

Institution: Nottingham Trent University (NTU)
Unit of Assessment: A04 – Psychology, Psychiatry and Neuroscience
<p>1. Unit context and structure, research and impact strategy</p> <p>The NTU A04 Unit of Assessment is comprised of academic staff with significant responsibility for research based within the Department of Psychology within the School of Social Sciences. The Department has expanded significantly since 2014, benefitting from strategic University investment in staff and research facilities. Exceeding its stated goals in REF2014, the Department has built research capacity in established areas of excellence whilst also creating new research groups that reflect both the evolving discipline and national and international research priorities. The result is a Unit outstanding in both breadth and critical mass. Key highlights in this period include:</p> <ul style="list-style-type: none"> • A 166% increase in staff with significant responsibility for research, including 7 new professors with 4 recruited from established chairs at traditional and modern universities, 2 internal promotions, and 1 external recruitment from associate professor; • Institutional investment of £4.5m in research buildings, equipment and initiatives, including relocation and expansion of research laboratories in a new dedicated research building; • New state-of-the-art sleep and phlebotomy labs; • Dedicated centre for research into and treatment of sex offending; • Over 1300 peer-reviewed publications (with 10,000+ citations) since 2014; and • Accelerated growth in research revenue from UKRI and other sources from £156k in 13/14 to over £930k in both 18/19 and 19/20. <p>1.1 Unit Context</p> <p>NTU Psychology is a large and growing Department with the ambition of being one of the top university Psychology departments in the UK in terms of research excellence. This vision is founded on the core aims of delivering robust theoretical and applied research that will advance knowledge and have transformative impacts on individual lives and society. Departmental breadth brings multiple methods to bear on psychological issues of societal concern, spanning the spectrum from neuroscientific interventions (EEG, TMS) to comparative and developmental approaches (observational lab, field research) to advanced qualitative techniques (IPA, discourse analysis).</p> <p>Since REF2014, the Department has more than doubled in size, with 123 academic staff in 2020 (105 FTEs). The strategy underpinning this growth has been to invest in talent and potential within NTU while making significant external appointments (e.g. 5 new externally- recruited professors). Consequently, the Department has increased peer-reviewed publications (totalling 1300+ publications since 2014), trebled PhD completions (N=54), and increased external grant spend in a challenging environment by 71% compared to last REF period. Simultaneously, it has maintained the best overall undergraduate student satisfaction (NSS) in any UK psychology department, averaged over seven years. This success has been underpinned by University investment, with £2.2M institutional-level investment in research initiatives and £2.3M capital investment on equipment and facilities.</p> <p>1.2 Unit structure</p> <p>The size of the Department necessitates a layered research structure that engages colleagues at three levels. First, all staff and PGR students are aligned to at least one of fifteen research groups which channel resources, provide information, advice and support, and facilitate research collaboration. Many of these groups began organically, but were formalised during this REF period to harness their potential for promoting research excellence. Group Leaders coordinate group activities while providing access to internal sources of support. Groups publish research</p>

and scholarly works, supervise PGRs, contribute to research training, and obtain research funding. They hold regular research meetings and host one major externally facing event per year (workshop/conference).

To coordinate these diverse research groups more effectively, they have been aligned with one of four *Research Clusters* (Table 1), each led by two senior researchers (professor and associate professor). Cluster Leads support their group leaders, providing regular updates and meeting annually to review groups' strategic research plans. Research clusters report annually to the Department, contribute to Departmental financial planning, and oversee mentoring of research staff.

Table 1. Psychology Research groups within Research Clusters:

Brain, Cognition & Development	Addiction, Bullying, Crime & Desistance	Health & Wellbeing	Individuals, Identities & Cultures
(Led by Wood)	(Led by Winder)	(Led by Groeger)	(Led by Stevenson)
<ul style="list-style-type: none"> • Ageing & Lifespan Development • Embodied Brain • Language, Literacy & Psycholinguistics • Perception, Attention & Memory • Transport Research in Psychology (TRiP) • Hearing Research 	<ul style="list-style-type: none"> • Behavioural Addiction (incl. the International Gaming Research Unit) • Bullying & Aggressive Behaviour • Sexual Offending, Crime & Misconduct Research Unit (SOCAMRU) 	<ul style="list-style-type: none"> • Sleep • Trauma, Social Isolation and mental health • Work, Wellbeing & Performance 	<ul style="list-style-type: none"> • Cyberpsychology • Groups, Identities and Health • Person Perception

These research groups also interact with four larger Research Centres that span the whole School of Social Sciences, providing access to theoretical and applied interdisciplinary research opportunities: the Centre for Behavioural Research Methods (CBRM); the Centre for Public and Psychosocial Health (CPPH); the Centre for Crime, Offending, Prevention and Engagement (COPE), and the Nottingham Centre for Children, Young People and Families (NCCYPF). COPE and CPPH are led by Psychology staff (Winder and Karanika-Murray respectively). CBRM utilises the richness of methodological expertise in Psychology to support staff across and beyond the School in developing advanced, innovative and interdisciplinary research approaches. As a result, CBRM members conduct research across a wide range of disciplines with links to overarching University Strategic Research Themes: Health and Wellbeing; Safety and Security of Citizens and Society. Psychology colleagues are at the heart of these interdisciplinary themes. They have won £248k of internal funding to support inter- and intra-school collaborations, leading to external funding, publications and impact.

The Department of Psychology is managed by the Head of Department (HoD), with responsibility for departmental performance and line management of senior staff. Ten professors and a group of principal lecturers line manage all other staff. Professors and associate professors also act as research mentors, a role intentionally distinct from line management, serving to scaffold development of individuals' long-term research plans.

Departmental research strategy is developed by the HoD and professoriate who hold the roles of Director of Research; Income Lead; Impact Lead; REF Lead; PGR Tutor; and Centre/Cluster/Group leads. Strategy implementation is overseen at bimonthly meetings, with a monthly REF Steering group to guide the REF submission. The departmental Research

Management Group meets twice-yearly and includes all professors and associate professors who share information, review progress and set time-bound goals.

At the individual level, staff roles are chosen to reflect the work of individual colleagues. Currently, 49% have significant responsibility for research. In line with our REF2014 goal of consolidating our research base through recruitment, 22.1 such FTEs have been recruited since 2017. Departmental research events for staff include weekly research seminars for staff and students, with presentations from 70 external national or international researchers since 2014. Twice-yearly research away days gather the whole Department together to disseminate research related information, discuss research strategy, and foster collaboration.

1.3 Research Integrity

NTU is strongly committed to maintaining the highest standards of integrity and probity in the conduct of research. The University expects that all those engaged in conducting or facilitating research have an individual and collective responsibility to uphold the principles of research integrity which are set out in the Concordat to Support Research Integrity and apply to the whole research lifecycle. Matters relating to research integrity, including research ethics, are overseen centrally (see REF5a) and managed locally.

The University Research Committee, chaired by the Deputy Vice-Chancellor – Research and Enterprise, and reporting to Academic Board, is responsible for the development and monitoring of research integrity policies and procedures. The University Research Integrity Sub-Committee has responsibility for the implementation of the Concordat to Support Research Integrity and the production of a publicly available annual statement on research integrity, which is presented to Academic Board.

