

Institution: Teesside University
Unit of Assessment: 4
1. Unit context and structure, research and impact strategy

Overview

Our Psychology submission is based in the Department of Psychology, in the School of Social Sciences, Humanities and Law. This first submission to UoA4 is the culmination of our strategy to grow psychology research and reflects significant investment in staff (see section 2), resources (see section 3) and PhD students (see section 2). The unit (18.3 FTE) includes two professors. Nearly half (49 per cent) of the staff submitted are early-career researchers (ECRs).

The unit's research takes place within the Centre for Applied Psychological Science (CAPS). The centre, led by Walker, specialises in applied psychological research that contributes to academic knowledge and addresses challenges for practitioners, policymakers and the wider community. CAPS research centres around four themes. Each is developed using a co-production approach: actively engaging with stakeholders and service users to develop our research; and applying psychological principles, underpinned by rigorous methodological approaches, to meet the needs of stakeholders and communities.

Theme 1: Vulnerable Victims and Offenders in the Criminal Justice System

Led by forensic psychologists, this research theme applies socio-linguistic, cognitive, clinical and counselling psychology to better understand and improve the experience of vulnerable victims and offenders in court, prison and community settings. Researchers work with partners in social services, HM Prison and Probation Service (HMPPS), HM Courts and Tribunals Service, Children and Family Court Advisory and Support Service, secure hospitals and the NHS, and counselling services. Their research has relevance to the All-Party Parliamentary Group on Penal Affairs, government's proposals on prison safety and reform (2016) and the on-going court reform programme.

Theme 2: Health and Wellbeing

This theme applies cognitive, neurological and behavioural psychological principles to the improvement of the mental and physical wellbeing of populations, particularly those with lower socioeconomic status. Researchers work in partnership with the NHS, social care, local authorities and the voluntary sector, both locally and nationally. Their research addresses the university's grand challenge Shaping the Future of Health, Care, and Wellbeing and has relevance to key public health priorities outlined in the NHS Long Term Plan, such as prevention, children and maternity, smoking, obesity and type 2 diabetes, diet, alcohol, cancer and mental health.

Theme 3: Living with Long-term Conditions

Led by practitioner clinical, counselling and health psychologists, this theme examines the psychological impact and management of a range of long-term neurological, auto-immune and rare conditions. The work focuses on: multi-morbidity; enhancing psychosocial adjustment; self-management support; and examining social inequality for people living with pain and long-term conditions (LTCs). This theme contributes to the university's research grand challenges Shaping the Future of Health, Care, and Wellbeing and Creating Vibrant, Cohesive and Resilience Societies, and has relevance to the UKRI/ESRC national priorities of Mental Health and Innovation in Health and Social Care.

Unit-level environment template (REF5b)

Theme 4: Cognition and Decision-making

This theme is underpinned by fundamental research in areas of cognitive and behavioural psychology (visual perception, language and learning, thinking and reasoning) and combines rigorous experimental approaches with neurological; physiological and behavioural techniques to address a range of applied questions, in partnership with public bodies (including South Tees Hospitals NHS Foundation Trust and Durham Constabulary) and industry collaborators (including Ecotricity, GenGame, GridDuck and EnAppSys). Research from this theme has relevance to all three of the university's research grand challenges (Shaping the Future of Health, Care, and Wellbeing; Creating Vibrant, Cohesive and Resilience Societies; and Forging a Smarter, Greener Industrial Economy), as well as UKRI/ESRC national priorities in the areas of Climate Change, Trust and Global Governance in a Turbulent Age, and Housing and Productivity.

Research and impact strategy

Research strategy

The university's corporate plan for 2015-20 (Teesside 2020) set out to secure the sustainability of its research base, expand collaborations and deliver research impact through interdisciplinary grand challenge themes. To develop our psychology submission, our goals were to:

- build an active and sustainable environment for psychology research
- increase internal and external collaborations
- grow our postgraduate research community.

Key to building our research environment has been supporting staff to produce high-quality outputs. Active mentoring by professors Van Schaik and Walker has helped staff to maximise the value of research allowances. The benefit of this approach is evident in publications in well-established and widely read journals such as *Journal of Experimental Psychology*, *Neuropsychology*, *Cognition*, *Educational Research*, *Psychological Research* and *Acta Psychologica*.

Capital investment by the university has enabled the purchase of lab equipment, including for eye tracking, electroencephalography, functional near-infrared spectroscopy (fNIRS) and virtual reality. Our choices were informed by our emerging research and complement our existing lab space, observation lab and mock court room. Combined with funding support for external training, this investment has helped researchers use these techniques to produce high-quality experimental (e.g. Butcher, 2015, 2016) and applied research (e.g. Collins, 2016, 2018).

Staff have been supported to develop bidding plans (commensurate to their career stage) through the university's personal development plan and review (PDPR) process, which links staff with the university's Researcher Development Programme (RDP) for training on bid writing and project management. We offer monthly unit-level research mentoring clinics, where professors and experienced staff offer guidance on funding. We have seen the benefit of this, with increases in both the number and value of bids made. In 2017, 10 bids made had a total value £726,140. In 2019, we made 34 bids, with a total value of £7,081,566.

Research collaboration has been facilitated at an institutional level through engagement with the university's research grand challenges, resulting in cross-university interdisciplinary collaborations with researchers in health, engineering, social policy, computing and education. This has led to projects such as: Pilot Study For a Randomised Control Trial of the Efficacy of Floww Health Technology (funded by Floww International) and Randomised Controlled Trial of Hospital at Home (NIHR PB-PG-0213-30105, with the Centre for Public Health); eDREAM enabling new Demand

Unit-level environment template (REF5b)

REsponse Advanced, Market (EU Horizon 2020 GR 774478, with the Centre for Sustainable Engineering).

