

Institution: Liverpool Hope University

Unit of Assessment: Psychology

a. Context

Research in the Psychology Department has been considerably reshaped during the assessment period. There are three research groups: the Biological Psychology group, the Cognitive Psychology group and the Social and Applied Psychology group. In addition, research in Sport Psychology is performed in a cross-departmental group. In comparison to the research in social and applied psychology, which has a longer tradition at Liverpool Hope, the research in biological, cognitive and sport psychology has seen a major development over the assessment period. Depending on the nature of the research, the groups have different approaches to the impact of their research. Social and applied research often emerges directly from real case scenarios and is developed in interaction with beneficiaries. Research in biological and cognitive psychology is mainly basic research to further the theoretical understanding of psychological processes. Nevertheless, in addition to the academic impact this research has also the potential to lead to different forms of impact beyond academia.

A strong research topic in the Social and Applied Psychology group is research on the psychology of terrorism and politically motivated violence (Neil Ferguson, Eve Binks). Originally, this research focussed on the Northern Ireland conflict; later the line of enquiry has been extended to other forms of politically motivated violence. It explores the processes and reasons why people engage or disengage in political violence and investigates ways for peace building and reconciliation. The research has stimulated policy debates and informed policy decisions of various branches of the UK government, UK and overseas military services, police and security services, NATO and a number of faith and NGO groups.

Members of the Social and Applied Psychology group and the Sport Psychology group were recently involved in a collaborative research project funded by the PCT for Blackburn with Darwen (Sal Watt, Jane McCagh). The project aimed to develop a vascular health check programme including measures for prevention of vascular diseases. Using knowledge gained by research in sport and exercise psychology, the results of the project will contribute to the improvement of public health and well-being.

Contribution to the improvement of public health and well-being is also one of the aims of the colour vision study (Galina Paramei). Using the Cambridge Colour Test (Cambridge Research Systems Ltd.) the study led to normative data for healthy observers with normal colour vision of eight life decades (10 to 88 years old). The normative data enable broader applications of the Cambridge Colour Test; in particular it becomes possible to use the test for colour vision diagnostics in clinical populations (glaucoma, diabetes) and for elderly observers. A reference to the normative data is published on the website of the Cambridge Colour Test (<http://www.crsLtd.com/tools-for-vision-science/measuring-visual-functions/cambridge-colour-test/>).

Beneficiaries will be, alongside the improved service for the individual, the NHS via the availability of new or improved methods for diagnostics and the company Cambridge Research Systems Ltd. for which the extended applicability of the test will potentially increase the commercial success.

A more recent development in the Department emerges from the establishment of research on dementia and cognitive ageing. OCEAN (Optimal Cognitive and Emotional Ageing Network) is a project initiated and coordinated by Davide Bruno. The project tackles emerging issues relating to neurodegenerative disorders, such as Alzheimer disease and other types of dementia, and has a special focus on early diagnosis, prevention and care. As part of the activities, a partnership with Vintage Blacon, a faith based charity in Cheshire, has been developed (<http://www.vintageblacon.org>). The partnership will lead to direct benefits for the local community, e.g. improvement of the public understanding of cognitive ageing and dementia, feedback on individual memory performance, advice for carers of people with dementia and many others. In the long term, OCEAN aims to become the research branch of a university-wide Dementia Centre of Excellence that is currently being planned for construction in the city of Liverpool. Furthermore, OCEAN and Memory Matters (<http://www.rmd-memorymatters.org>), a provider for interventions, training, support and companionship for dementia patients and their carers across the North West, have been planning a future partnership to develop community-based projects in Liverpool.

In the Cognitive Psychology group, research on chess (Philippe Chassy) has already led to practical applications. The project investigated the development of domain specific expertise in chess playing. Findings from this research have been used, in collaboration with an International

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Grandmaster, to develop a training programme for chess players. This programme, which is essentially a method to support solving complex problems by combining pattern recognition and activation of domain-specific representations, is now being used by the in the French Chess Federation.

An example for basic research with high potential for impact on education is the research on the acquisition of reading and writing skills in early childhood (Lorna Bourke, Simon Davies). Research on the role of the visual working memory in the development of early writing skills has recently been supported by a British Academy grant. It can be expected that the outcomes of this research will help to improve current training programmes and will enhance skill acquisition.

b. Approach to impact

The context described above shows that there is a broad variety of approaches to impact in the Department. Part of the research was designed from the beginning to lead to impact on the society (e.g. psychology of terrorism, development of domain-specific expertise in chess); other research was designed as basic research, but also led to societal impact.

In research on the psychology of terrorism and politically motivated violence, dissemination of the research to the non-academic user groups and beneficiaries, the stimulation of policy debates and the information of policy decisions were part of the research process. Research on peace and conflict is embedded in the University's interdisciplinary Archbishop Desmond Tutu Centre for War and Peace Studies. Within this framework the University has supported Neil Ferguson's research on psychology of terrorism and politically motivated violence. Financial support was provided for traveling, including traveling to not only academic conferences and meetings, but also to those organised by the beneficiaries. This includes talks at the UK Defence Academy, at NATO workshops, at the Inter University Seminar on Armed Forces and Society, and meetings with NGOs. Financial support for the research was also granted by the British Academy (research assistants, travel grants) and charitable trusts (bursaries for PhD students) in 2006 and 2007. The close interaction between the research team and non-academic users fed back to development of the research, so that the research which originally focussed on the Northern Ireland conflict became generalised to other conflicts, increasing its significance and reach. Similarly, also the research on the development of domain-specific expertise in chess was characterised by direct interaction of the researcher (Philippe Chassy) and the beneficiaries: see case studies for further details.

