

<p>Institution: Queen's University Belfast</p> <p>Unit of Assessment: 4</p> <p>a. Overview During the REF period, the School of Psychology has engaged in extensive strategic re-structuring and staff recruitment to substantially strengthen our research profile, with over half of our returned staff being appointed since 2008. We are now comprised of four research groups based on broad themes: Identities, Groups, and Social Change; Perception, Action, and Communication; Behavioural Development, Health, and Welfare; and Cognition, Development, and Education. The activities of each group are overseen by a University-appointed Director of Research, a senior academic who acts as the line-manager for staff in their group. The group structure enables management and strategic planning of research activities within the School, and groups act as a focus for cross-disciplinary and inter-institutional research collaborations, particularly in response to initiatives both from within the university and nationally/internationally. Research groups meet regularly and Directors of Research provide hands-on mentoring and support for junior staff (e.g. assistance with grant-writing).</p> <p>b. Research strategy Implementation of our overall strategy is supported by a very active Research Committee which meets monthly and leads a wide variety of initiatives to support research activities (e.g. grant writing workshops, improving research dissemination, maximising research impact etc.). Excellent financial support from the University has facilitated the development of new state of the art laboratory facilities, funded strategic PhD studentships, and created new academic posts. Our overall approach to building our research profile during the REF period has been guided by the following overarching principles:</p> <p>(i) <u>Selective development of research areas which are internationally distinctive</u>. A series of strong strategic appointments has not only allowed us to build on existing strengths but has helped the development of very distinctive research teams with complementary expertise. We have now developed critical mass in a set of key areas, which allows us to compete at an international level in terms of research excellence.</p> <p>(ii) <u>Encouraging and supporting interdisciplinary research</u>. Productive collaborations between staff members and other academics (both in Queen's, nationally, and internationally) from a wide range of disciplines (engineering, biology, computer science, health sciences, dentistry, medicine, philosophy, and education), make interdisciplinary research a real strength. All of these examples have been supported through joint funding and PhD student supervision across disciplines.</p> <p>(iii) <u>Maximising the impact and real-world application of our research findings</u>. Developing and nurturing fruitful collaborations with non-academic partners from the commercial world, NGOs, and the public sector (see Section E) have been critical in supporting sustainable research that requires access to specialist populations. Through the investment of time and resources, staff have built strong links with key organisations and potential user groups (e.g. National Autistic Society, Oesophageal Patients' Association) and also set up a panel where users of mental health services are consulted. Such connections also ensure that potential beneficiaries of research are involved in projects from the outset.</p> <p>These principles have also facilitated the achievement of the following specific goals described in our RAE2008 submission:</p> <p>(i) Develop a strong research group in motor control and perception, and create new laboratory facilities to develop interventions to improve movement performance (e.g. stroke, Parkinson's, sport).</p> <p>(i) Progress a set of large-scale longitudinal developmental studies.</p> <p>(ii) Develop a research centre in social and political psychology.</p> <p>Below we will describe how the specific achievements of each research group have been guided by our three overarching principles (international distinctiveness, interdisciplinarity and impact). Names of new appointees to each of the research groups during the REF cycle are underlined; future plans, which further operationalise these principles, are also described for each group.</p> <p><u>Perception, Action and Communication</u></p> <p>This is a growing area of research within the School that not only encompasses the perceptual control of movement but also brings in non-verbal communication to include the signalling of emotion through movement. Over the REF period this group has greatly strengthened its research profile in terms of interdisciplinary importance and potential for real-world impact.</p> <p>Achievement and developments: In line with our 2008 goal, research on perception and motor</p>
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control has rapidly expanded to include research into perceptual processes (Curran), interceptive action (Dessing, Craig), motor performance (Craig, Rodger), rehabilitation (Carson, Craig) and the neural plasticity of the motor system (Doumas, Carson), with three new posts in these areas. This expansion has been complemented by successful ERC (€860k, TEMPUS_G Craig) and BBSRC (£760k Carson) funding applications. In addition, University funds (CRIF - Craig) have facilitated the development of state of the art research labs for studying perception and movement at both the behavioural and neural level, including the new Movement Innovation Lab (developed by Craig) that sits within the university's sports facilities (see Section D). The second area of research within this group focuses on how emotion is expressed through movement, with an emphasis on signalling and communication processes (Curran) and the measurement and modelling of emotion (Sneddon and Cowie). This research is distinctive in its interdisciplinary focus insofar as it specialises in emotion in human-computer interaction. This research is conducted within the auspices of the HUMAINE centre (led by Cowie) which has received extensive funding through a series of EC Framework project grants. The databases and techniques developed in the School are novel and ground-breaking and have proved to be valuable resources for both researchers and the computing industry world-wide (see **Connecting Emotionally with Computers Impact Case Study**).