The unit's approach to inter-disciplinary research was also premised on expanding our external collaborative links, which has led to projects in areas such as health decision-making (British Academy, A behavioural study of online healthcare-provider choice, SG131945); medical decision-making (BBV test prompts for healthcare workers, funded by ViiV Healthcare); domestic energy use (BEIS Nudge Nudge, Switch Switch – Using Gamification and Behavioural Economics to deliver domestic DSR); and structural engineers' requirements for new homes (ESRC, Putting People at The Heart of Future Social Housing Design and Manufacturing, UCL CID-302511). This work has responded to national priorities in energy (BEIS), construction (ESRC) and healthcare (ViiV project).

To maintain on-going dialogue with these partners, CAPS holds monthly research seminars with internal and external speakers. These have led to intra-unit collaboration on publications (e.g. Van Schaik, Wilson et al, 2020; Smethurst, Carthy and Collins, 2019) and successful funding bids such as Moving Towards Trauma-informed Policing: An Exploration of Police Officers' Attitudes & Perceptions Towards Adverse Childhood Experiences (SIPR, Collins) and Survivors Stories: Experience Of Female Perpetrated Intimate Partner Abuse and Help-Seeking For Mid-Life and Older Male Survivors (BPS, Carthy). We also host annual research events with local NHS trusts to build and maintain clinical research collaborations (e.g. Bowman, 2018).

Over the period, we aimed to increase the size of our postgraduate research community, strengthen our supervisory pool, and create a pipeline to bring new early-career researchers (ECRs) into the department on a permanent basis. To achieve these goals, we were supported by university studentship schemes to fund seven full-time PhD students (four scholarships and three graduate-tutor roles). This represented an investment of £527,040 for our postgraduate research.

To facilitate this growth, we worked to actively increase our pool of eligible research supervisors by building teams of experienced and less experienced staff and ensuring that members engage with the university's Research Supervisory Training programme. As a result, 70 per cent of unit members are now part of supervisory teams, and as part of the university's research strategy, graduate tutors concluding their study are offered the opportunity to transition to lecturer posts. As well as supporting the career development of these postgraduate researchers, this has allowed us to create a pipeline of talented ECRs, ensuring continuity of research focus and sustainability of the unit.

Impact strategy

Our strategy for developing the impact of our research has been built on the applied nature of the research within the unit, which has natural links to professional practice and service provision in criminal justice [ICS 1, Collins] and health [ICS 2: Kılınc, Hammond, Hirst-Winthrop]. We have strengthened our existing relationships with partners and stakeholders, regionally and nationally, and identified challenges at a policy or practice level that can be addressed through our research. To develop this impact, we have:

Used research to enhance the skills and capacity of clinicians and practitioners:

- Following adoption of self-management framework and The Integrative Model of Adjustment to Chronic Conditions (IMACC) by health care workers, our researchers held training workshops to enhance practitioners' skills of psychological wellbeing practitioners, counsellors, high intensity cognitive behavioural therapy (CBT) practitioners, and clinical and counselling psychologists. [ICS 2]

Unit-level environment template (REF5b)

- Collins delivered training workshops, based on her research on rapport and communication to several national police forces including West Midlands Police (2016) and Police Scotland (2018). [ICS1]
- Collins delivered CPD training on her research to registered court intermediaries. [ICS 1]

Collaborated with service organisations to develop materials for service users:

- Models of self-management that emerged from our research were developed into a self-management tool, in collaboration with Neuro Key, which has been adopted by various other service user organisations including, Mind (Middlesbrough and Stockton), Therapeutic Care Volunteers at James Cook University Hospital, and the Brain & Spine Foundation. [ICS 2]
- Developed best-practice guidance for professionals and practitioners [ICS 1, ICS 2].
- Collins authored The Advocate's Gateway Toolkit 6: Planning to Question a Child or Young Person, which offers best-practice when preparing for trial in cases involving a witness or a defendant with communication needs. [ICS 1]

Engaged with policymakers:

- Collins participated in a review by the Scottish government on the policy and practice of interviewing children. [ICS 1]

Support for achieving impact

As a new research centre and a first REF submission, we have focused, during this cycle, on putting in place infrastructure and training to support the development and evidencing of impact, ensuring sustainability, and allowing for future growth of impact within the unit. In addition to central support mechanisms (REF5a, p.8), unit members have been supported with training on impact development, to facilitate the development of impact plans into the impact case studies submitted. Support for impact is also provided through the dedicated roles of our impact champion within the school (Antonopoulos) and our unit impact champion (Butcher), who have advised on differing aspects including research dissemination, engagement with policymakers and practitioners and evidence gathering. Support from the school and the associate dean, research and innovation, has funded impact activities in each of the case studies, including the production of a self-management tool for patients with LTCs (www.mylifetool.co.uk) and training events, which have been attended by police, social workers and registered intermediaries.

Growth and sustainability of impact

To support the growth of impact within the unit, Kılınc was awarded a one-year university fellowship (2019-20) to examine how interdisciplinary research could impact the wider community. In addition to existing impact case studies, we have several projects with promising pathways to impact.