A Code of Practice for Research, Research Ethics Policy and Procedure, Research Data Management Policy and Responsible Metrics Statement provides the policy framework. Robust scrutiny of projects undertaken by staff and PGR candidates in the Department of Psychology is overseen by a committee including reviewers from the wider School of Social Sciences, and from other schools where appropriate. This approach ensures projects are scrutinised from different disciplinary perspectives. Undergraduate and Postgraduate Taught student research is also subject to ethical review and this is undertaken by a committee operating at School-level.

Training resources are available to all staff and students in the form of online modules which cover different aspects of research integrity. This central resource complements training arrangements at local level, which are designed to meet the needs of specific committees. Staff with significant responsibility for research provide annual positive confirmation of their commitment to uphold the standards in the Code of Practice for Research.

1.4 Research Aims

The research aims and associated strategies for this REF cycle have been developed over the intervening years, reflecting the transformation of the Department and changing national and international circumstances. In summary, the Department aimed to:

- A1.** *Improve the research profile of the Department* as reflected in the number of quality outputs, research income and PhD completions. This aim has been achieved, with annual grant spend rising from £156k (2014) to nearly £1m (2019) across the period (totalling £3.38m), 54 PhD completions, and 447 outputs identified as internationally excellent by a member of an external panel (compared to £1.98m spend, 17 PhD completions, and 44 x 3*/4* outputs in REF2014).
- A2.** *Increase research capacity within the Department* in terms of number of staff engaged in research. Increased capacity was achieved via targeted recruitment, training, freeing-up staff time for research, and investment in equipment and facilities. The number of staff with

significant responsibility for research has increased from 23 (36.5% of staff were returned in 2014) to 60 (48% of staff in 2020).

- A3.** *Empower staff to undertake research* via a vibrant, sustainable and inclusive environment where individual interest and expertise are the deciding factors in undertaking research. This aim has been realised through extensive mentoring and research groups which support a wide range of research alongside equality and diversity initiatives which ensure an equitable distribution of resource and opportunity.
- A4.** *Increase impact at the local, national and international level* through incubating emerging areas of impact while also investing in existing impact success. This aim has been met, with a wealth of impact at: the local level (e.g. facilitating prostate cancer diagnosis in local Afro-Caribbean communities, Seymour-Smith; improving the lives of Nottingham children via the 'Small Steps Big Changes' programme, Wood), the national level (e.g. assisting a National Probation Service policy review, Slade; changing the inclusion criteria for treatment courses for sexual offenders, Blagden) and the international level (e.g. inclusion of 'gaming disorder' in the International Classification of Diseases, ICD-11, Griffiths; advising the Dutch Government's development of a national hazard test, Crundall).
- A5.** *Develop a national and international profile for research leadership*, increasing the Department's visibility for theoretically informed applied research and high-quality research training. Specific strategies (embracing open science, thought leading on research, sharing research resources) have raised the Departmental profile as evidenced in its ability to attract high-level staff from prestigious positions, host major conferences, and embed staff in external organisations. For example, staff hold visiting scholar posts at 20+ national and international institutions (Section 4.2), collaborate with many companies (Section 4.3), and are embedded in many policy-influencing groups and charities (Section 4.4).

1.5 Research Strategies

The following strategies were designed to meet the above aims:

S1. Staff strategy: Recruit, Resource, Reward, Retain – These strategies are detailed further in Section 2. Briefly, the strategies were:

- Recruit* new staff targeting priority research areas including existing strengths (e.g. language +5 staff; transport +3) and new emerging themes (e.g. cyberpsychology +3, aging +4);
- Resource* staff through training (£200k since 2014), equipment (£630k since 2014), in-house research funding (Kickstarter, Consolidator and Incubator grants, £400k since 2014; Section 3) and our innovative Research Assistant Pool that allocates Department-funded RAs to staff via twice-yearly competitions (£1.2m since 2014);
- Reward* staff via appraisals (46 staff nominated for bonuses, 9 internal promotions to associate professor or professor), and sabbaticals (12 in the current REF period, since 2017);
- These strategies were designed to *retain* staff, demonstrated by the low turnover ratio (Section 2.2.4) and the high percentage of NTU students and researchers who subsequently join the academic staff (23 out of 84 new recruits in this REF period).

S2. Grow and diversify PGR recruitment - The Department has supplemented University-funded and Departmental-funded bursaries (N=70 since 2014), with part-funded bursaries (at 50%) from external partners (N=8), and self-funded/fee-funded students (N=80). A key growth strategy has been the diversification of PGR recruitment via a new DPsych in Forensic Psychology (N=24, 6 completions), a new International PhD in Applied Psychology with Spanish and Portuguese partners (from October 2019, N=3), and the introduction of Academic Associate posts (from October 2019, N=3). These combine teaching duties with part-time doctoral studies and are used to target under-researched issues (e.g. decolonising psychology) and under-represented staff groups.

S3. Provide time and space for research – The Research Assistant Pool allows staff to manage small research projects, while sabbaticals (4 per year), and ever-greater synergy between

teaching and research, provide time for research. The Department now has 32 undergraduate modules linked to staff research interests, with five specialist UG pathways, and six postgraduate courses grounded in Departmental research expertise. Such research-led teaching won the inaugural NTU 'Achievement in Teaching' award in 2018. Benefits include also co-publishing with students (25 papers co-authored with UGs and 200+ papers co-authored with PGs).

Increased research activity requires additional research space. In 2014 the Department had one EEG lab and assorted testing cubicles. A successful physical expansion strategy, supported by University investment (£929k) provided a dedicated 3 storey research building (>8500sqft), and separately located facilities for sleep research and rehabilitation of people with convictions for sexual offences (£457k, see Section 3.4).

S4. *Impact strategies* - Specific strategies aimed to:

- a) *Develop existing impact* – Resources were prioritised to develop existing depth and reach, curate evidence, and follow new impact pathways. For example, NTU academics and HMP Whatton partnered to form the Safer Living Foundation; a charity providing evidence-based rehabilitation for sexual offenders based on NTU research. Located in dedicated University premises, this partnership increased the visibility and reach of the research, while providing a sustainable long-term commitment to stakeholders (Section 3.4). Many other staff with established or burgeoning impact have received administrative support to seek and curate data, support from the RA pool to develop aligned research, and external mentorship from the Rand Corporation;
- b) *Incubate early-stage impact* – Resources and support were targeted at prospective impact that will mature in the medium to long-term, including resources for research on harassment of young people in public places and into online support groups for eating disorders;
- c) *Co-design research* – The Department encourages research to be designed in partnership with end users, ensuring impact from the start of the research process. Prime examples are research on prevention of sexual offending, reducing harmful behaviours in prisons, care pathways for eating disorders, harm minimization in gambling and bus driver safety (Section 4);
- d) *Respond quickly to current issues* – The Department strategically supports timely responses to emerging challenges. For instance, the COVID-19 Knowledge Exchange group was set up to provide support to local government and the NHS via Nottingham's Local Resilience Forum, Humanitarian Action Group and Sherwood Forrest Hospital Foundation Trust. At a national level, Departmental staff assist the C19 Cross-Parliamentary Foresight Group and advise the Joint Bio-security Centre. The Department has won £755k across several funders for COVID-related research (including £345k UKRI funding) and has already published 54 papers on psychological aspects of COVID19;
- e) *Communicate, engage, disseminate* – The Department engages with the public and stakeholders through a variety of outlets from invited presentations to Government departments and Select Committees (Section 4.6) to growing social media use (including a departmental blog, Instagram, Facebook and Twitter groups, Section 4.7). Colleagues present at a range of academic and professional gatherings and the Department provides free resources to public (e.g. testmydriving.com; Section 4.5). Dissemination is supported by NTU's Nottingham Civic Exchange (NCE). This unique place-based think tank maximises research, policy and practical impacts by matching University expertise with local end users. NCE brings this research, grounded within a specific community and context, to policymakers at national and international levels. Psychology leads NCE's work on the lived experience component of its Ordinary Working Families programme, exemplified by psychological research on food bank use and food insecurity informing UN commentary.