Future Plans. International distinctiveness: The expertise of our researchers along with our superb facilities mean that it is a realistic ambition for this group to become a world-leading centre in movement research with a distinctive focus on developing movement interventions in both sport and health related contexts. **Interdisciplinarity:** The HUMAINE centre will be at the forefront internationally in establishing the area of affective computing as an interdisciplinary area richly informed by psychology. **Impact:** We will develop and apply novel movement enhancement programmes (including balance) for elite athletes, older adults, and people suffering from movement related disorders. Recent funding from associated charities (Chest, Heart & Stroke NI; Centre for Ageing Research and Development in Ireland; Parkinson's UK) will allow researchers to continue to test their innovative movement interventions.

Behavioural Development, Health and Welfare

The group undertakes fundamental and applied research (on humans and animals) exploring how early influences impact on subsequent behaviour, and where adverse welfare and mental health exist, treatment, pathways and interventions to improve wellbeing. Research has led to a greater understanding of factors that influence behavioural development and the development and delivery of effective interventions to improve health and welfare in animals and humans.

Achievements and developments: A major project (Hepper: DHSS&PS;NIAAA-NIH) on fetal development and postnatal outcome was completed, revealing the impact of prenatal alcohol exposure on fetal brain functioning which will inform the practices of health professionals and advice during pregnancy. The long-established Animal Behaviour Centre continued its tradition of influential research (Wells, Hepper) on both fundamental aspects of animal behaviour, laterality, great ape olfaction and perinatal learning, and, through collaborations with international organisations involved with animals (e.g., zoos, rescue organisations, Diabetes UK) has very successfully translated its research into practice, e.g. reducing stress in Zoo animals (see **Improving Wellbeing of Captive Animals Case Study**). Successful industrial collaborations have led to, for example: the development of new pet foods (Wells, Devenish); and, through the use of novel animal models, initial trials of new drug treatments for neurodegenerative disorders (O'Hare, Senexis Ltd). Research on psychosis and trauma has expanded through recent appointments and focused on how early trauma effects brain development and cognitive functioning in psychosis (Shannon, Rushe, Barrett, Hanna) and has led to the development of interventions that alleviate the symptoms of conflict related trauma in former child soldiers of the DRC (Congo) (Shannon). Cancer charities have supported research exploring the psychological distress of receiving a cancer diagnosis which has led to the implementation of novel psychological interventions for these patients (Dempster).

Future Plans. International distinctiveness: A newly awarded BBSRC grant (Wells/Hepper) under the Measures of Animal Welfare initiative, to be undertaken in a new purpose-built facility for companion animals, will develop new methods for assessing animal welfare. Research will expand to include healthy ageing and create a unique forum to assess mental health from the prenatal period to old age. **Interdisciplinarity:** The group are leading the development of a new university based multidisciplinary Centre for Mental Health and Wellbeing (with Nursing, Medicine, and Social

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Work) which will focus on research to improve mental health in high-risk groups, and the rapid translation of successful interventions into practice. **Impact:** Research with the potential for beneficial impact will continue, for example: using dogs to detect acute episodes of adverse health, e.g. epilepsy, hypoglycaemia; and, developing further interventions for trauma and psychological distress.

Cognition, Development, and Education

The group conducts research on higher-level cognition and its development in both typical and atypical populations. Its applied research, which has influenced the educational curriculum and resulted in novel educational interventions, is complemented by influential basic research on fundamental aspects of cognition such as reasoning and temporal/causal cognition.