For example, the blood-borne virus (BBV) test prompt project (Van Schaik, ViiV Healthcare) uses behavioural science nudge principles to promote test ordering in primary-care healthcare workers. Hot Bargains, Killer Deals: The Problems With Second-Hand Electrical Goods Project (Wilson, Electrical Safety First) uses behavioural experiments to examine purchase of dangerous electrical goods and was presented to an all-party parliamentary committee, outlining recommendations for government policy. Burke's work in online hate crime led to her working on the EU-funded Hatemeter project (Hate speech tool for monitoring, analysing and tackling Anti-Muslim hatred, GR 764583) developing a tool for monitoring, analysing and tackling anti-Muslim hatred online.

Over the next cycle, we plan to focus on expanding the reach of our existing impact as well as developing new impact case studies in line with the growth of the unit.

Building an open research environment

We have made significant progress towards building an open research environment through our adoption of the principles of open science and reproducibility of both methods and data. We have held training events on open science (2018, 2020) resulting in pre-registration of projects on the Open Science Framework (Medimorec, 2016; Wilson, 2018). Datasets are made publicly accessible through the university's research portal, with strong engagement from unit members (e.g. Haste, Medimorec, Van Schaik). Van Schaik's work Explainable Statistical Learning in Public Health for Policy Development: The Case of Real-World Suicide Data offers valuable insights into how to analyse publicly available data to inform public health policy. In acknowledgement of the "replication crisis" in psychological research, Butcher is currently engaged with the Many Labs Replication Project, conducting A Multi-Lab Foundational Test of the Facial Feedback Hypothesis. Unit members are encouraged to submit to open-access journals, with publication supported by the school (e.g. Hammond, Farrington, Kılınç, 2019). Our compliance with the REF2021 open access (OA) policy is 97 per cent.

Supporting research integrity

Research integrity and maintaining standards that protect our research participants are at the core of the work that is conducted within this unit. The applied nature of our research means that much of the work we do involves vulnerable people, including children, prisoners, patients in secure settings, victims of abuse or those suffering from cognitive or intellectual impairment. As such, we adhere to the highest legal, ethical and professional standards (BPS Code of Human Research Ethics) and have experience with the policies and requirements of HMPPS National Research Committee, NHS research ethics committees and the Social Care Research Ethics Committee.

We hold regular knowledge exchange events within our research centre to disseminate best practice and bring external speakers to train unit members, whenever possible (e.g. Research & Development Facilitator NHS, 2017). We also share best practice (led by BPS guidance) from researchers in our unit whose work might raise additional ethical concerns, such as remote or internet-mediated research, examining social media discourse, or neural imaging.

Unit members are also involved in supporting a culture of research integrity through engagement with the university Research Ethics and Integrity Sub-Committee (UREISC) and the school Research Ethics and Integrity Sub-Committee (SREISC), which Copping sits on and Wilson has chaired. As well as ensuring research within the unit is conducted according to appropriate standards, our involvement at a university level also means we have had input into decisions on research integrity, and there is representation of our professional standards in these decisions. For example, in 2017, Wilson developed the school's first electronic ethics application management system to facilitate more effective peer review of ethics applications, which has since been superseded by a university-wide electronic system.

Future research strategy

In 2020, the university published its corporate strategy to 2025, *Ambition Delivered Today*, which focuses on making a difference to the lives of people and driving forward the success of businesses and the economy. In the psychology unit, the strength of our applied research combined with our experience working on inter-disciplinary projects with our partners in industry, the third sector, the NHS and HMPPS, puts us in a unique position to address the regional and national challenges faced by these partners and the wider community.

Over the next five years, strategic investment by the university will ensure the continued development of CAPS and allow us to sustain and enhance our research environment. To build on our progress, we have four strategic priorities for 2020-2025: growing our research capacity; expanding our academic and non-academic research networks; diversifying our income streams; and extending the reach of our research impact.

We aim to increase the proportion of staff in the Psychology department with significant responsibility for research by 10 percentage points (from 42 per cent to 52 per cent). Additional capacity will be achieved through a combination of: targeted support for ECRs through the ECR network in our research centre; using our mentorship scheme to build research capacity in clinical staff; using staff attrition to bring in more active researchers; and prioritising the recruitment of more scientist-practitioners into our forensic, clinical, counselling and health taught programmes.

Consistent with our staff development strategy of supporting mid-career staff to develop research leadership skills (see section 2), several staff within the unit are working towards becoming readers/associate professors. They will be supported through staff development and training and the launch of a research sabbatical scheme in 2021. These additional senior researchers in the team will be able to support the expansion of our academic and non-academic networks, in turn supporting our plans for impact development, as well as increasing bidding activity to support the diversification of research income streams.

We plan to invest in new psychology posts to support the growth of CAPS over the next five years, allowing us to build critical mass in our research themes and to recruit high-calibre academics in these areas. This includes the recruitment of a professor to support the development of large-scale collaborative funding bids.

We see the expansion of our research networks as a key part of both funding and impact strategies going forward: we will look to bring value and expertise to large-scale interdisciplinary projects and broaden the reach of our impact through working with national and international stakeholders. To facilitate wider collaboration, we plan to increase our engagement with external networks such as the UK parliament's Knowledge Exchange Unit, and the Research and Enterprise Network for Universities. We will also continue our external engagement with partners, academic and non-academic. Through the research centre infrastructure, targeted events have been built around the needs of partners in each research theme. For non-academic partners, successful events such as Registered Intermediaries' Assessment of Communication: An Exploration of Aims and Processes (with barristers and court intermediaries) and Self-Management For People With Long-Term Conditions (with clinicians and care staff) have facilitated promising collaborations. For academic partners, our research seminar series has been a successful vehicle. Our goal over the coming period will be to broaden the reach of this engagement to include more national and international partners.

