

Institution: University of Westminster
Unit of Assessment: 4 Psychology, Psychiatry and Neuroscience
<p>1. Unit context and structure, research and impact strategy</p> <p>1.1 Unit Context and Structure</p> <p>Our UoA4 submission is based on the activity of researchers in Psychology, within the College of Liberal Arts and Sciences (CLAS). Psychology engages in a broad range of world-leading theoretical and applied research, including in cognitive neuroscience, health, biopsychology, psychophysiology and forensic psychology.</p> <p>Research in the unit is structured around four vibrant Research Groups:</p> <ol style="list-style-type: none"> i) <u>Cognitive Clinical Neuroscience Research Group</u>: examines perceptual and cognitive processes across the life-span, in healthy and clinical populations employing a range of experimental techniques (EEG; fMRI; TMS; neuropsychological testing). Led by Loveday, with Evans as Deputy. Comprises 11 Psychology staff, 1 Research Fellow, 4 Doctoral Researchers. ii) <u>Psychophysiology and Stress Research Group</u>: examines the relationship between psychosocial stress, well-being/health and the physiological pathways that mediate such associations. Led by Smyth, with Thorn as Deputy. Comprises 5 Psychology staff, 2 Emeritus Professors, 1 Research Fellow, 3 Doctoral Researchers. iii) <u>Criminal, Investigative and Forensic Research Group (CIFR)</u>: investigates psychological processes in forensic and investigative settings, and understanding the nature, causes and impact of crime. Led by Dando, with Mackenzie (submitted UoA3) as Deputy. Comprises 8 Psychology staff, 2 Criminology staff (submitted UoA20), 4 Doctoral Researchers. iv) <u>Supporting Patients with Long-term Health Conditions</u>: inter-disciplinary and inter-professional research towards improving wellbeing of those with 'chronic' health issues. Led by Ridge (submitted UoA3) with Cheshire as Deputy. Comprises 5 Psychology staff, 1 Life Sciences staff, 1 Research Fellow, 3 Doctoral Researchers. <p>Loveday is Psychology Research Lead with responsibility for the overall research environment, working alongside the UoA Lead (Dando), other senior research mentors (Buchanan, Golding) and the College Research Director (Ridge).</p> <p>Indicative of the University's strong support for research within the subject area is the fact that, since 2014, in what is a relatively small unit, 6 new research-active staff have been employed. This has included both established researchers to provide further research leadership – Dando (2016), Evans (2017) and Moutsiana (2017) – and early career researchers – Bunday (2018), Hazell (2019), Cheshire (2015) and Parkin (2018) – who are crucial to our development and sustainability.</p> <p>Research Ethics review is carried out in line with BPS requirements, with lower risk student and staff research considered by a Psychology Research Ethics Working Group (chaired by Dando), reporting to a College Research Ethics Committee which considers all research that has ethical implications (Dando and Evans represent Psychology). For further details of the University's commitments to research ethics and integrity, see REF5a.</p> <p>Three dedicated administrators monitor research outputs to ensure accessibility and that open access policy is met. Funds are made available at University level to support gold OA publications. Working towards making data open where possible, and recognising the importance of reproducibility, the University is a member of the UK Reproducibility Network, for which Evans is the institutional contact. Buchanan chairs the University's Research Data</p>

Management working group. **Loveday** is on the editorial board of the open access University of Westminster Press.

1.2 Unit Research and Impact Strategy

Following REF2014, we updated and refocussed our strategy in response to feedback and newer challenges to research in the discipline, with the following strategic aims:

1. To increase the number of staff operating at the level of international research excellence;
2. To increase our research income from UKRI and diversify funding streams;
3. To further develop our successful and active community of doctoral students;
4. To identify impact opportunities and maximize support for existing impact activities.

We have achieved each of these, as follows.

1. Increasing number of staff operating at the level of international research excellence

Regular time to pursue research is available to all staff (full-time, fractional, fixed-term) through implementation of the University's transparent workload allocation model (WAM). Hours specifically for research and scholarly activities, amounting to between a quarter and a third of overall workload, are incorporated into staff timetables at a level directly tied to output achievements and potential, and are decided following annual individual personal and professional development meetings with all staff.

Staff are further assisted to meet their goals through formal mentoring systems within the unit. Examples include individually-designed mentoring for **Taylor**, an ECR who sought to develop skills to undertake research, publish the resulting findings and apply for external funding, and **Smyth** to develop research leadership skills. **Smyth** was mentored by **Clow** (retired) to take on the coordinator role for the Psychophysiology and Stress Research Group role. As a direct consequence of this experience, she was appointed to lead the University-wide Health Innovation and Wellbeing Research Community. **Smyth** was subsequently promoted to Reader (2020), and, in her role as Community Lead, regularly collaborates with colleagues in the Health Innovation Ecosystem, an interdisciplinary research hub that sits across multiple academic structures of the University.

Research groups are the primary vehicle for exchange of ideas within the unit. Each has considerable autonomy in deciding their structure and activities, meeting regularly both formally and informally, submitting funding applications, developing training and mentoring relationships within and across research groups. A one-day research conference/forum takes place annually, where staff present their research, alongside postgraduate students, providing opportunities for sharing, networking, and seeking/providing advice. Bi-weekly 'research carousel' events provide a combination of research seminars and themed workshops for staff and students.

Off-site residential writing retreats at The Abbey, Sutton Courtenay are offered twice yearly with structured writing opportunities, with a staff wellbeing focus. On-campus writing retreats and protected writing days are offered regularly in between. College and university-wide interdisciplinary grant-writing workshops (one external, one internal) have been provided annually over the past 3 years, alongside impact workshops with external and internal speakers in each of the last 2 years.