S5. *Providing national and international research leadership* - The Department raised its national and international profile into the top 250 Psychology departments in QS world rankings through:

- a) *Providing research support beyond NTU* – Staff provide training in R, python, Bayesian statistics (ESRC-funded) and qualitative research methods to researchers from other universities (including a national workshop for improving the quality of qualitative publications, April 2018). The Department also provides free software for other researchers to use (e.g. OpenHandWrite software for capturing and analysing pen movement, developed with the University of Potsdam; Section 4.5);
- b) *Hosting conferences* – The Department has sought strategically to host major international conferences on cyberpsychology, qualitative methods, bullying and social psychology (e.g. 5th International Conference on Social Identity and Health, 2020; currently postponed until 2021). Other conferences include the BPS Cognitive (2014) and Cognitive Developmental (2019) sections, and an upcoming EPS conference in 2021. Home-grown international conferences have focused on driving psychology and sexual offending (Section 4);
- c) *Embedding staff into external organisations* – Staff are encouraged to take up posts as editors (40+ journals), reviewers (125+ journals), trustees, and members of national and international groups that influence or benefit from research. Section 4 details the wide penetration that staff have had in national and international areas of relevance to psychological research;
- d) *Embracing open science* – The Department is committed to open-source software (e.g. teaching R and OpenSesame) and to Open Science through the research life-cycle including development (preregistration), analysis (open code) and findings (open access reports, data archiving).

1.6 Future Strategy

Building on current successes, the Department has detailed an ambitious 5-year research and impact plan in a recent departmental strategy document, *Psychology, reimagined*. Key aims include:

- To be acknowledged as world-leading for innovation, supporting research with critical mass to shape the theoretical and methodological debates in key areas (e.g. addiction, sexual offending, transport, open science, research management);
- Encouraging new and nascent research areas to flourish (e.g. cyberpsychology, organisational psychology, comparative psychology and social identity research)
- Enhancing the inclusivity of the Department's research culture by supporting the equality and diversity of staff engaged in high quality research;
- Increasing research efficiency through ever more comprehensive and effective research leadership, support and governance;
- Becoming a centre of excellence for impact by following NTU's aspiration to become a 'regional anchor institution' while informing policy and practice change at national and international levels.

To achieve these ends, the Department will:

- a) *Focus on equality* – The Department will seek to decolonize research through critical scrutiny of current practices, improving on a recent Bronze Athena Swan award by further ensuring equal access to research opportunities;
- b) *Disrupt the traditional research assistant model* – The Department will investigate employment models that will create more sustainable research careers, building on the success of the RA Pool (Section 3.5.1) and Independent/Early Career Research Fellows (Section 2.2.1);
- c) *Enhance further internal leadership* - NTU has created a new Associate Dean of Psychology post to lead the realisation of the Department's ambitions within the broader national and international HE environment;
- d) *Consolidate the structure of research oversight and governance of the unit* – professors will each take a research leadership portfolio in one of ten key areas of departmental development including grant capture, external engagement and staff/researcher development, reflecting a more structured and integrated approach to research

- management. These leadership roles will be supported by new support staff including a grant income and project manager, an impact officer and a research resources manager;
- e) *Increase the international reach, academic impact and reputation of Departmental research* – Innovative research with world leading potential will be supported through University investing in and incentivising development of national and international networks. Dedicated research leadership roles will mentor staff in their international research grant capture activities;
 - f) *Consolidate and develop our existing links with external partners* – A new Head of Applied Psychological Studies will oversee the forensic and clinical teams and coordinate the Department's national engagement strategy with NHS and HMPS;
 - g) *Increase third-stream income via research-informed consultancy, evaluation and training* – Creation of a new Department of Applied Psychological Practice, expansion of the professional doctoral programme to include other protected titles in Psychology, and the provision of nationally leading consultancy and evaluation services will bolster third-stream income. These efforts will be supported by the Centres for Behavioural Research Methods and Public and Psychosocial Health. The formalisation of these interventions will provide another avenue for leveraging impact and ensure that knowledge exchange activities are maximized and recorded for the imminent KEF.

2. People

2.1 Staff numbers

The Department has 123 academic staff (105 FTEs), of whom 60 (58 FTEs) have significant responsibility for research. These Category A staff include 10 professors, 10 associate professors, 39 lecturers, senior lecturers and principal lecturers, and 1 independent research fellow. Forty-one of these Category A staff (39.9 FTEs) were recruited in the current REF cycle, with the modal year of recruitment being 2017, underscoring the Department's relatively recent expansion in research strength. In addition, there are currently 7 research assistants/postdoctoral research fellows employed via the Research Assistant Pool (Section 3.5.1), and a further 10 research assistants who are directly employed via external grant funding.

2.2. Staff strategy

The staff strategy seeks to **Recruit, Resource, Reward, & Retain**.

2.2.1 Recruit

Whilst *Recruitment* has to balance teaching and research needs, the strategy to develop research excellence has included targeted recruitment. Accordingly, the Department

- recruited five new professors since 2014 to improve research leadership in established areas of research (Wood - developmental; Jaspal - health) and provide new foci (Groeger - sleep; Mitra - motor control; Waller – evolutionary psychology). The four most recent professorial appointments all previously held chairs, with two of these attracted from, research intensive institutions. The most recent professorial appointment has brought a £1.7m ERC grant to NTU, supporting the appointment of three new staff and two PhD students;
- complemented existing areas of strength with new staff, especially in impactful areas of research such as behavioural addiction (+2 new staff), bullying (+2), transport (+3), hearing (+1), language (+5), sexual offending (+1), work and wellbeing (+2);
- incubated new areas of research with targeted recruitment, such as cyberpsychology (+3) and aging (+4);
- appointed an Independent Research Fellow in person perception and an Early Career Research Fellow in psycholinguistics. These fellows have 5 and 3 years, respectively, to develop their research profile before joining the staff team.