To diversify our income, our funding strategy will include a continued focus on demand-led collaboration with external partners, which is often short-term but impactful work (e.g. Public Health England, NIHR, Scottish Institute for Policing Research). We also plan to bring our applied expertise to larger-scale and longer-duration collaborative projects, replicating the success of our

Unit-level environment template (REF5b)

unit's professors (Van Schaik and Walker) on UKRI, HMPPS, BEIS, EU Horizon 2020 projects within the wider unit. We will continue to use our apprenticeship model of mentoring by professors and senior unit members. Several staff in the unit have had success with this model, first with inclusion as co-investigators and then as PIs (e.g. Eberhardt, Kılınç, Haste, Carthy).

Over the next five years, we want expand the reach of two existing impact case studies Enhancing Policy, Practice And Capacity To Improve Vulnerable People's Access To Justice [ICS 1] and Improving Function And Well-Being Of People With Long-Term Health Conditions [ICS 2]. The infrastructure we have developed over the current cycle will enable us to gather evidence in the development of case studies going forward. We have several notable impact examples within each of our research themes in CAPS and we aim to develop impact case studies for this work.

In addition, the recent integration of the clinical psychology team into our unit has demonstrated the potential for the production of clinically relevant, highly impactful, work of direct relevance to the themes within CAPS. We aim to build more research capacity within the clinical team through staff development and recruitment deepening our partnerships with NHS and public health partners, offering further paths to impact.

2. People

Staffing and staff development strategy

At an institutional level, a Concordat Implementation and Enhancement Action Plan was introduced over this cycle to support the career development of researchers. This introduced or enhanced practices such as: staff mentoring; Institutional Development Plan (IDP) and PDPR to review research goals; annual research plans supported by additional workload hours and the RDP.

We use these support mechanisms, along with a programme of staff development and targeted recruitment, to support our primary goal of building an active and sustainable environment for psychology research. Our main staffing and development goals for this period were:

- recruitment of active ECRs
- building capacity of staff to produce high-quality research
- supporting mid-career staff to develop research leadership skills.

We focused on recruiting staff with doctoral qualifications, who could contribute to an active and sustainable research environment. Fifty-five per cent of our staff (10.1 FTE) have been recruited since 2014, all qualified to doctoral level with published outputs. We supplemented this recruitment with an active programme of support, complementing university-level development structures with local mentoring and guidance. Our professors work with all new researchers to help them plan how best to use their research and scholarly activity time and the additional workload relief that staff new to HE receive for their first two years. Experienced staff (Wilson, Butcher) also hold seminars and one-to-one sessions on how to apply for and make use of additional research hours on a yearly basis.

To help build the research capacity of less-experienced academic staff, we have established an ECR network within CAPS. The group holds regular meetings, with internal and external speakers providing advice on topics including research plans, publishing and bid writing. Researchers from the unit also contribute to, and disseminate information from, the university's RDP including workshops from external experts on writing for publication, grant writing etc. The programme of support has been extremely beneficial. For example: two members of staff completed their doctoral qualifications during the census period; the number of ECRs in this submission (48.6 per cent) is much higher than the university average (31.6 per cent); and 60 per cent of all ECRs in the psychology department are part of this submission.

Unit-level environment template (REF5b)

It has also been our goal to develop our mid-career researchers into more senior roles, to both increase capacity for research within the unit and provide additional leadership for less-experienced researchers. We appointed Walker to lead CAPS and she works alongside Van Schaik to provide research leadership opportunities to staff across the unit, including early career network leads (Carthy) and research centre theme leads (Collins, Butcher, Haste and Kiliñç).

As a result, several staff in the unit have taken up other research leadership roles in either the department or the university. For example, Butcher is impact champion for the unit and, in recognition of her work, was seconded to Research and Innovation Services (RIS) to support REF impact more broadly. Wilson was promoted to principal lecturer for research and innovation and works with the associate dean research and innovation, REF leads and senior researchers to implement the school's research strategy.

Research career development is supported through the PDPR process, with additional research allowance provided annually based on a plan of work. As part of PDPR, staff are also matched with additional training in the university's RDP. Several unit members have attended training on research bid writing and project management (e.g. Butcher, Wilson and Copping took part in TU's Large Collaborative Awards Training Programme). Staff are then supported develop a funding plan to support career trajectory and to identify appropriate funding programmes. These approaches have led to increased bidding activity during the period (see section 4).

The inclusion of a higher proportion of lecturers and senior lecturers within the submission is crucial to succession planning for the unit. An important element here is proactive work with our senior lecturers to support promotion to reader and subsequently professor. This work is currently progressing with a number of senior lecturers whose research aligns clearly to the areas of focus in CAPS and who are working towards readerships over the next period.

Integration of NHS-employed clinical researchers into psychology unit

A key goal following the university restructure in 2018 was to integrate the clinical psychology team (previously located in the School of Health and Life Sciences) into the Department of Psychology. This brought the existing team of academic researchers and NHS-employed clinical researchers together for the first time. Our work in clinical psychology research (e.g. Bowman, 2018 with Tees Esk and Wear Valleys NHS Foundation Trust, Cumbria, Northumberland, Tyne and Wear NHS Foundation Trust) strengthens our research themes of Health and Well-being and Living with Long-term Conditions, and adds to existing collaborations with NHS and public health partners (e.g. McGeechan, 2018 with Public Health Durham, Public Health Gateshead, Children, Young People, and Families Tyneside Council; Haste, 2017, with NHS Diabetes Prevention Programme).