A close interaction between researchers and beneficiaries is also sought for the emerging research project on cognitive ageing and dementia. The interaction will support the identification of areas of research and intervention that are mutually beneficial. It will not only shape the basic research to improve our understanding of normal and pathological cognitive ageing processes, but will also enhance our ability to provide impact in terms of support for both patients and carers. Therefore, the strategic decision has been taken during the assessment period to establish the relationships with carer groups and beneficiaries at the beginning of the research process. The partnership with Vintage Blacon is only one source of interaction. Other examples are the contribution to the planning process for the Liverpool Dementia Centre of Excellence, contacts with the Centre for Collaborative Innovation in Dementia at Liverpool John Moores University (<http://ljamu.ac.uk/CCID>), with Person Shaped Support (PSS) Liverpool (<http://www.psspeople.com>), with Liverpool Vision-backed businesses (<http://digitalcredis.co.uk/>) as well as local NHS representatives. The Dementia Centre of Excellence will coordinate and facilitate these contacts. It is expected that the centre will generate impact of high significance and reach by providing access to information on dementia and to newly developed technology and aids, by creating a place where stakeholders can talk to experts, and by giving concerned individuals the opportunity to engage in free dementia screening. Compared to the research areas described above, a different approach was taken for projects on colour vision and the acquisition of writing skills. In both areas the main focus was and still is on basic research. It was the primary goal to improve the understanding of the phenomena under investigation. But, as an additional effect, the investigation of age related changes of colour discrimination allowed the generation of normative data for a broad age range. To make the normative data available for diagnosis, Galina Paramei contacted the author of the Cambridge Colour Test, Prof John Mollon, and the Managing Director of Cambridge Research Systems Ltd., Mr Steven Elliot. As reported above, the reference to the normative data was included in the website of the Cambridge Colour Test; a forthcoming updated version of the test manual will also include the reference.

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The research on the role of the visual working memory in the acquisition of writing skills has led to a first academic publication revealing the contribution of the visual-spatial working memory for the coding of visual representations of symbolic stimuli and its importance for the development of writing. Further research will be necessary before any firm conclusions about practical applications can be made. The aim of the project will be to improve the instructions in school and to overcome the difficulties some children have reaching prescribed standards.

Another approach to impact consisted in the application for research contracts offered by small business companies in the North West. This form of knowledge transfer was financially supported by the former North West Development Agency via a voucher system. The former Parapsychology Group in the Department (Carl Williams, Diane Dutton) produced within this framework a report on energetic healing which applied their research on oriental medicine to the particular question asked by the company (www.alterity.co.uk).

Finally, impact consisted in dissemination of research outcomes to a public audience with the aim to improve the public understanding and to generate public debate. A good tool for that are public events, such as the ESRC Festival of Science or the British Festival of Science. Members of the Psychology Department have organised or co-organised three such events: 2008 - "Vision & Art" as part of the British Festival of Science (Galina Paramei), 2009 - one-day interdisciplinary conference "Biology of Teenage Behaviour" (Minna Lyons), 2013 - "Using social sciences to tackle the toxicity of urban life" (Minna Lyons) in the ESRC Festival of Science framework. The conferences were open to the public.

c. Strategy and plans

The Department understands that a variety of approaches to achieving tangible impact are appropriate and suitable for the different research undertaken by its research groups, according to whether it is basic, applied or practice-based research.

For applied research the strategy will continue to involve stakeholders and beneficiaries as early as possible in the research process so that the priorities of the research can be determined by both academic and practical interests. The development of networks and partnerships with different stakeholders and beneficiaries as described above for the project on Cognitive Ageing and Dementia or for the Psychology of Terrorism project is an example of this strategy.

Basic research will continue to be conducted towards improving the knowledge base and developing the theoretical explanation of psychological phenomena. However, the potential impact of this research will be of high importance for internal funding and resource allocation. A long-term strategic goal consists in the development of a large-scale research project on Cognitive Ageing to which all research groups will make significant contributions. The topic is of high societal relevance and impact will have the potential for high reach, nationally and internationally. The inclusion of impact into the research strategy increases the opportunities to apply for external funding. In particular funding opportunities offered by charity trusts or by the EU will become applicable to the research projects. It is important to note that health and well-being and the demographic change are central themes of the current 7th Framework Programme and the forthcoming new programme Horizon 2020.

This strategy will be complemented by application for HEIF funding. This strategy will be applied to research areas in which results with potential impact are already available, but for which further steps are necessary to implement the outcomes and conclusions in practical applications. A first step in this direction was a pilot project funded by HEIF investigating the use of attentional and emotional parameters for the evaluation of the user friendliness of websites (spring 2013). The further development of this project aims to create practical tools and programmes for the evaluation of websites and to offer consultation to external companies.

d. Relationship to case studies

The selected case studies of impact beyond academia are representative of two main research strands in the Department; social and applied psychological research and cognitive psychological research. Both cases used an approach in which a close relationship between researchers and stakeholders was developed from the outset of the research. Regardless of whether the achievement of impact was one of the objectives of the research or not, the interaction of researchers and stakeholders has shaped the research questions and led to societal consequences and innovative methods. In this aspect both case studies exemplify the strategy that the Department will adapt also in its future research.