2.2.2 Resource

Resourcing staff to undertake research has been a focus of the research strategy. This includes training and development, which is supported through research mentors, research group leads and line managers. Training needs are identified through individual research plans and twice-yearly appraisals.

School and University-level staff training is supplemented by training within the Department using both external and internal experts. External training has included grant writing (e.g. Parker Derrington Ltd.), paper writing (via independent experts from the REF2014 panel), technical training (via companies including Tobii, Codamotion and Advanced Medical Equipment) and training in management and administrative skills (e.g. external training in effective mentoring). Internal training has included writing skills, media presentation, and qualitative and quantitative analyses (provided by NTU psychologists through the Centre for Behavioural Research Methods, and, in one case, via an ESRC grant to provide Bayesian workshops).

While some development needs are at a group level, specific staff needs are identified through individual research plans, reviewed regularly with a personal research mentor and agreed with line managers during twice-yearly appraisal meetings. A staff development fund supports individual training requirements that go beyond in-house provision (£200k since 2014).

Additional needs are supported by strategic investment in facilities and estate development which are detailed further in Section 3.3. In addition to these large-scale investments, the Department has a twice-yearly competitive call for the equipment fund. Staff can apply for software, hardware, psychometric tools, etc., that will foster research excellence within their research group (£407k on equipment >£10k, and £223k on smaller purchases since 2014). This fund has purchased diverse equipment including TMS, eye trackers, motion capture, VR equipment and a driving simulator, which have subsequently proved instrumental in winning research bids (e.g. the VR equipment helped win £135k of external funding), supporting publications (e.g. ongoing investment in EEG/TMS has supported over 20 publications), and facilitating PhD research (e.g. a PhD student is using the new Departmental drone to film polo matches).

Institutional-level investment is dispersed via in-house *Kickstarter*, *Consolidator* and *Incubator* grants (detailed further in Section 3). These are made available via once or twice-yearly competitions to kickstart new research or to consolidate current research that needs extra financial support to realise their potential. Kickstarter grants are particularly aimed at ECRs and new starters, encouraging them to create a research team to address novel issues involving at least one senior member of staff. This promotes horizontal and vertical collaboration within the Department. These internal funds have led to external funding (e.g. mobility scooter research totalling £88k), new partnerships (e.g. Bodywhys), and have underpinned many outputs in high-profile journals (e.g. Psychopharmacology, Journal of Neurophysiology, Psychology and Aging).

In the same vein, RAs from the RA Pool are allocated to staff for 1-4 month periods via competitive bids (Section 3.5.1). Pooled RAs provide an excellent way to provide staff with experience in running a research project and managing staff, while giving RAs a breadth of experience that they would not obtain in a typical research post. Eighty months of RA time have been made available to staff in the current REF period, which has supported grant income and publications.

2.2.3 Reward

Staff appraisals are the primary formal method of identifying and rewarding excellent performance. In 2019, the Psychology Department recommended 46 staff for bonus salary increments, or non-consolidated bonuses where appropriate, in recognition of their outstanding

or exceptional performance across the year. Promotion between academic levels is also an important recognition of staff performance. Since 2014, six lecturers/senior lecturers were internally promoted to associate professor and two professorial appointments were internal promotions.

The Department celebrates individual and group successes, with twice-yearly celebrations augmented by gatherings to acknowledge specific achievements, such as the recent Athena Swan Bronze Award (Section 2.6). The Department also invests in frequent wellbeing events (e.g. staff massage day, during which two trained masseuses provided 15 minute de-stress head and shoulder massages to academic and research staff) and funded 21 staff members to take part in the 12 month Virgin Pulse Global Challenge 2019 (a national team-based health and wellbeing competition).

2.2.4 Retain

Retention of staff is an outcome of successful recruiting, resourcing, and rewarding. Staff turnover is unusually low for such a large department. In the current REF cycle, 21 staff have left the University for other posts (with 3 returning within the same period). In the context of 86 new staff recruited over the same period (39 Category A), and a total current staff of 123 (60 Category A), this figure reflects well on the Department's ability to retain staff. Home-grown talent is also retained: twenty-three new members of academic staff were recruited from former students and research assistants since 2014 (8 of whom have significant responsibility for research).

Retention is aided by the outstanding collegiate nature of the Department. This can be judged by informal metrics, such as the number of social clubs that have evolved organically (staff peer support groups, regular book group, board game group, running group, football group, weekly coffee morning, and monthly social meeting at the local public house). All such events are explicitly supported by the Department, providing resources where necessary. The most recent Capita Staff Survey (2018) found that 97% of NTU Psychology staff endorsed the statement *"I'm satisfied with the support I get from my work colleagues"*. The same percentage also endorsed the statements *"my line manager respects and values me"* and *"I feel safe and secure in my working environment"*. In total, 25 questionnaire items received positive agreement from over 90% of staff covering equality and diversity practices, organisational trust, and departmental performance.

2.3 Technical Support Staff

The Psychology Department has augmented central services with dedicated Technical Support Staff (TSS). In 2014, the Department had one dedicated TSS. As part of the resourcing strategy, the Department increased this to four TSS in 2020, a manager and three specialist technicians, providing support across a range of specialist equipment, including EEG, eye-tracking, motion capture and TMS. A research support officer was also recruited to assist with administration of new strategic processes (e.g. the equipment fund, kickstarter grants). The University is a signatory of the Science Council's Technician Commitment, which aims to support career development and sustainability for technical support staff in research.

2.4 Staff management

All staff, including RA/RFs and technical support staff, participate in an annual appraisal cycle with their line manager which includes three formal meetings per year. New staff take part in a similar probation process, before joining the established appraisal cycle. Professorial staff with line management responsibility meet annually in the summer term to review appraisal data and to identify opportunities to support staff who intend to apply for promotion. The Department has achieved a 100% completion rate in each annual appraisal cycle since 2014.

All staff below professorial level also have a research mentor. The mentor and mentee develop an Individual Research Plan that identifies short-term goals that feed into appraisal objectives and longer-term goals in relation to career progression (supporting the most recent Researcher Development Concordat, 2019).

Our approach to the management of RAs is informed and inspired by the commitments regarding environment and culture, employment and career development upheld in the Researcher Development Concordat. Externally funded RAs work closely with their research team, while Pool RAs work (both individually and in pairs) with small teams of academic supervisors. All RAs are mentored, and Pool RAs have a line manager that is distinct from the research supervisor, allowing researcher-supervisor interactions to focus on research. All RAs are supported by the most relevant research group (Section 1.2) and are housed together in shared office space which creates a supportive and companionate atmosphere. Flexible working is built into our practice as the RAs commitments are to the assigned work rather than specific hours. Pool RAs are employed on contracts spanning the whole academic year, providing stability that per project contracts do not, and they receive extensive guidance and support in preparing job applications and interviews. Our RAs' record of progression to funded PhDs, and postdoctoral lecturing position testifies to the effectiveness of our programme in developing our RA's professional careers (Section 3.5.1).