Research students

Recruitment of doctoral students has been supported with £527,040 investment from studentship schemes to fund seven full-time PhD students (four scholarships and three graduate tutor roles). This investment continued the university's mission of widening participation, allowing us to support individuals from groups underrepresented in HE, particularly at doctoral level. The university works with and supports those from low-income families, young people with special educational needs, Black, Asian and minority ethnic young people, looked-after children and care leavers, young carers and mature students. Our admissions policy is transparent, inclusive, and minimises barriers: it is reliable, valid and professional. Our doctoral recruitment follows these principles and supports these groups in their progression to academic careers, enabling high quality research through a programme of supervision and support.

Support for doctoral students is provided centrally from RIS, at school level, as well as through supervision teams. RIS supports postgraduate research students and their supervisors from the initial application to completion stage. This includes the research training offer and support for

Unit-level environment template (REF5b)

important aspects of research practice from induction through to examination. All postgraduate students are enrolled on a university-wide programme of training, which begins with a training-needs analysis, initial induction training, and values and standards training. This is followed throughout their research degree by a comprehensive training programme (detailed below). Within the school, postgraduate students are supported by a postgraduate tutor who works to monitor their progress, offer support and help students access RIS information or university support structures where necessary. The postgraduate tutor is supported by the associate dean R&I and the principal lecturer for research and innovation and works collaboratively with postgraduate student representatives.

To increase research degree completion rates, the university has implemented more rigorous recruitment and progression procedures. Our psychology researchers have played an active role in this, through the governance of research student recruitment and annual progression. For instance, all students now undertake an annual, formal, face-to-face progression review meeting involving an oral presentation, and scrutiny and questioning by independent, senior researchers in the school. Within the unit, we have worked to actively increase the pool of eligible research supervisors by building teams of experienced and less-experienced staff, as well as ensuring that members engage with the university's Research Supervisory Training programme. As a result 70 per cent of unit members are now part of supervisory teams. Students meet regularly (at least monthly) with supervisory teams and the supervision logs are recorded on our e-Vision platform. Over the course of the period, the unit has successfully supervised 9.3 students to completion, which represents an average of 0.5 degrees awarded per FTE in this unit.

In preparation for a future career, postgraduate students are provided with a programme of training and enrichment activities, with a strong emphasis on employability and developing an academic career. Following a comprehensive induction (including training in researcher good practice, ethics and integrity, working in a research environment), postgraduates engage in a multi-stage programme of research training that includes: initial research training (project management, definitions of research and academic criteria, epistemological and methodological issues, academic presentation); library subject specialist training (copyright, open access, discipline-specific issues); continuing research training (academic writing, presentation and further theoretical reflection); and completion training (academic writing and editing, preparation for thesis submission, proof reading and viva examination). There are optional training sessions available on a range of topics and all postgraduate students have the option to attend any level seven Masters programme modules. Postgraduate research students are also eligible to take part in postgraduate training events that are organised for universities in the North East at Durham University, and by the NINE DTP training programme (Northern Ireland and the North East).

In line with the applied ethos of our research centre, wherever possible, postgraduate students engage with partners and stakeholders to ensure their work has clear pathways to impact. For example, Thornhill's PhD (Director of Studies (DOS) Van Schaik) on shared decision-making for communities has led to discussions with a number of local authorities about adopting this approach. Smethurst's PhD (DOS Collins) research on court intermediaries has linked to the work of Triangle Services. Sexton's PhD (DOS Butcher) on biological motion processing and emotion recognition led to the development of North East Prosopagnosia Screening Centre and engagement with service users.

The school's PhD students are involved with a number of enrichment activities during the course of the academic year. In September, the school contributes to the university's postgraduate student conference. This one-day event enables PhD students to present posters of their research, alongside opportunities to contribute to hour-long academic papers outlining work in progress and five-minute thesis presentations. As well as providing an opportunity to liaise with university-wide

Unit-level environment template (REF5b)

academic staff about research, this conference facilitates an on-going discussion about the students' PhD research and provides them with excellent formative opportunities for talking about their PhD research ahead of formal viva examinations.

Throughout the academic year, there are monthly postgraduate research seminars where the students provide 40-minute presentations on their research followed by 15 minutes of questions and discussion with other school PhD students and academic members of staff. The school PhD student body has an elected student representative who is a member of the school's Research and Innovation Committee alongside helping to organise the conference and the PhD seminar series. The seminars run throughout the academic year, continuing as online MS Teams presentations of research since April 2020. Academic members of staff in the Psychology unit have contributed to this enrichment programme by: facilitating sessions on systematic reviews; visual methods; quantitative research methods; good practice during PhD vivas; using NVivo 10; and research ethics.

Within the Psychology unit, postgraduates both attend and present their research at the monthly psychology research seminar series, which offers networking opportunities with external researchers and partners. In the unit, we support students to undertake teaching duties for their own career development (in addition to those on graduate tutor contracts). However, we are always cognisant that PhD research must be prioritised and we adhere to the university Policy on Postgraduate Students as Teachers to provide appropriate support in their teaching and assessment duties.