Achievements and developments: A capacity-building post on longitudinal developmental research was funded by Atlantic Philanthropies and two large-scale educational intervention studies (funded by the Northern Ireland Curriculum Council and Early Years NI) were completed and are now significantly influencing early years policy and practice in Northern Ireland (**see Children Learning to Think Case Study**). Separately, a movement intervention programme for children with a range of developmental disorders has been devised by McPhillips and is now being rolled out across hundreds of primary schools nationally and internationally. Our well-established record of conducting research with educational significance has been strengthened by two new appointments in the area of cognitive developmental disorders (**Fosker; Morsanyi**). More basic research on cognition (**Wylie**) has also been reinforced by two appointments in the area of thinking and reasoning, including one at SL level (**Feeney, Rolison**). Research on cognitive development has been supported by two inter-institutional ESRC-funded projects on causal cognition (**McCormack**), with two interdisciplinary volumes on causation emerging from an AHRC-funded project also co-directed by McCormack. Her interdisciplinary work with philosophers has also helped shape cross-disciplinary dialogue on topics such as time and causation.

Future Plans: International distinctiveness: The group will further build on its reputation as a centre of excellence for higher-level cognition and its development. A new ESRC project, in collaboration with Birmingham and Oxford, will result in the first comparative research on decision-making with children and brain damaged adults. This will be complemented by a new project co-funded by Grant Thornton examining regret and debt. **Interdisciplinarity:** New collaborations will be initiated with health sciences (on decision-making) and philosophy (on regret); seed funding has already been secured by strategic investment studentships. We will also set up a new interdisciplinary group across the university on children as decision-makers and develop an innovative large funding bid in this area. **Impact:** Additional appointments in the area of atypical development combined with the expertise of staff on the professional Educational Psychology doctorate programme will place this group in a unique position to inform evidence based policy-making in Ireland (both North and South) and further afield.

Identities, Groups, and Social Change

Social psychology at Queen's has historically engaged with Northern Ireland's political context to produce original and influential research on social identities and intergroup conflict. The current political landscape of post-conflict Northern Ireland continues to be a rich environment for the study of intergroup relations.

Achievements and developments: In 2009, a new research group conducting research on political psychology was established. The team capitalises on the School's research legacy, unique location and long-established research links with organisations within the region. Five linked posts have been established in this area, including a new Chair (**Turner**). The team now has an unrivalled array of methodological and theoretical expertise in political psychology spanning both qualitative and quantitative methods. The team's research has addressed fundamental and applied issues that are the current focus of intense interest amongst policy-makers both within Northern Ireland and across the world: these include extremism (**Gheorghiu, Pehrson, Stevenson**), interventions to reduce prejudice such as intergroup contact (**Turner**), post-conflict citizenship (**Gheorghiu, Pehrson, Stevenson**), and multiculturalism (**Turner**). The group has attracted funding from the European Union for a large international multidisciplinary project on citizenship as well as funding from national (British Council, DelPHI-Iraq Programme) and local (Northern Ireland Commission for Victims and their Carers; Office of the First and Deputy First Minister) sources for research in the area of intergroup relations. A political psychology conference in 2010 attracted

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considerable international and media attention that placed Queen's firmly on the map of international political psychology.

Future Plans: International distinctiveness: A new Centre for Identity and Intergroup Relations (CIIR) will be launched, with the goal of making Queen's a high profile international centre for research on these topics. CIIR is developing a unique international advisory panel which will include academics from centres of excellence in social and political psychology and policy makers and practitioners. In addition to advising on international funding bids, the advisory panel will contribute to the promotion and organisation of *CIIR 2015: Communities, Contact, and Cooperation*, our inaugural international conference. **Interdisciplinarity:** We will continue to be actively involved in the new interdisciplinary Queen's Institute for the Study of Conflict Transformation and Social Justice, which brings together world-leading experts in the area of conflict. **Impact:** We will also work closely with QPOL, a network set up at Queen's as a forum for engagement between government, policy-makers, and Queen's academics, particularly with regard to our work on peace initiatives.

c. People

(i) Staffing strategy. During this REF period the University has had an active policy of making voluntary redundancy attractive to staff whose interests lay outside core research areas. This was followed by selective and strategic new investment. This policy has resulted in a large turnover of staff, with 53% of returned staff (n=13) being appointed since 2008. By conducting a systematic overview of the School's existing areas of research strength, key areas were identified where distinctive, yet strong, research groups could be developed (see new appointments in previous section). Consideration was also given to potential for interdisciplinary research with high impact. A new set of four Masters courses closely aligned with the research groups were developed to ensure that appointments in those areas were sustainable. A by-product of this has been that these courses have acted as feeders to our PGR programmes, resulting in better trained PhD students. High quality appointments were made in our selected areas and, when new leadership was necessary, appointments were made at senior level (Turner, Chair to lead Identities, Groups and Social Change).