Senior researchers in Psychology are also encouraged to collaborate with less active/more junior colleagues. This initiative has increased the number of research-active staff, outputs and research income and raised the quality and quantity of research outputs and funding applications. The number of staff submitted to REF has increased by 58% since REF2014, from 12.5 FTE to 19.8 FTE.

2. Increasing our research income from UKRI and sourcing additional funding streams

We have more than quadrupled our absolute income compared to REF2014. Research funding returned to HESA since 2013-14 is £2.765 million, as compared to the £0.7 million that was returned in REF2014, including major grants from the Centre for Research and Evidence on Security Threats, ESRC, European Research Council, the US High Value Detainee Research Group, UK Ministry of Defence and Roche. This amounts to an increase of more than double in average annual income from £155,196 per year in REF2014 to £395,063 in REF2021. See 3.1 below.

This increase in income was achieved through strategic investments, including: recruiting research-engaged staff; promoting 'intelligent' mentoring to match ECRs with experienced researchers; providing new staff with teaching relief in their first year to allow them to establish their research; ensuring all staff have a regular opportunity to talk to the Psychology research lead about their work; providing internal funding for excellent research proposals; ensuring research conversations are always part of personal and professional development reviews; and allocating research hours via annual workload allocation discussions regarding research activity.

In this way, it was possible to identify and support ambition, while rewarding research excellence. We were able to connect researchers and help stimulate and coordinate research ideas. Specific WAM hours were allocated for the development of new research projects and funding bids (see Strategy 1 above). Advisors have worked in partnership with colleagues from UoA4 and other disciplines to identify opportunities, target relevant funding and then support colleagues to lead or contribute to funding bids. Examples include: **Clow** supporting **Smyth** to secure funding from Sir Halley Stuart Trust (£60K) and the British Academy (£10,000), and **Dando** supporting **Taylor** to secure a BA Leverhulme Small Research Grant (£9900). Since 2019, this support and guidance has been supplemented by interdisciplinary 'mentoring circles', which include up to 8 mentees and are led by one of two experienced senior academics within the College.

Early career researchers and newly appointed staff can apply for 'Start Up' funding of up to £5,000: **Parkin**, **Ballieux**, **Doering**, **Smith** and **Smyth** have all received funding of between £3000 and £4000 since 2014. Targeted support has also been provided to individuals or teams identified as having strong funding potential by offering structured internal grant and paper-writing days (see Section 2 below) and by utilising Research Fellow expertise in research design, implementation and grant writing when preparing and submitting funding bids. Internal peer review panels, comprising senior/experienced academics and professional services staff, have been set up to provide staged support for all funding applications, from idea stage through to submission. Where appropriate, we have utilised internal and external grant-writing experts to provide feedback and advice on funding applications; for example, through a mock interview panel that led to a Fulbright Scholar Programme grant (**Eardley**). We work closely with our designated Research Development Partner based within the University Research and Knowledge Exchange Office (RKEO), who regularly circulates funding opportunities and supports staff with targeted internal funding, encouraging flexibility in matching expertise to available opportunities and funding council priorities.

In 2018 Psychology played a major role in the founding of one of four cross-university research communities, the Health Innovation and Wellbeing Research Community (HIWRC), which was launched to establish more focused and interdisciplinary research across the institution, and to support researcher development and large-scale external grant bids. Led by **Smyth**, the interdisciplinary community has received strategic funding from the University for knowledge exchange and to promote Westminster research expertise, passion and energy. To date, four UoA4 researchers/research teams have been funded by HIWRC to undertake pilot research to strengthen larger external funding submissions, totalling £42,400. HIWRC has also hosted four researcher development events in 2019-20, each attended by between 40 and 80 researchers: 'Developing cross-disciplinary research projects', 'Researching in COVID: practical and ethical

issues', 'Publishing interdisciplinary health and wellbeing research', and 'Health and the arts: interdisciplinary approaches'.

3. Hosting a successful and active community of doctoral students

We currently have 27 PhD students enrolled in Psychology. Since REF2014 there have been 14 PhD completions, more than doubling our return to REF2014. This was achieved by regular submission of strong cross-disciplinary bids for internal studentship funding and scholarships funded by the Quintin Hogg Trust (a charity set up in 1903 to support education at what is now the University of Westminster), proactively supporting individuals to include PhD opportunities when applying for external research funding and encouraging staff to apply for national PhD funding opportunities. This also includes a number of successful interdisciplinary and cross-university applications, including with colleagues in Computer Science, Criminology, Humanities, Life Sciences and Politics. See section 2.2 below.

4. Identifying impact opportunities and maximizing support for existing impact activities

We have been proactive in raising the profile of impact for researchers in Psychology through ongoing impact workshops and one-to-one mentoring (see strategy 1 above). A series of 'achieving impact' seminars and workshops have been delivered during the assessment period, which have included specific guidance on planning for impact, and on evidencing and documenting impact. All research-active staff provide annual, audited impact statements. Targeted financial support for existing and promising impact cases has been provided via the Impact Support Fund, sabbaticals (also fundamental for grant development and high impact outputs), and School funds to further develop research activity with maximum impact potential. These include work by **Cartwright** on yoga and health, **Hazell** on student mental health, **Loveday** on connecting the public with the lived experience of pathological memory loss, and **Dando** on Applied Controlled Cognitive Engagement for human intelligence gathering and veracity testing.