2.5 PGR students

PGR provision at NTU is a partnership between the Doctoral School, academic schools (led by a PGR tutor in each School), Research Degrees Committees and a wide range of Professional Services Departments (particularly Organisational Development, Employability, Registry, and the Library). The Department supports these students with additional local resources, including an experienced research student coordinator within the Department. Students join a research group and are given a PGR mentor on enrolment. They have access to specialist laboratory facilities and equipment through their research groups and the wider research clusters. PhD student progression and examination are overseen by a Research Degrees Committee comprised of experienced researchers including psychologists and social scientists across the School of Social Sciences. DPpsych student progression via examination is overseen by the DPpsych Course Committee. Both committees report to the University Research Degree Committee (URDC) and prepare an annual Course Standards and Quality Report (CSQR). These committees are the key fora for monitoring the ongoing health of the course and the quality of student learning. Overall provision is assessed by a periodic school review process. The 2013 review led to wide changes in the organisation of PGR research including the launch of the Doctoral School and Doctorate*Plus* training programme.

As noted above (Section 1.5), PGR numbers have grown with bursaries funded by the University or Department (70), through external funding (where a partner supplies 50% funds; 8) and self-funded students (80). Currently, the Department has 96 PGR students of whom 79 are studying for a PhD and 17 studying for our recently introduced DPpsych in Forensic Psychology (71.0 FTE and 8.5 FTE respectively).

Extensive training is provided relating to the PhD/DPpsych process (as part of the Doctoral School Doctorate*Plus* core training offer, School provision and bespoke events) and specialist training in relation to particular methods or analyses (e.g., structural equation modelling; Bayesian data analysis). All PhD students are assigned a PhD mentor, attend their respective Research Group meetings, and are expected to attend the weekly research seminar programme during term. They also present their work internally at the Doctoral School Research Conference and/or School Research Conference. Fully funded scholarship students ($n = 70$) have access to an annual fund of up to £750 for specialist training, equipment, and conference attendance. Non-scholarship students can access up to £150 to contribute to conference or other costs. Students have won external funds to support their studies from Santander, the EPS Grindley Grant scheme, and NIHR CLARHC East Midlands. This support,

together with the strength of the PGR cohort, has led to over 200 peer-reviewed journal papers from January 2014 on which they are named authors.

As PhD student numbers rise, completions have risen concomitantly (Table 2). The increase in completions towards the end of the REF period mirrors the rise in staff with significant responsibility for research, the launch of the DPpsych, and the targeting of external funding for PhD bursaries.

Table 2. PhD completions per academic year

PhD & DPpsych Completions						
2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
7	4	9	5	8	12	9
						Total
						54

PGRs are encouraged to publish with their supervisory team and submit papers for external conferences and our annual School Research Conference. This activity has led to several national and international awards and prizes including the PsyPAG rising researcher award (Smith, 2016), the Durand Jacobs paper award (Pontes, 2016), Innovator of the Year (Women in Gaming Awards) and two Gambling Compliance Global Regulatory awards (Bonello, 2017), and multiple BPS awards (Blackburn, 2018; Atkin, 2018; Wallace, 2019; Felsner, 2019).

2.6 Equality and diversity

The Department actively promotes positive values of diversity and inclusion among staff and students, exploring these issues in public fora, in teaching, and within the inclusive work environment. This was a key pillar in the Department's aim to create an inclusive research environment in order to empower all staff to undertake research (Section 1.4); it has taken on even greater prominence in future strategies (Section 1.6). Since 2016 the Department has engaged with a number of initiatives including the Aurora program (Advance HE's leadership development initiative for women), with 7 female staff taking part so far. The Department has also embraced and promoted the University's Respect campaign. All staff receive Equality and Diversity training (including a recent online module on unconscious bias, and trans awareness training).

NTU joined the new Athena Swan charter in 2015 and received an Institutional Bronze award in May 2019. Psychology staff contributed significantly to the Institutional Self-Assessment Team and Psychology was the first NTU Department to apply for a Departmental Athena Swan award, which was awarded in October 2019. The application contained an ambitious 4-year plan for gender equality to ensure representation, progression and success for all. The Athena SWAN Charter panel reported "... [we] unanimously agree the submission meets the criteria for a Bronze award, as it evidences a thorough self-assessment, SMART action plan and several areas that highlight a good working culture and many good practices embedded in the Department... [it is] a strong submission and commend the SAT [School Assessment Team] and the School for their impressive work."

In the current REF period, the Department has focused on decolonising the curriculum (led by Deanne Bell), and will look to decolonise research practices in the next REF period. New Academic Associates (part-time PhD students with teaching duties) are being recruited to focus on this issue.

The Department recognises imbalances in the gender split and ethnic diversity of research-active staff, especially at higher levels. Though some progress is being made (3 of the 7 new professors recruited in this period were female, with a fourth female professor appointed just after the current REF period), the AS Bronze award reflects acknowledgement of this issue, and the plans the Department has to rectify it. These efforts are led by the Departmental Athena Swan Champion (Dillon), who also leads on the Departmental version of the University's 'Success for All' strategy, designed to ensure that NTU is a place where people

from all backgrounds can thrive and achieve. The Department has additional working groups on sexual safety and consent, race equality and estranged students. All of these working groups are coordinated through a new Departmental Equality, Diversity, and Inclusion committee which was set up in 2019. This committee oversees activities to celebrate important annual events such as Black History Month and International Women's day (such as film screenings, group discussions and internal and external speakers).

The Department implements NTU parental policies and ensures that staff on fixed-term contracts receive the same entitlements as staff on permanent/open-ended contracts. Where personal difficulties arise, staff are encouraged to notify line managers and HR as soon as possible so that appropriate support can be put in place. The Department also supports NTU flexible working policies, most recently allowing special leave or reduced hours for psychology staff with caring duties during the COVID lockdown.

3. Income, infrastructure and facilities

3.1 Income

Psychology has generated over £4.85m in new research awards from 2014 to *beyond* 2020 with income-spend totalling £3.38m *up to* 2020. This represents an increase in research spend (relative to £1.98m in REF2014) against a challenging and highly competitive funding climate (Table 3). Notably, research spend rose from £156k in 13/14 to nearly £1m in 18/19. This trajectory reflects the impact of departmental strategies to improve grant-writing skills and encourage staff to apply for external funds.

The Department has sought to diversify research funders, receiving funding from a range of sources including: research councils (e.g. ESRC, Innovate UK, MRC, UKRI); Government departments and agencies at both home and abroad (e.g. DfT, NIHR, NSF, DVSA); non-governmental funding bodies (e.g. the British Academy); charities (e.g. Bial Foundation, Nuffield, Leverhulme, RAC Foundation, Road Safety Trust, Safer Living Foundation, Samaritans, Wellcome); and commercial organisations (e.g. Camelot, Crystal minds, Kaspersky Labs, Norsk Tipping, Precision Biotics, Stagecoach, Tarmac, Tonic Ltd., Trimetris, TRL). Local funding reflects the Department's commitment to seeking local impact (e.g. HMP Nottingham, Nottingham City Clinical Commissioning Group).