(ii) Staff development: lecturing staff. Newly-appointed junior staff have a three-year probationary period during which they carry no more than 2/3 of a normal teaching load, and are not asked to take on any substantial administrative roles. Extensive training is provided centrally, and additional development needs are identified on appointment and through appraisal. All new staff are awarded start-up funds from the University, and prioritised by the School as co-supervisors for funded PhD studentships. A senior staff member acts as their mentor, and is tasked with ensuring that the research environment is supportive, guiding them towards confirmation in post. They also meet regularly with a probationary committee which provides formal feedback, highlighting strengths and areas for improvement, leading to agreed action plans. Staff at all levels receive guidance and support from the Director of Research leading their group, particularly with regard to assistance with grant applications, developing publication profiles, and, when appropriate, preparing applications for promotion. Directors of Research also carry out the appraisal process, which provides a formal channel for support, guidance and encouragement.

(iii) Staff development: PDRAs. Provisions for PDRAs were radically updated to comply with the Concordat during the REF period. A senior member of staff was appointed as Postdoctoral Advisor, and is tasked to support and advise research staff. The PDRA Advisor meets with research staff regularly and represents their interests at management meetings. PDRAs are included in the appraisal process, focusing on their duties within the project. In addition, they have annual meetings with the Postdoctoral Advisor to discuss the development of their CVs. PIs are expected to ensure that their publication profiles develop appropriately. A formal policy ensures that they can obtain appropriate teaching experience. It guarantees suitable training, supervision by a member of staff, limited loads, experience of marking their own teaching, and membership of the Board of Examiners. A PDRA committee meets regularly, and all PDRAs are full members of our School Board alongside academic staff.

(iv) Research students. Doctoral research plays a substantial part in the School's research activity. Over the REF period, we have admitted on average 10 FTEs per annum. Their research is systematically aligned with our areas of research strength, and a strong training element is built in. Our intake is distinctive because RCUK studentships are not allocated to Northern Ireland in the usual way. About half of our students have been funded by 3-year awards from the Department of

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Employment and Learning (DEL). Some of these studentships we can allocate freely, and others are linked to DEL's Programme for Government scheme to fund postgraduate research in areas of economic relevance. In addition, we have funded studentships through European grants, industrial partners (Microsoft), self-funding, and through a variety of arrangements for funding non-EU students. As a result, a substantial proportion of our intake is international.

We have a systematic approach to training based on the fact that the same core of research training is provided to all postgraduate students (i.e. taught MScs and PGRs) in their first year. PGR students take three core modules, in research design and professional skills, in quantitative methods and in qualitative methods. The qualitative methods module can be substituted with another MSc module if the supervisor deems this more relevant. In addition, supervisory teams can design their own project-specific skills training [e.g. programming in MATLAB or UNITY (VR software), techniques for EEG]. All of these modules are formally assessed. In addition, students are trained in teaching, and in their second and third years, they take courses provided by the School and the University in areas such as career development and professional skills. Progress monitoring follows a rigorous system specified by the University, with six formally minuted student/supervisor meetings per annum (two of which must include their second supervisor) and a panel evaluation at the end of every year.

Active engagement in the School's research culture is also systematically encouraged. At the beginning of each academic year we hold a postgraduate conference, organised by the students themselves and funded by the School, including an invited external speaker, and presentations by students entering their second year. During the year, all postgraduate students in their third year deliver a 20 minute research presentation to staff and students in the School. In addition they participate in activities such as journal clubs that are organised at research group level.