Equality, diversity and inclusion

Our approach to equality, diversity and inclusion (EDI) is supported by an institutional framework including the university's Executive Equality and Inclusion Group, which oversees equality and diversity, and directs the operations of the Equality and Inclusion Group (EIG) to deliver change. Four subgroups representing various protected characteristics feed into the EIG around disability, ethnicity and gender, LGBTQ+, and religion and belief (REF5a, p.7).

The unit comprises a diverse mix of academic experience, gender and age, and the unit's research leadership roles are equally distributed among women (Walker, Butcher) and men (Van Schaik, Wilson). An Equality Impact Assessment (EIA) of staff submitted to REF2021 shows that the psychology department makes up 7.4 per cent of total eligible staff within the university, but comprises 8 per cent of the total staff with significant responsibility for research (SRfR) in the university, making a slightly larger than expected contribution to REF2021. There is, however, a slight gender imbalance in the unit. While 71 per cent of eligible staff are female and 29 per cent are male, 65 per cent of submitted staff are female, with 35 per cent male. Low disclosure rates (less than 10) for ethnicity, nationality, age, disability, sexual orientation or religious beliefs have limited the conclusions that can be drawn from the unit's EIA.

However, during the period, we have worked to address the gender imbalance within the unit through involvement with Athena Swan. Our first school-level Athena Swan submission in the university was led by the head of psychology with active participation from our unit (McGeechan) on the university working group. In addition, researchers in psychology, including PhD students, joined a school-level Athena Swan Departmental Self-Assessment Team (2019). This group was established to work towards a submission for a departmental award in April 2021. In June 2020, this team developed a culture survey and online focus group which included questions relating to gender and career promotion experience. The results of this survey informed the implementation of a local action plan that seeks to enhance gender equality in the research career and promotion pathways in the psychology unit and beyond.

Unit-level environment template (REF5b)

The introduction of a formal system to allocate research time in 2016, open to all researchers in the school, has addressed some of the EDI issues, including the gender imbalance of researchers in the unit. We are guided by the university's comprehensive policies on inclusion, equality and diversity and commitment to work-life balance. We have been committed to ensuring equal opportunity for all staff to engage in research through annual personal development planning, where staff can raise concerns in an open manner.

3. Income, infrastructure and facilities

Income

Our strategies for generating research income have included joining larger research consortia (e.g. EU Horizon 2020 projects), joint bidding with other universities (Public Health England projects, ESRC/CREST), gaining an honorary contract and bidding to opportunities that require this contract status (PHE projects), joint bidding with non-academic institutions (BEIS project) and joint bidding with other disciplines within the university to national research programmes (EPSRC/Transforming Construction Network Plus, Innovate UK/KTP).

Research income over the period is £288,365, which includes sources such as Horizon 2020, Innovate UK, the BEIS, the NIHR, PHE, the British Academy and local government. The research income figures (average annual income of £41,195 and per FTE annual income of £2,251) reflect the unit's composition: 49 per cent of UoA staff are ECRs who are new to research and 35 per cent of UoA staff were appointed in 2018 or later.

We have staff development plans in place to grow research income (see section 2) and have seen significant increases in the number and value of bids submitted in recent years (2017, 10 bids for £726,140; 2019, 34 bids for £7,081,566) and a steady increase in the number and value of bids awarded (2017, three awards worth £110,443; 2019, eight awards worth £178,871). This bidding activity has been spread across the unit, with 17 of 20 staff members submitting funding bids during the REF period.

The majority of our income (62 per cent) has been from government bodies, local authorities and health providers. This reflects the thematic foci of CAPS and includes projects in each of the research centre themes such as: Increasing Physical Activity in a Medium Secure Service: The Development and Feasibility of a Physical ACTivity Intervention (IMPACT), NIHR Research for Patient Benefit 201176, £247,989; Heroin Assisted Treatment Intervention (HATI), NIHR Applied Research Collaboration NENC, OFC20-02, £59,583 and Evidence Synthesis of Gambling-Related Risks and Harms, PHE, £16,867.

A smaller proportion of income came from EU (eight per cent) and research councils (eight per cent), all in the last two years. This is in line with our strategy (see section 1) to diversify our income sources and join more large-scale collaborative projects, which has seen increased bidding to research councils (£5,780,443 in 2019-20), UK charities (£645,516 in 2019-20) and UK industry and public corporations (£197,918 in 2019-20).

Infrastructure and support

Central support for research comes from RIS (REF5a, p.9). School QR investment funded additional support for researchers in the form of a team of research fellows and associates, led by research fellow Moore. This team gives researchers dedicated support to work with external partners, including the local and combined authorities, NHS, PHE and HMPPS, in order to consolidate collaborative and contract research opportunities. Researchers are supported by technical staff, including a school technical manager and a dedicated psychology technician, who manages the research equipment and schedules equipment use. Further support for research

Unit-level environment template (REF5b)

comes from Student and Library Services, who maintain subject-specific library liaison staff, as well as relevant journals and texts.

Facilities

Dedicated laboratory space for psychology research includes: a physiology lab with hormone-assay equipment; an interaction lab; four individual experiment labs; five interview rooms; a mock courtroom and a mock police station. Further research tools include: specialist psychological questionnaires (450), neuropsychological tests (CANTAB, 250); psycho-physiology measurement equipment (Biopac, three); analysis software for qualitative and quantitative data analysis and online-survey software (all three site licences); blood pressure monitors (22); dictaphones (40); Q-analysis software (24); experiment generation software (250); loanable laptops (12); breathalysers (two); a fingerprint scanner; a smokealyser; and a 3-D television. The unit also has eye-tracking equipment and neuro-imaging equipment (Transcranial Doppler).