Our selected impact case studies evidence how theory, empirical knowledge and real-world observations have improved care and treatment of patients with severe memory loss (**Loveday**) and enhanced national and international security (**Dando**). Research associated with these impact case studies, as well as much additional impactful and public-facing research – including that of **Buchanan, Cartwright, Hazzell, Eardley, Smyth** - feeds directly into formal teaching at all levels, allowing students to engage with contemporary research and appreciate how science informs practice and the public at large. For example, 'Psychological Research at Westminster', an UG module where staff members present their research each week, and 'Social and Applied Psychology', a MSc module introducing staff research applied to real-world challenges.

To further support impact generation within the unit, we have implemented a dynamic portfolio of external engagement activities, including public lectures, public-facing events (e.g., at the Truth Festival, House of Lords, *Sunday Times* Workshop, UK All Party Parliamentary Working Group, British Science Festival, Edinburgh Book Festival, US Institute of PEACE, Washington DC), engaging with media by working closely with the University Press Office, and via regular social media interactions on both the Psychology and University Twitter account, as a 'Psychology Today' Blogger and by contributing to *The Conversation*.

Potential impact opportunities beyond the current REF period are continuously monitored within the unit. The University's Research Communities funding initiative outlined in REF5a has been fundamental in supporting this strategy by directing funds to cross-disciplinary projects with potential for impact beyond REF2021. Funded projects based within UoA4 include: **Eardley**: Place Identity, belonging, memory and local communities; **Smyth**: Exercise in natural environments: a gateway to healthier communities; **Doering**: Value development in childhood and adolescence; **Dando**: County lines exploitation of children: Being a victim and an offender.

The unit has been able to draw upon further funding from the Quintin Hogg Trust and Health Innovation and Wellbeing Research Community to focus specifically on impact-related activities. Examples include developing and implementing psychologically-informed training for the security industry, purchasing equipment to support knowledge exchange with disadvantaged groups, and media training to enhance public understanding of psychological science and its impact. Such funding has also allowed us to employ RAs who work closely with a dedicated impact officer to capture, monitor and track impact, as well as to facilitate a number of public and networking events. We actively recognise and value all research achievements within Psychology, ensuring that these are widely communicated both internally and externally. For example, a quarterly Research Digest is circulated university-wide that highlights research activities in Psychology, including funding applications, peer-reviewed publications, media appearances, conferences, and so on. The University Communications Team is also informed of significant research achievements and funding, as appropriate.

1.3 Future Research Strategy

Our two overarching objectives for 2021-2026 are: i) to further develop research activity and improve impact in our areas of excellence, and ii) to double research income on the basis of our existing track record of success post-REF2014. In meeting these objectives, UoA4 has the following strategic aims, which are proactive in nature, while recognizing a need for flexibility to allow staff to react to emerging issues, as exemplified by the COVID-19 pandemic:

To create a positive place and culture for research so everyone is supported and encouraged to realise their ambition. We will continue to '*grow our own*' researchers through targeted support of ECRs via our mentorship scheme. We have an excellent track record in this regard with **Smyth, Mackenzie, Law** and **Taylor** all having completed their PhDs at Westminster prior to being appointed to permanent positions in the unit. We will continue with our successful bid-writing and writing retreats. Particular attention will be paid to equality and diversity in researcher development (see 2.3), drawing on the newly developed University Researcher Development Programme (see REF5a), which offers a series of targeted training events, including 'Impact and Engagement', 'Funding for Research and Knowledge Exchange', 'Publishing, data, ethics and integrity' and 'Taking charge of your career'.

Focus on areas of research excellence and knowledge exchange, to make a difference.

Our ambition is to further develop our existing research groups by emphasizing the unique areas of research that have emerged since REF2014, and to actively encourage groups to be more interdisciplinary. For example:

- i) Building on the novel work of **Carpenter, Mackenzie** (submitted UoA3) and **Nahouli** (doctoral researcher), we aim to develop a national cross-disciplinary network (including sociologists, criminologist, clinicians and organisations impacted by suicide, such as National Probation, emergency services and Network Rail) for better understanding suicide, with a particular emphasis on context and culture.
- ii) To realise the Westminster vision of '*enhancing and enriching life-long health and wellbeing*' and advancing existing research relationships, we aim to form a cross-disciplinary international network linked to the [Westminster International Centre for Social Prescribing](#), including the Green Gym Programme (a UK-wide programme enabling vulnerable groups to enhance their physical activity and social interaction in nature) and enhancing physical activity and/or engagement with nature in looked-after children (**Smyth, Thorn, Hazzell**).
- iii) Following the innovative forensic and investigative expertise that has emerged from international funding in the unit, we aim to offer a series of bespoke accredited national and international professional CPD courses to encourage wider participation in this dynamic field of psychological enquiry with an emphasis on relationship building, culture and context (**Dando, Moutsiana, Evans, Nahouli**).
- iv) Furthering our ground-breaking research with students who self-harm, and the Students Union and Students UK (**Smyth, Mackenzie, Hazzell**), we aim to provide

- high-quality, practical and accessible advice and signposting for such students through new systems to support such externally-focused work.
- v) Finally, we will play a key role in the development of the University Culture, Heritage, Identities, Museums and Exhibitions Centre, which will draw together researchers from Humanities, Social Sciences, Computing and Art and Design, and extend the University's existing connections with the Smithsonian Institution, Washington, DC (**Eardley**).

Double our funded research activity, with high and consistent quality of outputs and increased impact on business, industry and wider society. Building on our current networks and partnerships, by 2024 we aim to have doubled grant income, seeking novel and bespoke partnership funding opportunities in addition to traditional funding avenues. We expect our plans to expand and specialise to significantly increase our national and international reach and impact outside of traditional academic contexts. We play a key role in the new University cross-disciplinary Research Communities and will continue to do so as research themes emerge across Westminster, and in response to business, society and industry needs.