PGR students also engage with collaborators outside the School. This is facilitated by University scholarships specifically allocated to interdisciplinary initiatives. For example, several members of staff have co-supervised students with staff from the School of Education on projects concerned with social or developmental issues arising out of the Northern Ireland context under the University-wide Improving Children's Lives initiative. Members of staff in the Perception, Action and Communication group have co-supervised students with staff from the School of Mechanical and Aerospace Engineering, School of Creative Arts, School of Nursing and the School of Biological Sciences. Collaborative partnerships with industry have been particularly useful in securing funding for PhD studentships (e.g., Microsoft, Senexis, Bombardier Aerospace), which diversifies the sources of funding and provides topics of direct importance to industry. Other staff have supervised PGR students on projects funded by charities designed to investigate avenues for movement rehabilitation following stroke and on EC funded projects collaborating with musicians and technologists.

(v) Equality and diversity. The School is committed to equality and diversity within the workplace. A Silver SWAN award (July, 2010) from Athena acknowledges the work that has been done to support the careers of its women at all levels from PhD to Professor. The family-friendly policies recently introduced in the School have benefitted both women and men by ensuring that staff experience a collegiate and supportive workplace. All staff have completed mandatory University equality and diversity training, and one of the School's professors is a trained University Harassment Advisor.

d. Income, infrastructure and facilities

(i) Income. The high-impact and interdisciplinary nature of much of the School's research, and the efforts of its staff to develop partnerships outside of academia have enabled it to secure funding from an unusually diverse range of sources. Top quality research programmes and careful nurturing of international collaborative links across Europe have resulted in substantial quantities of EU funding (totalling over £1.75 million) from both the ERC and EU Framework Programme 7. During this assessment period the School has increased the number of successful RCUK grant applications (2 BBSRC, 4 ESRC), which has been partly due to the new internal reviewing system designed to support the development of high-quality applications. Funding sources also include industrial partners such as Nestlé, Microsoft, adidas and Senexis who have funded a range of projects including PhD studentships. By demonstrating how our research can inform policy and practice on the ground, the School has also capitalised on funding sources unique to the region [Office of the First Minister and Deputy First Minister; Cooperation Ireland; Commission for Victims and Survivors NI; Community Relations Council; An Chomhairle um Oideachas Gaeltachta &

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Gaelscolaíochta (Irish language organisation); Youth Justice Agency; as well as wide variety of charities such as Parkinson's UK; Chest, Heart, & Stroke NI; CARDI; Ulster Garden Villages (more details in Section E].

(ii) Facilities. The School has developed state-of-the-art facilities funded through external and internal sources to support the research of both staff and students in the areas in which the School is focussing its activities. In particular, over the REF period we have developed outstanding facilities for perception, action and communication research that include:

- The new **Movement Innovation Laboratory** in Queen's Sports Centre which has an immersive, interactive Virtual Reality system (for studying perception in action), 22 Qualisys motion capture cameras (including 8 Oqus 4 cameras with outdoor capture capabilities), a golf simulator and 2 AMTI force platforms (used in gait studies). These resources allow the researchers to meld fundamental (e.g., cueing gait in Parkinson's with ecological sounds) and applied research (e.g. product testing for adidas).
- A new **Postural Control and Ageing laboratory**, with a SMART Balance Master system that provides objective assessment and retraining of the sensory and voluntary control of balance.
- **Two equipped brain stimulation laboratories** including TMS, TDCS, and EMG devices used to study corticospinal excitability in healthy (young and older adults) as well as clinical populations (e.g. stroke survivors).
- A unique **multi-modal communication lab** with real-time recording (audio and visual) of human-computer conversation. These facilities have been central to a number of large international multidisciplinary EU projects concerned with the development of naturalistic human-computer interfaces and the automatic analysis of communication and emotion.

Our very well-equipped facilities to carry out research also extend to developmental psychology and include:

- The **Fetal Behaviour Research Centre**, equipped with the latest ultrasound scanning equipment, funded by NHS R&D. Four scanners are available providing training for new staff and students and unique research opportunities to observe the behaviour of the human fetus.
- A **developmental laboratory** that has a separate observation room, embedded video cameras and microphones, a waiting area for parents, and children's toilets/baby changing facilities.
- **New EEG facilities** with a sound-proofed booth have been specially configured for testing children.

Further developments over the REF period include:

- A **new eye-tracking laboratory** with four different SensoMotoric Instrument eye trackers that vary in terms of speed and application; one of the systems is portable, allowing eye movement research to be carried out off-site with clinical populations.
- **Newly refurbished animal laboratories** (Biological Research Unit) in the Medical Behaviour Centre for psychopharmacological research.