Over the period, our research infrastructure has been further developed to support high-quality research, with substantial capital investment of £136,876. This included the purchase of: a 128-channel EEG setup; functional near-infrared spectroscopy (fNIRS) equipment; and a virtual reality kit and associated high-powered computer.

This equipment has contributed significantly to research outputs from the unit. The eye tracker is integral to ongoing work in face perception (e.g. Butcher, 2015; 2016). Virtual Reality is used in work in visual perception (e.g. Wilson et al., 2015; 2017). The Mock Court Room is used by forensic psychologists (e.g. Collins 2016). Cognitive and neuropsychological tests feature in work on psychometrics and measurement (e.g. Copping, Van Schaik). Recent investments such fNIRS and EEG are being used in emerging research and with doctoral students (Emerson, Scott, Van Schaik, Eaves, 2020).

4. Collaboration and contribution to the research base, economy and society

Collaborations

Over the census period, unit members (18.3 FTE) have produced 208 journal articles, three books and 12 commissioned reports. Our research includes national and international collaborations that address the priorities of the UK public sector and industry partners as well as those of UKRI.

We make support for the development of research collaborations available, centrally and departmentally, at various stages of the project development cycle. Horizon scanning for new opportunities is facilitated by RIS and the Department for Academic Enterprise, which provides weekly bulletins to academic staff about research opportunities. CAPS hosts regular research seminars and external engagement events to enable development of new collaborations, and network building is supported through school funding for national and international academic conferences and networking events.

Support for development and submission of project bids is provided through professorial mentorship in CAPS, personal bidding plans that allow for teaching buyout, as well as our team of research fellows and associates whose roles are dedicated to supporting psychology researchers' work with external partners. We have a strong track record of interdisciplinary collaboration both internally, with other university research centres, and externally in the applied domains of each CAPS research theme.

Theme 1: Vulnerable Victims and Offenders in the Criminal Justice System

Members have longstanding collaborations to support victims and offenders in a range of settings. Walker's research on prison and secure care settings, including maximum-security prisons,

Unit-level environment template (REF5b)

involves HMPPS and the NHS. Collins' research in the assessment practice of registered Intermediaries in the criminal justice system involves various UK police forces.

Projects include: UKRI MARCH Network; Exploring the Care of Diabetes in a Medium Secure Forensic Mental Health Service (with NHS Bradford Districts Clinical Commissioning Group); Altered Eating in Women with Serious Mental Illness in Secure Mental Health: Exploring the Relationship with Food in an Institutionalised Setting (with Newcastle University, UKRI Closing the Gap Collaboration Fund).

External research networks include: The Prison and Offender Research in Social Care and Health Network; the Offender Health Research Network, Revolving Door and International Society of Political Psychology (ISPP). Non-academic networks include Women in Prison and Counselling in Prison Network (Walker). Carthy is currently leading the Ask the Question project, which aims to raise awareness and empower professional curiosity to ask questions about difficult topics such as domestic violence and sexual violence and exploitation.

Theme 2: Health and Wellbeing/Theme 3: Living with Long-term Conditions

Our longstanding partnerships with the NHS (e.g. TEWV and Newcastle), patient support groups and service-user working groups that facilitate impactful research collaborations. Kılınc's work on long-term conditions has informed practice of clinicians working with service users of Tees Valley, Durham and North Yorkshire Neurological Alliance. Haste's work involves collaboration with NHS, local authority, PHE and charities, to identify service improvements with e-health interventions. McGeechan works collaboratively with Durham County Council and has an on-going collaboration with South Tees Public Health through their Tackling Cancer Together board.

Projects include: The Experience of Living with Adult-Onset Epilepsy (with Epilepsy Action and Neuro Key); Data Science for Public Health (with the University of Sunderland, funder PHE); Children and Young People Tier 2 Weight Management Evaluation (NIHR); Evaluation of Sunderland Council's Time to Care Service.

External research networks include: FUSE (the Centre for Translational Research in Public Health (Bussey, Allen); Tees Valley, Durham and North Yorkshire Neurological Alliance (Kılınc); Kılınc is a trustee and research lead of Tees Valley, Durham and North Yorkshire Neurological Alliance. Campbell is the Network Coordinator for the Altered Eating Research Network.

Other successful collaborations include research with Abertay University, Bournemouth University, City University of London, Durham University, Indiana University, Murdoch University, Northumbria University, Universiti Putra Malaysia, University of Copenhagen, University of Huddersfield, University of Leicester, University of South Carolina Upstate, University of Sunderland, University of Warwick.

Theme 4: Cognition and Decision-making

Members have been able to use experimental design and data-analysis skills, in addition to subject expertise, to engage in inter-disciplinary projects with a range of partners. Wilson's work on risk and decision-making led to collaboration with Electrical Safety First to examine the motivations behind purchases of dangerous second-hand electrical goods and Van Schaik's work on human-computer interaction has involved industrial partners such as Ecotricity, GenGame, GridDuck, EnAppSys and amBX as well as the NHS. Butcher's work on face perception has led to The Face Recognition Research Project to support the diagnosis of prosopagnosia.

Projects include: Blood-Borne Virus Test Prompt (with South Tees Hospitals NHS Foundation Trust); eDREAM (with the Technical University of Cluj-Napoca, the power aggregator KIWI and other partners, funded by Horizon 2020); Authoring Tools for Immersive Lighting Experiences (with

Unit-level environment template (REF5b)

amBX, funded by Innovate UK), and Data Science for Online Merchandise (a KTP, funded by Innovate UK).