Table 3. Research income spent from new awards of over £4.6m (remainder to be spent post-2020)

Research Spend							
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Total	176k	192k	220k	212k	776k	967k	837k
							3,380k

Researchers in the Department have also been awarded internal funding for University research priorities (totalling £248k; *Health and Wellbeing* and *Safety and Security of Citizens and Society*). This has been used to fund equipment, data collection and impact activities, including the setting up of the *Trent Ageing Panel*. This panel of general-population volunteers provide healthy comparison groups for ageing research in Psychology and across NTU, which in 20/21 underpinned the success of two RCUK bids worth over £1m.

3.2 Third Stream Income

Departmental expertise is often sought by external organisations for work that is not classed as research by Higher Education Statistical Agency. Such work includes literature reviews, expert advice, reports and expert witness work. Since 2014, staff have undertaken 81 separate pieces of consultancy and have brought in £357k. Clients include UK and overseas organisations, both in the public and private sector. Examples include Norsk Tipping, Jaguar Land Rover, Deloitte,

The Swedish Gambling Authority, Nottinghamshire Healthcare NHS Trust, Hodder Education, the DVSA, STEPS Drama, Rising Stars/Reading Planet, YoungMinds and the VIAS Institute.

3.3 Investment

University investment in research has totalled £4.5m since 2014. Though individual investments are detailed in the relevant sections, in summary the Department received £2.2m for initiatives including training (£200k), Departmental PhDs (£400k), small grants for researchers (e.g. Kickstarter grants; £400k) and the Research Assistant Pool (£1.2m). A further £2.3m was invested into equipment (£630k), a new research building (Taylor Building, £929k), a separate Sleep Laboratory, and the Corbett Centre for Prisoner Reintegration (£457). Remaining funds were used to remodel various laboratories, including testing cubicles in the main Psychology building (Chaucer Building, £284k).

3.4 Infrastructure and facilities

A key aim since 2014 has been to increase capacity for research (Section 1.4). A constraint on research capacity was the physical space available in the Chaucer Building. In support of Departmental ambitions, in 2017, the University provided and refurbished a new building the Taylor Building. Over three floors (>8500sqft), it now houses the technical support staff, the RA Pool and some academic staff with significant responsibility for research. It contains 24 laboratories including testing cubicles, large multipurpose laboratories and a range of specialist labs; these include a VR lab, two EEG labs, a soundproof audio lab, a driving lab (including Carnetsoft and STI-SIM simulators), a social and developmental lab (with observation window), three eye-tracking labs (2 x SMI RED 500 trackers, an SR 1000 tracker, and 2 x pairs of Tobii eye-tracking glasses), a focus group/interview room, a movement lab, and a TMS lab. With the strategic recruitment of a professor in sleep research, rapid investment was made to establish this new research theme. A Sleep Laboratory was built in separate research premises (Terrace Royal, 2019), with facilities including dedicated clinical-level Polysomnography (2 x sound/temperature/light-controlled bedrooms), sleep deprivation suites, and HTA-compliant plasma and saliva collection, processing and storage facilities.

The University has also provided a building for the Corbett Centre for Prisoner Reintegration. Opened in 2019, this is run by the Safer Living Foundation (SLF), a charity set up by NTU academics and HMP Whatton to support the reintegration of former sexual offenders back into society using interventions based on NTU Psychology research (see Section 4). While the centre is pivotal in realising the impact of previous research, it is also home to current research projects, with the SOCAMRU research group undertaking multiple evaluations.

Major equipment purchases totalled £407k in this REF period (with a separate bill for minor equipment <£5k totalling £223k), including specialist kit for all the above laboratories and maintaining an extensive library of psychometric tests. Most importantly, new equipment and resources are open to all staff, PhD students and where appropriate, undergraduate researchers, with training provided where necessary. The effects of this approach are already evident in recent outputs and increasingly in successful external grant capture.

3.5 Other resources to support research and research impact

The following paragraphs give more detail on aspects referred to in previous sections.

3.5.1 The Pooled Research Assistant Scheme Starting in 2015, 3 research assistants (RAs) and 2 postdoctoral research fellows (RFs) were recruited, growing to 7 RAs, and one RF in 2020. These researchers were chosen to maximise the spread of skills and methodological expertise across the pool. The strategic rationale for the RA pool is multifaceted:

- The RA Pool provides a lean staffing solution supporting rapid responses to short-term or short-notice external research opportunities (e.g. commercial/local authority funding, including COVID-19 projects which require immediate start-up;

- The RA Pool solves the perennial problem of research assistants leaving externally funded projects a few months before their contract ends by providing alternative researchers;
- The RA Pool is staffed to ensure significant spare capacity beyond short-term external funding. Spare capacity is offered to academic staff in regular competitive calls for research ideas. Pool RAs have assisted in staff winning externally funded projects valued over £1.45m and have supported 34 outputs and related impact;
- The competitive calls for pooled RA time also encourage horizontal and vertical collaboration within the Department. For instance, ECRs are required to team-up with at least one associate or full professor in these calls.

Of the 17 RAs and 8 RFs employed since 2015, 4 RFs have gone on to academic posts at NTU, 3 have taken permanent academic posts elsewhere, and one has been recruited as a postdoctoral fellow on an RCUK funded project. Eight RAs have since won funded PhD studentships (4 NTU, 4 elsewhere) and 2 have been accepted into NHS training programs for Psychological Wellbeing Practitioners. Pool RAs have co-authored 19 papers with NTU staff and 15 papers with non-NTU staff over the 2015-2020 period. This record of completed projects underscores the Department's commitment to, and success in, supporting early-career researchers in the manner envisioned in the Researcher Development Concordat.

3.5.2 Internal funding schemes to promote research - During the current REF period academic staff have been able to bid for internal research funding to the Psychology Department. Since 2015, different calls have targeted different aspects of research and impact:

- Kickstarter – Up to £7k to undertake novel research with the potential for 3* outputs;
- Consolidator – Up to £7k to develop existing or established research, providing resources to push the research over the 3* goal line;
- Incubator - Grants specifically targeting enhancement of future impact of current research.

Each project must have a clear plan towards research outputs, impact or future income. They must be collaborative and involve at least one ECR or recently appointed member of staff. Project bids can also be teamed-up with requests to the RA Pool. The focus of this funding is on ECR and mid-career research staff, with associate professors and professors involved in a mentoring capacity rather than as PIs. Progress against plans is tracked and reviewed after 12 and 24 months. One example of a highly successful project focuses on food bank and food insecurity research supported by Kickstarter, and later Consolidator, funding. This led to journal publication and submissions to a UK Parliamentary Select Committee and two UN bodies.

3.5.3 Staff development funds - All staff have access to a pooled staff development fund that equates to £500 per staff member per year. Development funds are used for external training, scholarship support and conference attendance. The Department supports critical-mass conference attendance to demonstrate the wealth of expertise in specific areas of research, with some research groups fielding up to 8 delegates at international conferences. The Department has spent more than £200k on staff development since 2014.

3.5.4 Scholarship Projects for Undergraduate Researcher (SPUR) – University-funded and Department-funded scholarships allow undergraduates to join a research group to undertake a summer project between the second and final year. Eighty SPUR students have been funded (plus 3 BPS-funded undergraduates). Five students from these projects have gone on to PhDs or other Doctoral programmes at NTU or elsewhere (with one eventually joining the academic staff at NTU), while many more have co-authored journal outputs, and presented at academic conferences.