(iii) Collaborative facilities/ Benefits in kind. The School also encourages collaborative working to secure access to equipment, facilities (including patients/participants) and stimuli that may not otherwise be available. This greatly enhances the reach of the School's research and enables staff to focus on issues of joint interest between the School and collaborators. Examples include:

- Industrial collaborations which have led to: the provision of novel drugs that are evaluated to examine their efficacy as possible treatments for Parkinson's and Alzheimer's disease; the manufacture and provision of food grade stimuli for the testing of perinatal olfactory and gustatory learning in companion animals.
- Collaborations with Zoological gardens (e.g. Belfast, UK; Dublin, Ireland; Rotterdam, The Netherlands) and rescue shelters (e.g. Dogs Trust, Cats Protection) enabling access to a greater range and number of animal species to explore their behaviour and evaluate methods to enhance their welfare.
- Collaborative projects have been built around the facilities for understanding, measuring and evaluating movement in the Movement Innovation Lab. These include providing motion capture data for local games companies (e.g. Billygoat TV) and movement performance analysis for professional sports clubs (e.g. Ulster Rugby, Cricket Ireland).

(iv) Research governance. The School is committed to research integrity and governance. Our ethics committee, which has an external non-academic member, meets monthly and ensures full implementation of University regulations and policies that must be complied with for research involving human participants and/or animals. Its chair (Sneddon) has completed training in research ethics and sits on the University's Research Governance Steering Group. The School is further supported by the University's research governance team who regularly support and advise academics on governance issues and oversees our School's ethics committee (an annual visit). All research projects must be logged in an online University database, for the purposes of insurance and monitoring the ethical or governance issues that they raise.

e. Collaboration or contribution to the discipline or research base

The relative distance of the School's geographical location from other psychology departments means that it is particularly important that we proactively encourage staff to invest effort into forging collaborations with members of other HEI institutions both in mainland UK and abroad. We also actively encourage staff to engage fully with professional bodies and societies (e.g. time-consuming roles in such organisations are documented in our new workload model).

(i) Involvement in national and international professional bodies. The School has a long track record of involvement with the BPS and has previously been home to two BPS presidents (one during the assessment period). We co-fund and host a set of annual BPS activities and provide office space and facilities for the Northern Ireland branch of the BPS. Additional examples of involvement with other bodies by individual staff include:

- Carson - Vice-President of the International Society of Motor Control.
- McCormack - committee member and programme chair for the European Society for Philosophy and Psychology. She is also a member of the committee for the Experimental Psychology Society.
- Dempster - Chair of the BPS Qualifications Board. He also is Chair of the BPS Division of Health Psychology NI.
- Hanna - BPS Standing Conference committee member and the Northern Ireland BPS Conference Committee chair.
- Cowie - President of the HUMAINE association (2008-2010), member of its executive committee.
- Feeney - Cognitive Science Society conference organising committee.
- Turner - winner of the Gordon Allport Intergroup Relations prize (2011) from the Society for the Psychological Study of Social Issues, the Robert B. Cialdini Award (2008) for Outstanding Field Research in Social Psychology, from the Foundation for Personality and Social Psychology, and the Award for Outstanding Doctoral Research Contributions to Psychology (2008) from the British Psychological Society.

(ii) National and International Collaborations. The School strongly supports staff in developing external collaborations, with Directors of Research actively facilitating and nurturing such collaborations. Seed funding is provided where necessary to facilitate trips to visit existing and potential collaborators and for conference attendance. The School also has an annual internationalisation fund which finances the PGR mobility programme (PhD student exchanges with international labs) and also funds visits from high-profile visiting scholars. As a result, all of the School's staff have published with a number of external collaborators, with 42% of the 2008-2012 publications having international co-authors. These collaborations include:

- McCormack's ESRC grants have been held in collaboration with researchers at UCL, University of Leuven, Birmingham, and Oxford. Her interdisciplinary collaboration with the Centre for Consciousness and Self Consciousness, Philosophy, Warwick, has a dedicated book series with Oxford University Press.
- Cowie's and Curran's large EU FP7 grants have a range of collaborative partners across many EU states. Cowie has also organised a wide range of international conferences and workshops that have shaped the discipline of affective computing.
- Craig was a visiting professor at the Ecole Normale Supérieure de Cachan, Rennes, France (2011) and has hosted PGR students from Rennes, Madrid, Verona and Brisbane in the Movement Innovation Lab.
- The Identities, Groups, and Social Change Research Group has collaborative links with institutions in the Netherlands, Germany, Austria, Israel, and India.