Engage in global research knowledge and exchange. In addition to the exemplars provided in point 2 above, an ambitious programme of Knowledge Exchange is planned over the next five years. We aim to develop and deliver a programme of Westminster Accredited CPD to Industry, Government organisations, NHS/healthcare, and private professional bodies, transitioning our unique areas of research and applied expertise to knowledge exchange and societal meaning. Using a hub and spoke model, these CPD courses will be managed centrally but developed and implemented at a Research Group level where the relevant areas of expertise exist and flourish. We also aim to invest in more outward-facing events. For example, building upon the success of the 'Difference Festival' held annually at the University's historic Regent Street building and Different Conversations podcast series, we will introduce a series of mini themed lectures, a Westminster Psychology Blog, and Live Projects, working closely with our UG, MSc and PhD research students to provide a platform for our research activities and a vibrant place for our students and researchers to develop and create new knowledge.

Section 2. People

2.1 Staffing Strategy and Staff Development

Our staffing/staff development strategies have worked synergistically over the census period. These have focused specifically on:

- i) Supporting research-active staff to continue to progress with their research and associated activities;
- ii) Encouraging existing staff who aspire to take on a significant responsibility for research to do so through targeted support, training and staff development;
- iii) Prioritizing research profile as a selection criterion in the recruitment of new staff across all areas of teaching and research.

All staff have annual one-to-one interviews with the Research Lead (**Loveday**), and are supported through a range of mentoring arrangements, as described above. Staff career development is clearly signposted via career pathways set out at University level for researchers at all stages, supported by a range of workshops and courses run by the Research and Knowledge Exchange Office (RKEO). As outlined in Section 1, the RKEO also provides specialist training for individuals and groups in impact and bid writing, and additional bespoke support is available at both College and School levels, as required.

The Psychology Research Lead (**Loveday**) and Assistant Head of School, who oversees the Psychology unit, work together to manage the staff development budget. All research-active staff (including fixed-term and part-time) can access a School fund to support staff training, workshops, and attendance at research conferences. Annually, £500 is automatically made

available to all researchers upon request and following completion of a short application. An additional £800 is available to all staff (by application) for specific research development support. This has continued despite the COVID-19 pandemic, so as to support attendance at remote conferences/workshops, relevant training and other research costs.

Dedicated time for independent research is available to all staff with a significant responsibility for research, through the direct incorporation of research hours into yearly workload (from 1504 total hours of workload pro rata). Hours for independent research are allocated annually (pro rata) as follows: Professors and Readers 425 hours, Principal Lecturers, Senior Lecturers and Lecturers receive a minimum of 250 with the possibility of up to 350 hours, depending on their research plans and activities. Further hours are made available for research administration, PhD supervision and externally-funded research. All staff receive an additional allocation of 174 hours for scholarship activities.

Our sabbatical scheme is open to all staff with three-years' service to engage in research, academic enterprise, or other activities that will increase their scholarly achievement, targeting those whose circumstances have impeded their research progression and/or who have high teaching and admin duties. The scheme funds one sabbatical per academic year. Key staff have been further supported through extended research leave and internal funding initiatives to facilitate new research links, including: **Evans** at the University of Hong Kong; **Smyth** at Northwestern University, USA; **Doering** at University of Muenster, Hebrew University of Jerusalem, Tel Aviv University, National Research University, Moscow; **Cartwright** at Harvard Medical School.

Psychology has invested heavily in external two-day writing-retreats and one-day workshops, which, as staff feedback attests, have contributed significantly to staff development in the unit: '[T]he Abbey was a perfect venue for a writing retreat...It is the most positive work experience I have had', 'they have given me great energy towards my writing projects and also supported me in thinking long term', 'retreats are important, and should continue to be prioritised as an investment in staff development terms from both a CPD/health and well-being perspective, as well as a research and scholarly activity perspective'. These have been attended by 19 staff in the unit. Stand-alone 'Bid Clinics' facilitated by experts have provided group and one-to-one feedback on draft proposals, guided ECRs and supported 'absolute beginners' in preparing and submitting grant applications. Specific pre- and post-bid support is provided through a dedicated Research Development Partner and Award Officer who are centrally based in the RKEO.

As a direct consequence of targeted recruitment, researcher support and staff development strategies, the number of staff with a significant responsibility for research within the Unit has increased by 60% since REF2014. In line with our priorities for strategic investment, all new staff employed since the last assessment are research-active, covering areas such as social psychology (**Smith, Yetkili, Chapman**), developmental psychology (**Doering**), cognitive neuroscience (**Parkin, Moutsiana, Evans**), clinical (**Hazell**) and forensic psychology (**Dando**). This has fuelled strong growth across several new and existing research areas, including, for example, substantial growth in outputs and funded projects by the Psychophysiology and Stress Research Group, as well as leading in 2020 to the formation of the new Criminal, Investigative and Forensic Research Group (CIFR).

The overall success of our staff development strategy is reflected in a strong record of promotion since 2014, including to Professor (**Loveday**), Reader (**Cartwright, Waddington**), and Senior and Principal Lecturer (e.g., **Doering, Eardley, Gardner, Taylor**). All Category A Teaching & Research eligible staff are on permanent contracts. Research Associates and Assistants on fixed-term (research only) contracts are able to access exactly the same support as staff on permanent contracts. The most crucial part of our overall staffing and recruitment strategy has been to ensure a balanced staff structure with early career researchers (e.g. **Smyth, Parkin, Mackenzie**), promising mid-career researchers (e.g., **Cartwright, Evans, Bunday**) and Professors to provide leadership (e.g., **Buchanan, Dando, Golding; Loveday**). This balance of experience and promise is fundamental for the effective management of current research activity

(e.g., mentoring and grant reviewing), as well as for managing succession planning and future research strategy.