3.5.5 Voluntary research apprenticeships - Like many Psychology departments we also offer voluntary research apprenticeships (RAs) for both NTU students and non-students. Since 2015, all voluntary researchers are registered with the Department's Voluntary Research Apprenticeship Scheme. This ensures that researchers new to the Department understand key

policies and procedures (e.g., health and safety, research integrity) and can be properly supported. The aim is to provide staff with a managed approach to obtaining research support, while providing volunteers with research experience, transferable skills and CV-enhancement. All apprentice agreements are voluntary for both parties and allow the apprentices access to academic resources including library facilities, computing and training. Over 100 apprentices have resulted in 17 co-authored conference presentations and 8 peer-reviewed journal articles with staff.

3.6 Enabling public participation in research

The encouragement of public participation in research is key to the Department's aims (Section 1.4) to improve quality of research and increase impact (e.g. by targeting more representative samples beyond traditional undergraduate participants and engaging with local community links and partners). The Department's central location in the City of Nottingham is ideal for encouraging such public engagement in research.

The addition of the Taylor building to departmental facilities opened up additional options for external engagement such as the annual Family Day, aimed at 4-11 year olds and their carers. Launched in 2017, this outreach activity provides a valuable opportunity to collect data and add to the Department's child and parent participant database, while showcasing connections with local initiatives which link with to research activity, such as 'Read on Nottingham', a literacy charity with whom NTU has collaborated for the last 2 years.

Taylor is also home to the Trent Ageing Panel (created with £46k of University-level investment). This panel consists of over 200 participants who are willing to take part in studies focusing on the health and wellbeing of older people. This existing infrastructure has benefitted two successful RCUK bids in 20/21 to the ESRC (Badham) and to the UKRI COVID-19 call (Stevenson). These projects will in turn support the development and enhancement of the panel.

For studies requiring participants between 18-60 years of age, the Department has a paid-participant panel with 100+ volunteers, with demographic details allowing targeted invites to studies. While some panel members are NTU students, 40% are from outside the University.

The new sleep laboratory also has a public-facing dimension to its research offering. It engages with local schools and family support groups who have identified a need for sleep support and provides a sleep support 'service' for NTU staff. It is also currently trialling a caffeinated nap intervention for medical registrars working overnight at Royal Derby Hospital (funded through the Safety and Security NTU Strategic Theme).

In addition to seeking public participation in research, the Department recently launched a consultation project with the public regarding a range of research projects. Over the Summer of 2019 a 'Psychology Research - Involvement Panel for the Public' (PR-IPP) was trialled. The PR-IPP recruited, trained and paid a diverse group of 5 of members of the public for 4-8 hours of work each month. The panel is consulted on a range of research activities including developing research questions, communicating research findings and piloting research materials. This builds on the successful Forensic Service User Panel that has been running at HMP Whatton for 5 years, in which prisoners collaborate with academics on designing research and research instruments for research in secure settings.

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

Successful collaborations are a key achieving the Department's aim for research excellence and significant real-world impact. The Department has explicit strategies to optimise collaborative teams via a range of activities including sandpits, research away days and activities to encourage cross-fertilization of ideas between research groups and clusters (e.g.

research speed-dating). Internal funding calls (e.g. *kickstarter* funds) have targeted novel collaborative ideas. Beyond the Department however, collaboration continues at many levels.

4.1 Academic collaboration across NTU

The Department contributes to a wide range of interdisciplinary collaborations across the University and with external academic partners. The University explicitly supports interdepartmental working and has internally funded collaborations under its: *Sustainable Futures* research priority (Stevenson with Nottingham Business School); *Safety and Security of Citizens and Society* priority (Smith, with Arts and Humanities, Nottingham Law School; Crundall, with Architecture, Design and the Built Environment); and the *Health and Wellbeing* theme (Sumich, with Science and Technology; Vernon, with the Medical Engineering Design Research Group).

Collaborations across NTU departments have secured external funding. In collaboration with Architecture, Design and the Built Environment, Crundall has undertaken research work with construction companies (Tarmac and McGee), while the Small Steps Big Changes evaluation based in the NCCYPF involves Wood and Betts working with colleagues in our Nottingham Institute of Education and the Sociology Department.

4.2 Academic collaboration beyond NTU

Staff collaborate widely with academic partners in the UK and internationally. During the REF period, staff have held visiting scholar posts at the University of Waikato and the University of Granada (Crundall); McGill University (Griffiths); Universities of Tehran, Isfahan, Montreal, Monash, Cork and Surrey (Groeger); Universities of Duisburg Sessen, Athens, Zadar, Barcelona and Maastricht (Kuss); University of Queensland (McNamara); Mazaryk University, and the University of Tampere (Stevenson); the Institute of Psychiatry and Auckland University of Technology (Sumich); and the University of Stavanger (Torrance).

Our new International PhD in Applied Psychology is a collaboration with Universidade Catolica Portuguesa (Porto) and Universitat Ramon Llull (Barcelona). The Department has a jointly funded PhD student with Auckland University of Technology and NTU staff have contributed to external PhD supervision at Brunel, Cambridge, Cardiff, Coventry, Queen's University Belfast and Sheffield in the UK, and a range of international universities including Gazi, Groningen, Monash, Ramon Llull, Stavanger, Tampere, Toronto and Valencia.

International partnerships have been further supported through Erasmus mobility funding. For example, in 2018/19, NTU hosted reciprocal visits with the University of Tampere, funded by Erasmus+. The participating staff members (Stevenson, NTU; Finell, Tampere) co-authored papers, developed a research grant and co-supervised two PhD students. This relationship has now been consolidated through the award of a 3-year research grant to Finell and Stevenson (funded by the Kone Foundation). Santander funding also supported Ventsislavova and Crundall to visit Tsinghua University, Beijing, resulting in three joint publications.

The department sabbatical scheme has supported the release of staff from departmental commitments to visit scholars at home or abroad to initiate or foster collaborative schemes of work. Jones was supported through the scheme to visit Prof. Bill Macken (Cardiff) and Prof. Caroline Rowland (Max Plank Institute, Nijmegen) resulting in joint grant proposals and research outputs (Jones and Macken, 2018; Jones and Rowland, 2017). Binder was awarded a sabbatical in 2018/2019 to enhance collaborative work with media psychologists at the University of Würzburg. This has already resulted in a high-quality output (Carolus, Binder, et al. 2019), while a visit to computer science and psychology researchers at Bath during the same sabbatical resulted in a bid to the EPSRC (currently undergoing invited revision).

4.3 Research collaboration beyond academia

A key focus in developing departmental research since 2014 has been to broaden the research base, building in particular on a track record of successful research impact as well as supporting and expanding expertise underpinning this work. One approach has been to develop impact partnerships with significant stakeholders who are relevant to areas of departmental academic activity. In some cases, conversations with partners have developed following the publication of initial work in a related area such as Griffiths' work on the structural characteristics of gambling (impact case study 1) and Betts' work on peer relationships. This has then led to working relationships with key organisations interested in reducing harm from gambling (e.g. Norsk Tipping) and bullying (Anti-Bullying Quality Mark-UK).

