduate programmes. Recruitment of participants is supported by a research participation scheme in the undergraduate programme. First year students get course credit for participating in experiments. Signing in to experiments and the administration of student's research participation is managed using the SONA software system.

Research is supported by two Psychology Technicians with experience in programming with Eprime, knowledge of the EyeLink and the ViSaGe system.

The University further supported the research in the Department by direct funding of projects. In the HEIF framework Galina Paramei and Hissam Tawfik (Computer Science) received between 2008 and 2010 £51,000 for research on an E-voting Affective Interface. Philippe Chassy was supported in the same framework by £10,000 to conduct a pilot study on the psychological evaluation of websites in spring 2013. Moreover, between 2010 and 2013 Galina Paramei had a University grant of £12,500 for a project on chromatic discrimination across the lifespan.

During the assessment period staff from the Department has applied for a number of grants or was involved in grant applications for collaborative projects submitted by other HE institutions.

The following grant applications were successful:

Lorna Bourke and Simon Davies received in 2010 £7,410 from the British Academy for a project investigating how visuo-spatial memory capabilities support emergent writing skills in young children. Minna Lyons attracted £7,500 from the Richard Benjamin Trust for her research on local communities in 2013. As a former fellow, Galina Paramei received three travel grants from the Alexander von Humboldt Foundation of in total ca. £2,400 to attend international conferences in Germany.

d. Collaboration or contribution to the discipline or research base

Members of the Department have a broad range of collaborations with national and international institutions. The collaborations have been established over a number of years and led to publications included in this REF submission. For example, Galina Paramei collaborates with colleagues from Germany, New Zealand, Brazil and University of Liverpool. Minna Lyons built up and developed collaborations with research groups in Finland in the framework of the ERASMUS programme. She is also involved in collaborative research projects with the University of Liverpool. Davide Bruno works with colleagues at the Universities of Manchester, Gothenburg and Keele, with whom he is co-applicant of a recent MRC grant application, and colleagues at New York University. Michael Ziessler works together with researchers from Humboldt University Berlin and Lancaster University. Lorna Bourke collaborates with a colleague at Oxford Brooks University. Other examples could be added.

Fourteen members of the Department have been involved in the peer-review process of manuscripts and grant applications. Peer-reviews have been provided for JEP: General, JEP: LMC, JEP: HPP, Quarterly Journal of Experimental Psychology, Psychological Research, Psychonomic Bulletin and Review, Memory, Memory & Cognition, Dementia and Geriatric Cognitive Disorders, Acta Psychologica, Cognitive Psychology, Consciousness and Cognition, Psychology and Neuroscience, Journal of the Optical Society of America A, Vision Research, Visual Neuroscience, Journal of Moral Education, Political Psychology, Journal of Peace Research, Journal of Personality and Social Psychology, Journal of Evolutionary Psychology, Journal of Individual Differences, Psychology of Learning and Teaching, Journal of Qualitative Research in Sport Studies, International Journal of Workplace Health Management, and others. Grant applications were reviewed for ESRC, BBSRC, MRC, British Academy, AHRC, Irish Research Council for Humanities and Social Sciences, Social Sciences and Humanities Research Council of Canada, National Science Foundation (USA) and the German-Israeli Foundation for Scientific Research and Development.

Three members of the Department have been acting as members of editorial boards during the assessment period: Neil Ferguson was a member of the Editorial Board of the Irish Journal of Psychology from 2007 to 2010. He is still member of the Editorial Boards of the Journal of Moral Education (since 2005) and the Journal of Social and Political Psychology (since 2012). Galina Paramei is member of the Editorial Board of Psychology and Neuroscience (since 2008). She was co-editor of a special issue of i-perception on eye-movements in 2010. Currently she is Guest Editor of the Research Topic "Colour and Form" for Frontiers in Psychology. Philippe Chassy is Guest Editor of a Research Topic for Frontiers in Human Neuroscience.