2.2 Doctoral students

There are currently 28 Psychology doctoral researchers, located in a large dedicated open-plan office in the heart of the unit's base in central London. All students have personal desk spaces with individual computers. Currently, 3 full-time students are supported by full or partial bursaries and fee waivers arising from external funding or internal investment. A ring-fenced portion of the Psychology research budget (£15,000 pa) is available to support specific research expenses (e.g. participant payments, training and specialist equipment) available by completion of a one-page application, a process administered by the Psychology Research Student Coordinator (**Doering**).

The University-wide Graduate School ensures that all PhD students and supervisors are supported and informed of opportunities and the resources available. Examples include the Globally Engaged Researcher Fund which funds students (up to £1000 pa per student) to complete specialist training external to the University, or to attend conferences and present their research, and the '125 Fund' which provides financial support for projects and activities that enhance student employability. The Doctoral Researcher Development Programme (DRDP) administered by the Graduate School, and based on the national Vitae Researcher Development Framework, offers research students tailor-made workshops, specialist skill sessions and personal development activities to gain experience and skills towards career development and general researcher knowledge of, for example, ethics and research integrity. These target the needs of student at each stage of their PhD. For further details, see REF5a.

Research students' teaching and admin commitments are strictly limited during term time, with no teaching commitments at all in their first year of study - with timely completions emphasised from the offset. Students are encouraged to study for a Postgraduate Teaching Certificate (with fees/costs met by the Graduate School). The University's Virtual Research Environment provides an auditable repository for logging student/supervisor meetings, storing documents and drafts, and providing feedback to support students to meet their PhD milestones. Further details can be found in REF5a. Our PGR students also benefit from school-based training in the specific research skills needed for their particular area of Psychology (e.g., eye tracker; virtual reality; SensCam; transcranial direct current stimulation; forensic coding; forensic interviewing), as well as more generic training in broader research skills and professional development.

Proactive and responsive support of research students is managed locally by the Research Student Coordinator (**Doering**) and aligns with the wider University DRDP. Research students are also able to enroll on additional relevant modules/sessions from MSc courses. Student progress with the training programme and at key stages of the research degree (registration, transfer, completion) is monitored annually at unit, School and College level. An annual PhD conference allows research students to showcase their research across disciplines. All PGRs are allocated a main and a secondary supervisor relevant to their research area, and are invited to join a research group or research community from the offset where they take part in research-specific activities organized by their home group.

Examples of the research and development activities of PhD students include an annual internal PhD conference, oral and poster presentations at prestigious peer-reviewed national and international conferences (e.g. American Psychology and Law, New Orleans 2019; British Psychological Society, Harrogate, 2019; Intermedia audio-visual translation conference, Warsaw, 2019; *Sensing Culture*, University of Bath, 2019). Various students have also contributed articles to national and international media. Examples include an article for the *Guardian* by Nahouli concerning his work teaching psychology in prisons, and a Parliamentary Office of Science and Technology report on immigration (Claire Tranter). Nahouli has worked extensively with London Probation Service to disseminate the findings of his PhD research on rapport building in practice. In early 2020 he presented his PhD research at a live webinar

attended by 45 members of UK Probation Service, for which feedback was extremely positive; for example: *'Thank you for doing this research because it really validates 16 years of my life.'* His findings are being incorporated into Probation Service training by their Head of Research. Tranter (PhD awarded 2019) - funded by the UK MoD - was successful in her application for a highly competitive BPS Fellowship to the UK Parliamentary Office of Science and Technology in 2018. She is now employed by the UK Foreign and Commonwealth Office.

2.3 Equality and diversity

Psychology is committed to the highest standards of support for equality and diversity. Psychology staff set up the Black and Minority Ethnic Staff Network (BMESN) in 2015, which has access to budgetary support from the University and an internal (working with senior managers) and external (public-facing events) presence designed to highlight and reduce inequality, and lobby for changes to policy at Psychology and University levels. The BMESN, which is co-led by Psychology staff, was instrumental in setting up the University EDI policy and action plan, with an EDI Officer now in place to monitor activity across the University, including guidance on inclusive language and exit interviews to track equality issues/concerns. The BMESN and EDI officer assist Psychology in fostering diversity. Examples include actively encouraging people from diverse backgrounds to apply for positions in Psychology; ensuring that BME colleagues are invited/involved/consulted regarding strategic development plans; giving people a voice and listening; engaging with different perspectives; and celebrating our diversity. A recent example is BMESN's contribution to developing the advert for 5 new Psychology posts, which strongly emphasised diversity. Two members of the BMESN also sat on the interview panels.

The University of Westminster was the first university to be awarded the post May-2015 Athena Swan Bronze award. The Self-Assessment Team included staff from Psychology, who helped secure and implement the University action plan. Any staff involved in shortlisting and interviewing have to complete recruitment and selection training aimed at diversifying the staff body at Westminster. Junior staff and those from non-traditional backgrounds are particularly targeted for the training so that they can join interview panels. Alterations to our recruitment processes include advertising copy with specific text encouraging diverse candidates to apply. Mechanisms are in place to track measurables and promote equality in hiring (e.g. ensuring BAME representation on panels). We also provide mentoring for female research staff to seek promotion earlier in their career and to do so soon after periods of maternity leave. Staff returning to work after parental leave have been provided with bespoke support (condensed hours and a return-to-work mentor) designed to ease return. The unit encourages the promotion of non-biased language during reporting of research (e.g., avoiding binary reporting of gender in study participants).

The male/female ratio at professorial level in Psychology is 50:50. Both Readers are female.