(iii) Collaboration with external bodies. Researchers from the School have active and productive collaborations with an unusually wide range of government organizations, industrial partners, NGOs, and charities. Some examples of these (see also Section D) that have funded research in the School are:

- Industrial partners: Senexis Ltd; Merz Pharmaceuticals; Neurosolutions Ltd; adidas; Microsoft; Nestlé; Devenish Nutrition.
- Government partners: NIHR; NHS R&D office; the Belfast Health and Social Care Trust; Belfast City Council; Office of the First Minister and Deputy First Minister; Health Research Board Ireland; Youth Justice Agency.
- NGOs: Atlantic Philanthropies; Parkinson's UK; NI Chest, Heart & Stroke; Ulster Garden Village; Centre for Ageing Research and Development in Ireland; Primary Movement Trust; Breast Cancer Campaign; Richard Benjamin Trust.

(iv) Responsiveness to national and international priorities and initiatives. The high-impact and interdisciplinary nature of much of the School's research has ensured that it is well-placed to respond to funding initiatives, which often explicitly seek research of this nature. Our Research Committee systematically disseminates information on calls for bids under specific funding initiatives. Examples include:

- Wells and Hepper's BBSRC grant on laterality and animal welfare was in response to the *Measures of Animal Welfare* initiative.
- Cowie has held a series of grants from EU FP7 that were all in response to the EC's *Information Society Technology Initiative*.
- Turner's ESRC award on intergroup tolerance under the First Grants Scheme was aligned with the ESRC priorities on *Influencing Behaviour and Informing Interventions* and *A Vibrant and Fair Society*. Her new grant from the National Institute of Health Research (NIHR)'s Health Services and Delivery Research Programme is in response to the NHS priority *Improving Knowledge Transfer and Innovation in Healthcare Delivery and Innovation*.
- Hanna's grant from the Commission for Victims and Survivors NI was in response to a call for projects relating to the needs of victims of the Troubles.
- Wylie's grant from the Irish language organization COGG was in response to a call for projects to support teaching in the Irish language medium.
- McPhillips' project funded by the Youth Justice Agency was in response to a call for projects examining literacy levels in young people in the youth justice system.
- Stevenson's and Turner's project funded by the South Eastern Education and Library Board was in response to a call to evaluate projects on positive parenting.

(vi) National and international grant reviewing. Many members of the School are active reviewers for international grant awarding bodies such as NWO (Netherlands), NSF and NIH (USA), Health Research Council (NZ), FWO (Belgium), NSERC (Canada), FHB (Hong Kong), QNRF (Qatar). Panel memberships include:

- Carson - panel member for the Italian Research and University Evaluation Agency.
- Craig - selection panel member for the French National Research Agency (ANR).
- Feeney - review panel member for the DFG (Germany) Priority Programme *New Frameworks for Rationality*.
- McCormack - reviewer for European Science Foundation 2008-2010.
- Dempster - member of the college of experts, NHS Health Technology Assessment Programme.
- O'Hare - member of the Alzheimer's Society UK funding panel.
- Turner, Feeney, and McCormack – members of ESRC Peer Review College.

(vi) Journal editorships/editorial boards. The School views it as particularly important that its staff use their expertise to contribute to and help shape their disciplines; involvement in journal editing is a key way to achieve this. Staff are involved editorially (as editors, associate editors, or editorial board members) on a range of journals including the *Journal of Motor Behavior*, *Human Movement Science*, *Exercise and Sports Science Reviews*, *International Review of Sport and Exercise Psychology*, the *Journal of Alzheimer's Disease*, the *Journal of Applied Social Psychology*, the *European Journal of Social Psychology*, *British Journal of Social Psychology*, *Developmental Science*, the *Journal of Cognitive Psychology*, *Thinking & Reasoning*, *Applied Animal Behavior Science*, and *Anthrozoos*.