External research networks include: the BPS Cognitive Section (social media officer and associate editor) and Transforming Construction Network Plus. Non-academic networks include the North-east Fraud Forum.

Academic citizenship

Beyond our impact case studies, we have engaged with further non-academic stakeholders to contribute to impact and enrich the research environment through collaboration. As a result of Van Schaik's research on the effect of animal abuse on human well-being, animal abuse reporting systems in Ukraine have been enhanced regarding child/family protection to social service departments. Van Schaik's research has informed the design of a trial to test the effectiveness of a blood-borne virus test prompt in general medical practice. Patton and Butcher have delivered Cognitive Bias Training for Crime Scene Managers from Durham Constabulary and Fingerprint Team Leaders from Northumbria Police to improve rigour and decision-making in the police force (November 2018, with Forensic Science Regulator).

We seek engagement with diverse communities and publics through our research. Wilson worked with Electrical Safety First on the problems with second-hand electrical goods, which is a particular risk for low socioeconomic status communities. Butcher has delivered public-engagement talks on face recognition at various events: Spoonful of Knowledge, Middlesbrough (2017); In Your Face, National Media Museum, Bradford (2016); Pint of Science, Middlesbrough Institute of Modern Art, (2016); and TedX Oldham, (2016). Burke presented at a Psychology in the Pub event for the north-east branch of the BPS (2019).

To contribute to the sustainability of the discipline, interdisciplinary research and responsiveness to national and international priorities and initiatives, unit members have published their work by gold OA (Bowman, Van Schaik) and made their data freely available. Butcher has provided guidance regarding OA publishing and has been commissioned to publish an article on this topic in the BPS Cognitive Bulletin (Butcher, 2020). In the context of the 'replication' crisis within psychology and a broader move towards open science across scientific disciplines, a number of our staff take part in initiatives that aim to enhance the reproducibility of psychological research. Butcher is in the process of conducting a registered replication of the facial-feedback hypothesis with 22 other labs around the world and has offered staff guidance on open science practices including information about BPS, APA and APS initiatives/guidance that staff could engage with, along with use of the Open Science Framework (e.g. Wilson, 2019).

The unit's work is strongly focused on interdisciplinary work that addresses the national priorities of UKRI, particularly in ESRC strategic priority areas of Mental Health; Innovation in Health and Social Care; Climate Change; Trust and Global Governance in a Turbulent Age; and Housing and Productivity and Mental Health.

Additional examples of interdisciplinary research include the Hatemeter project, an EU interdisciplinary collaboration, which utilised Burke's expertise in discourse analysis and her research into online hate speech, to tackle anti-Muslim hatred through the adoption of an innovative Computer Assisted Persuasion and counter-narrative framework approach for preventing Islamophobia online. In addition, the Randomised Controlled Trial of Hospital at Home was an interdisciplinary project that examined the efficacy and experiences of hospital at home treatment for chronic patients. Our plan for interdisciplinary collaboration going forward is based on leveraging the expertise within our research themes to join and lead on similar projects in the future.

Unit-level environment template (REF5b)

Several researchers within the unit support their research communities by holding roles on national committees. Butcher, an elected member of the BPS Cognitive Psychology Section committee, is acting as social media officer and associate editor of the section's annual publication and previously was honorary treasurer. Bowman is a committee member of the BPS Division of Clinical Psychology, North-east branch. McGeechan is a committee member of the BPS Division of Health Psychology, north-east branch. Our staff also hold journal editor roles for Behaviour and Information Technology, BMC Public Health, BPS Cognitive Bulletin, Interacting with Computers, International Journal of Human-Computer Studies, and the Journal of Forensic Psychiatry and Forensic Psychology. During the current period, unit members have worked on peer review panels for: UKRI (Van Schaik); the Irish Research Council (Wilson); the Epilepsy Action Scientific Awards Panel (Kılınc); and the Swiss National Science Federation (Wilson).

Unit members have won research and innovation prizes for: BBV Test Prompt by Medipex and Bright Ideas in Health (Van Schaik); BPS book award (Walker); Research Co-ordinator of the Year award from the Greater Manchester Clinical Research Awards (Walker) and International Women's Day – Science Technology Engineering and Mathematics Award (Walker).

As a committee member of the BPS Cognitive Section, Butcher chairs sessions at its annual conference every year. Walker has been keynote speaker at the National Self Harm and Suicide Prevention Conference, and at the ninth Cracow Conference of Psychology and Law, Cracow, Poland. Butcher has given invited research talks at Bournemouth University, Liverpool Hope University and York St John University. Van Schaik has given invited research talks at the University of Fribourg (Switzerland), Northumbria University and the University of York. Wilson has given invited research talks at Sheffield Hallam University.

Staff play active roles as referees for some 40 academic publications (journals and conference proceedings), including: BMC Public Health; British Journal of Health Psychology; Cognitive Processing; Educational Psychology; Evolution and Human Behavior; Evolutionary Psychology; Health Policy International; Human Nature; Journal of Experimental Psychology; Journal of Public Health; Learning Memory and Cognition; PLOS ONE; Psychological Bulletin and Review; and Vision.

They also referee research proposals, including for: NIHR and the UK research councils ESRC, EPSRC, MRC; UK charities Breast Cancer Now, Cancer Research UK; and overseas organisations CONICYT (Chile), Dutch Cancer Society, NWO and ZonMw (Netherlands), and the Swiss National Science Foundation.