Both the unit and wider university are clear in all available literature (website, advertisements and prospectuses) that we welcome applications from potential doctoral researchers with protected characteristics and from diverse backgrounds. Support is in place for doctoral students with protected characteristics, including adapted equipment and access to bespoke support as required. In 2020 one PhD student with impaired vision, for example, submitted her thesis and successfully completed her viva.

Equality and diversity considerations were fundamental in selecting our output portfolio for REF2021 via a representative panel of internal reviewers (by gender, experience, expertise and race), internal reviewer training that highlighted equality and diversity, and decisions made concerning the submission of outputs assigned the same grade. In line with the University REF2021 Code of Practice, our final selection sought to enhance: i) the inclusion and representativeness of outputs produced by staff with protected characteristics and ii) the representativeness of outputs from different research areas.

3. Income, infrastructure and facilities

3.1. Income

During the assessment period, Psychology has been in receipt of £2.765 million in research funding (as returned to HESA), more than quadruple that returned to REF2014. Staff benefit from a dedicated full-time Research Development Partner attached to Psychology, who identifies external funding opportunities and facilitates applications, and a specialised Post-Award Project Manager. The emphasis is on submitting applications only of the highest quality by way of a clearly articulated and transparent team peer-review process. This team comprises current or former members of UKRI Peer Review Colleges and senior researchers with expertise in relevant domains. Such processes are complemented by seed-corn funding to pump-prime projects seeking external support.

A selection of grants since REF2014 that showcase the breadth of our national and international research income include:

- £70,285 - Centre for Research and Evidence on Security Threats (**Buchanan**) to investigate spreading disinformation online;
- £2.5 million - 'Survivors' Rehabilitation Evaluation after CANcer (SURECAN)', NIHR with £48,000 to Westminster (**Ridge**);
- £75,000 – Quintin Hogg Trust (**Cartwright**) to investigate GP burn out and resilience;
- £75,398 - West London Clinical Commissioning Group (**Cartwright**) to evaluate the benefits of yoga on social prescription;
- £555,000 - Swiss National Science Foundation, with £90,000 to Westminster (**Doering**) to research value development in children;
- £100,000 - US Federal Bureau of Investigation (FBI) (**Dando**) to investigate cross-cultural persuasion in intelligence gathering interviews;
- £87,000 - Ministry of Defence (MoD) research grant (**Dando**) to research persuasion in virtual environments;
- £358,000 - Economic Social Research Council with £43K to Westminster to explore navigational differences and environmental perception (**Loveday**);
- £950,000 - European Research Council (**Silvanto**) to investigate links between mental imagery, working memory and conscious perception;
- £125,000 – Roche: 'Investigating how carers cope, access and use support services – Lessons from Covid-19' (**Cartwright**);
- £60,000 - Sir Halley Stewart Trust: 'Understanding the needs of those supporting students who self-harm' (**Smyth**).

Such success in securing external funding is a mark of the success of our post-REF2014 strategy to better align our research with UK Government and International funding priorities, and to target a broad range of national and international funding bodies.

3.2. Infrastructure and facilities

Psychology benefits from dedicated high-quality research facilities managed by two experienced research technicians, one of whom is registered with the Science Council (RSci) and has completed Science Council training to become an assessor for RSci and RSci Technicians. Facilities include 8 laboratories (Health, Cognitive, Qualitative, Cognitive Neuroscience, Sound Attenuated/Eye Tracker laboratory, 2 behavioral studies labs, EEG lab and TSM lab), 2 qualitative interview labs, 7 research cubicles and 3 specialist PC labs. Additional specialist equipment/facilities include a Neuronavigation system for accurate TMS coil placement; CANTAB; NeuroConn DC-STIMULATOR MR (with DC-S Study Mode Software); and motion sickness cabin chair.

Psychology staff and PGR students are also able to access MRI scanning facilities at University College London: via **Moutsiana**, who is an MRI trainer, and **Evans**, who has ongoing research links with UCL via his involvement in the c3consortium, a body of researchers working on cognition and communication across the UK.

The Psychology staff offices are located on our Cavendish Campus, situated in the floor immediately below the PhD office, ensuring that doctoral researchers are physically close to their supervisors and vice versa. The Psychology staff offices were completely remodelled in 2014 at a cost of £941,326. In 2015 the space won the award for Best Interior Fit Out in a Public Sector building at the FX Interior Design Award for its simplicity, unity, innovative use of space, lightness and flexibility. All staff have permanent office space, with designated, exclusive areas for visiting lectures and researchers.

Psychology staff have access to libraries at 4 campuses (Cavendish, Harrow, Regent Street, Marylebone), with a full-time dedicated academic liaison librarian and a Psychology-specific collection situated at Cavendish. Our librarian liaises directly with staff to maintain UoA4-relevant resources, ensuring access to the relevant journals and that hard copy textbooks, e-books and digital audio and visual material are available and up-to-date. Bookable study, research and meeting space is available in all libraries, further extending the research facilities outlined above.

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

4.1 Research networks and partnerships

Psychology at Westminster is exceptionally well-connected, nationally and internationally, and hosts or participates in a number of influential research networks. Collectively, as well as individually, these networks make a distinctive contribution to society and wider research agendas, especially within the domain of applied health, applied cognition and developmental psychology.

International partnership examples:

A four-year project on value development in children funded by the Swiss National Science Foundation links Westminster with the University of Western Australia, Basel University, Switzerland, and The Hebrew University of Jerusalem (**Doering**). Non-coercive cross-cultural interrogation funded by the US Government links Westminster with the FBI, University of Texas at El Paso, and Iowa State University (**Dando**). Understanding the impact of yoga and meditation for school children in the USA links Westminster with Harvard Medical School (**Cartwright**). Reducing stress (measuring cortisol) by improved green spaces links Westminster with the Royal Horticultural Society and the University of Virginia (**Smyth**). Westminster has also developed enduring research links with a number of international universities through hosting several internationally-funded internships, including: Dr. Turner (Deakin University, Australia) for 6 months funded by Deakin University; Dr. Rajcani (Bratislava University, Slovakia) for 3 months; and Dr. Shi (Tianjin University, China) for 1 year funded by the Chinese Government. Research collaborations have also developed between **Smyth** and academics at University of Virginia; Flanders University, Deakin University (Australia), Bratislava University (Slovakia), and Tianjin University.

National partnership examples:

Research funded by the Sir Halley Stewart Trust has advanced understanding of suicide in probation service users and suicide prevention and management for National Rail, and directly links Westminster with the National Probation Service and National Rail (**Cartwright**). A project funded by the UK Ministry of Defence to investigate cross-cultural persuasion in virtual environments (**Dando**) links Westminster with the UK Centre for the Protection of National Infrastructure, UK MoD and UK Government at Porton Down. **Hazell's** work on increasing access to psychological therapies links Westminster to University of Sussex, Sussex Partnership NHS Foundation Trust, University of Oxford. **Ballieux** is a member of the interdisciplinary

Comparative Cognition Group, which links Westminster to UCL, Kings College, Birkbeck, City University, and University of Kent

4.2 International and national research collaborations

Since 2014, staff in Psychology have developed a wide range of enduring collaborative national and international research partnerships with other HEIs, charities and government and non-government organisations. For example:

Buchanan: National and international research collaborations with peers at Aston and Leicester Universities in the UK, Hanover College, Indiana, USA, University of Konstanz, Germany and Masaryk University, Czech Republic.

Cartwright: National and international collaborations with Directorate of Optometric Continuing Education and Training, Northwest Healthcare Trust, West London Clinical Commissioning Group; Evaluating the impact of an immersive disease simulation programme ('In Their Shoes') on pharmaceutical employees' empathy and engagement. Takeda Pharmaceuticals. National Probation Service.

Dando: International collaborations with the Federal Bureau of Investigation (FBI) in Texas and Washington DC; The USA High Value Detainee Interrogation Research group in Washington DC; International Criminal Court at The Hague. National collaborations with the University of Bath (as a member of the Centre for Applied Autism Research); University of Sussex; University of Portsmouth; UK College of Policing; National Crime Agency; Anti-Slavery NGOs.

Doering: National collaborations with charities - Common Cause, Global Action Plan, Stuart Low Trust – and with peers at Royal Holloway, and internationally with the University of Basel, Switzerland and Hebrew University of Jerusalem.

Hazell: Research collaborations with the Lee Kong Chian School of Medicine, Singapore; Greater Manchester Mental Health NHS Foundation Trust.

Yetkilli: Middle East Technical University (Turkey) and University of Kent Centre for Study of Group Processes.

Smyth: Royal Horticultural Society, University of Essex, Swansea University.

Eardley: Smithsonian Institution, Washington DC.

4.3 Relationships with key research users, beneficiaries and audiences

Research users, beneficiaries and audiences for our research range from government departments, public services, regulatory bodies and charities to industry and individual organisations. Collaborations span most inhabited continents, uniting Westminster with researchers across at least 40 countries. The intellectual substance and material contributions of these collaborations have supported knowledge exchange and intellectual development, bringing new insights from overseas, while sharing our expertise with a wide international base, who augment and support the development of new ideas. Key examples include:

- **Buchanan** has worked with BBC News and the BBC World Service as an academic advisor for the online 'iWonder' guide which provides targeted guidance and advice for adults and children on individual use of social media. He has worked extensively with frontline agencies at the UK Gov. Centre for Research and Evidence on Security Threats, advising on how manipulated information intended to mislead audiences for malicious purposes is spread and has provided confidential briefings on disinformation to UK Government agencies and departments including sections of the Foreign Office and Home Office.

- **Cartwright** works extensively with the NHS and various clinical commissioning bodies to understand the impact of yoga on physical and mental health, including developing the Big Yoga Survey, the first UK-wide survey for understanding applications and benefits. Her research findings have been presented at UK parliament and to national and international practitioner audiences to raise awareness of the health benefits of yoga. She has also worked with the UK Probation Service towards reducing suicide in prison and probation populations where her work has contributed to improving suicide prevention strategies across the UK.
- **Dando** is an interview trainer and advisor for the International Criminal Court, The Hague and the USA Transport Security Administration, and her work is cited in UK College of Policing interview guidance documents. Her research relationships with practitioner frontline organisations have resulted in the development of novel non-coercive and ethical intelligence interview techniques which have been widely implemented, bringing about tangible changes in techniques used to interview aviation travellers, witnesses and suspected offenders in Europe and the USA. She is a non-executive director of the West Midlands Anti-Slavery Network and has worked in Romania as a trainer and advisor to the Romanian government.
- **Doering** is a scientific advisor for the Water Explorer Programme and has been fundamental in guiding this international schools programme, which includes 46,000 children from 11 countries who are supported to take bold and powerful action to save water through fun water-saving Missions, including, for example, cleaning rivers and beaches in South Africa, and upcycling projects to save water in Turkey.
- **Hazell** has worked closely with the Office for Students to 'Rethink Mental Illness' and evaluate student mental health. This project has resulted in freely-available guidance for students on setting up a PhD online support group, self-care strategies poster and the development of 'looking after yourself' workshops. All guidance and materials are widely available and have been used to develop blogs and student wellbeing communities nationally and internationally.
- **Loveday** is a trustee for Age UK. Working with Microsoft and older adults in the community, she has championed the use of SenseCam, a wearable camera to support their memory and improve independence. Loveday has also contributed to Jill Bennett and Volker Kuchelmeister's development of *Amnesia Atlas* at University of New South Wales (UNSW), Sydney. *Amnesia Atlas* is a 3D immersive browser for viewing photographs taken by SenseCam to assist memory retrieval.
- **Smyth** works closely with the Royal Horticultural Society to champion the importance of green spaces for health and wellbeing and the Office for Students for supporting carers of students who self-harm.

4.4 Contribution to the research base, economy and society

The contribution of our staff and PhD students to the wider research base is evidenced by service on national and international research funding bodies. For example, **Buchanan**, **Dando** and **Loveday** are UKRI Peer Review College members. **Cartwright** is a National Institute of Health Research reviewer. **Evans** is a reviewer for Natural Sciences and Engineering Research Council of Canada. **Doering** is a reviewer for the Israeli Research Foundation. **Dando** is a reviewer for American Institutes of Research and the ESRC for the Centre for Research and Evidence on Security Threats and Understanding and Countering and Mitigating Security Threats Panels. **Buchanan** has been an Assessment Panel Member for the €4.2M Society, Integrity and Cyber-Security call within the Nordic Societal Security Programme, the ESRC, Swedish Civil Contingencies Agency (MSB), Norwegian Directorate for Civil Protection (DSB), Research Council of Norway (RCN), Academy of Finland (AKA), Icelandic Centre for Research (Rannís), Netherlands Organisation for Scientific Research (NWO) and NordForsk. Swedish Civil Contingencies Agency (MSB). **Smyth** is a reviewer for the British Heart Foundation.

Psychology staff have served extensively on national and international journal editorial boards. Of particular note are: **Yetkili**: *Social Psychology*; *Turkish Journal of Psychology*, **Smyth**: *European Journal of Cancer Care*; *Psychoneuroendocrinology*, *International Journal of*

Environmental Research, Public Health Psychology and Health, Biological Psychology, Dando: Cognition; Memory; Legal and Criminological Psychology, Evans: Assistant Chief Editor of Frontiers in Psychology: Consciousness Research, reviewer for Nature, Human Brain Mapping; Nature Scientific Reports, Buchanan: editorial board of the International Journal of Internet Science & Zeitschrift für Psychologie, Gardner: Frontiers of Cognition.

Media: Psychology staff have contributed extensively to the public understanding of science on television, radio, and in newspapers and podcasts. **Loveday** regularly appears on BBC Radio 4's All in the Mind, BBC World Service, BBC Radio 3, BBC Radio 6, and Talk Radio. Her expertise on the psychology of cognitive function has featured on BBC1's 'One Show' and Hugh Fearnly-Whittingstall's BBC show 'Easy Ways to Live Well'. Other notable contributions to wider public understanding of psychological science include **Golding, Smyth** and **Cartwright** on BBC2's Trust Me I'm a Doctor, **Evans** as a discussant on BBC Radio 4's 'Word of Mouth', **Eardley** on Radio 4, **Dando** on Radio 4, Capitol Radio, BBC breakfast news and ITV news bulletins and as scientific advisor for Channel 4 TV, **Golding** on Radio 4's 'Word of Mouth', BBC FIVE - 'Stressed you're not the only one', Naked Scientist, Talk Radio AM640 Toronto, Waking U Why the clocks changing are great for your brain, *The Conversation; Metro; Scientific American*, World Economic Forum, Real Clear Science, Medical Xpress, British Academy Blog Post: 'How can you reduce the negative effects of stress?', Stress Management *The Times; Daily Mail*, Stress and conspiracy theories: *Daily Mail; Independent*.

In support of emerging best practice, Psychology has a ReproducibiliTea journal club, which meets every 2 weeks as part of the broader national ReproducibiliTea journal club initiative. These sessions involve discussion of specific journal articles or discussion of more general issues concerning research methods, statistics and reproducibility. These are facilitated by **Evans** who is one of the first graduates from the BBSRC Research Stars, Advanced Methods for Reproducible Science residential course, a training course funded by Psychology. As part of the UKRN, Psychology has access to reproducibility training opportunities and initiatives run by UKRN.

Loveday is currently Chair of the British Psychological Society Psychologist Digest Editorial Advisory Committee, a member of the British Psychological Society Research Board and sits on the board of SHINE (Spina Bifida and Hydrocephalus). Other members of Psychology serve or have served on several BPS Committees including: Member of The Psychologist and Digest Editorial Advisory Committee; Undergraduate Education Committee (UEC); Division of Academics Researchers and Teachers in Psychology (DART-P); Section on Sexualities; and the BPS conference committee. **Dando** won the BPS Cognitive Section prize for the best paper in *Cognitive Psychology* (2016) for her aviation security paper. She chaired the BPS Memory and Law Task Group. **Smith** is an advisory panel member for a UK Energy Research Centre project. **Buchanan** was co-editor of the 2017 British Psychological Society *Ethics Guidelines for Internet-Mediated Research*.

One notable emerging contribution to society has been our response to the ongoing COVID-19 world health crisis. Psychology has made contributions in ways that cut across both research and impact. Psychologists have worked to understand and mitigate the negative mental health outcomes of lockdown and the negative impact on education, quickly producing guidance on effective support for self-harm amongst university students (including doctoral researchers) across the sector via the [CHERISH](#) website (**Hazell, Smyth, Cartwright**). In parallel, **Loveday** has helped steer the British Psychological Society response to COVID-19.