In other cases, this more proactive approach has involved working with end users and stakeholders to co-create research, thus ensuring its relevance to the target audience. For example, McNamara's work on online communities for individuals recovering from eating disorders was developed with and for BodyWhys; the results have stimulated conversations with a wider range of stakeholders than might otherwise have been achievable (e.g. clinicians and other eating disorder charities).

The SPUR scheme mentioned above has also supported partnership working with third sector organisations. For example, in June 2019, Wood was awarded SPUR funding to support analysis of large-scale data collected by the National Literacy Trust on children's reading behaviours outside of school. This work formed the basis of an external engagement campaign which was shared widely with librarian groups; indeed, the research findings are being used to inform the design of the new library planned for Nottingham.

The apotheosis of collaboration is embodied in the Safer Living Foundation (SLF); a charity set up jointly by HMP Whatton and academics from NTU in 2014 to minimise risk of recidivism in people convicted of sexual offences and to prevent 'first time' offenders. Based on the ongoing research of Winder and colleagues, the charity supports individuals on release using mechanisms and approaches shown by NTU research to be effective in preventing offending (impact case study 2). To date, this unit has helped 130 service users, with only a single incident of reoffending. The SLF collaboration has won four major awards in the current REF cycle (see Section 4.8).

4.4 Embedding researchers in external organisations

In some cases, the research engagement of NTU staff has resulted in their secondment into key organisations, often to assist in reviewing policies and practices. For example, Slade was formally seconded into the National Probation Service to review national policies in relation to reducing harm. Subsequently, she rewrote the Risk of Serious Harm guidance for the assessment system, which is completed for every offender in England and Wales annually (OASys; impact case study 3). McNamara received University funding to support an initial year-long 0.2FTE knowledge exchange secondment with Self-Help UK with a view to providing a theoretical framework and academic evidence-base to underpin their nation-wide group training programme. The sustainability of the secondment is supported by a financial agreement whereby a proportion of the revenue derived from the enhanced programme ensures that the secondment will become self-sustaining after September 2020.

Impact activity has also been supported through the departmental research sabbatical scheme. For example, Blagden was awarded a sabbatical in 17/18 during which he collaborated with Correctional Services Australia. He helped design rehabilitative climates for new prisons in New South Wales (impact case study 4) and has co-created a number of related-research projects with them.

The Department is also represented on national and international bodies that shape research policy and influence policymakers. Griffiths is Chair of the European Association for the Study of Gambling Research Committee and Kuss is a member of the expert advisory group on Online Addictions for the World Health Organisation. Wood is Secretary of the Society for the

Scientific Study of Reading. Crundall is the Chair of the Road User Behaviour Working Group of the Parliamentary Advisory Council on Transport Safety (PACTS). He is also a member of Traffic Psychology International and has been recruited to the Research Development Unit of UKROEd, which is the organisation with responsibility for course content on the National Driver Offender Retraining Scheme (including the national Speed Awareness course). Jones is a member of the external advisory board for the Centre for Studies in Human Development (Universidade Catolica Portuguesa, Portugal). Torrance is the Literacy Technologies Working group leader for EU COST: Strengthening Europeans' capabilities by establishing the European literacy network.

Staff provide their time and expertise to many community and third-sector organizations. Winder is one of only 2 academic members of East Midlands HMPS Ethics Committee. Kellezi is on the Nottingham NHS Research Ethics Committee. Betts is a trustee for the Ben Cohen StandUp Foundation (an anti-bullying charity). Wood is a Save the Children 'Wonder Words' Advisory Group Member and a Trustee of the National Literacy Trust.

4.5 Facilitating end user uptake of research findings

It is recognised that not all stakeholders or end users are able to apply research to their practice if this requires time or resourcing. The Department has attempted to overcome this barrier to engagement by packaging and distributing practical resources which are ready for use. For instance, Betts' research into cyberbullying was translated into a series of lesson plans for schools, which were then distributed through anti-bullying networks and the TES website where it is available as a free download. Betts is now developing similar resources with commercial publishers. Similarly, Wood has built a strategic partnership with Rising Stars/Hodder Education to develop evidence-based resources for teachers dealing with early literacy development (Reading Planet), and more recently, wellbeing in Key Stage 2.

The Transport Research in Psychology group (TRiP) has developed a public-facing website to provide access to its hazard tests. One particular resource will benefit considerably from this: hazard perception for fire appliance drivers (impact case study 5). Fire and Rescue services (FRSs) have limited resources to host new software on their own eLearning systems, so NTU funded www.testmydriving.com with the explicit aim of providing an opportunity for all FRSs to access the assessment and training materials easily and without cost.

Other examples of free-resources made available to other researchers and the general public include Torrance's OpenHandWrite suite of programs for capturing and analysing pen movement (developed with the University of Potsdam), Guest's 'See and Scoot' safety video for mobility scooter users (also available through www.testmydriving.com, funded by the Road Safety Trust) and several programs based on Belmonte's collaborative work in autism. Belmonte's work applies basic research to deploy technology-assisted and human-delivered innovations in global public health, clinical, and educational practice in detecting autism, remediating autistic deficits, and developing autistic skills. Products include Point OutWords, software to develop motor and communication skills in minimally verbal autistic children (available on the Apple App Store); MaTHiSiS, an automated tutor used in autism classrooms; and START, software to aid community health workers in screening for autism in low-resource environments.

4.6 Engagement with national discourse

NCE, NTU's place-based think tank, has supported dissemination on research into Ordinary Working Families as well as parliament and policy interventions on key topics such as problematic internet use (Kuss and Griffiths) and workplace health (Karanika-Murray). Other users of our research at policy level include NICE (e.g., Winder and colleagues' work on anti-libidinal medication), Public Health England (Karanika-Murray), the UN Special Rapporteur on extreme poverty and human rights (Wakefield and Bowe, for their food bank research), and

the Netherlands' equivalent to the UK DVSA (the CBR are modelling their new national hazard test on Crundall's design).

Griffiths and Betts gave evidence at the Science and Technology Select Committee and Kuss gave evidence at the Digital, Culture, Media and Sport Select Committee. Fifteen staff have also contributed to eleven written evidence submissions on diverse topics including transportation safety (Guest), social media (Buglass), how early years affect life chances (Wood), male mental health (Slade, Seymour-Smith), stalking and child sexual abuse (Winder), the impact of coronavirus on people with protected characteristics (Jones, Sumner, Wright) and upon education and children's services (Marriott, Wood). Several of these written submissions were undertaken in conjunction with the NCCYPF.

4.7 Engaging with the public via Media and Social Media

The Department's social media footprint includes Twitter, Instagram and Facebook, with a dedicated staff member charged with updating content. Nineteen staff have written pieces for The Conversation. The Department began a weekly blog in May 2020 and aims to start a monthly podcast in 2021.

Individual staff members (e.g. Griffiths, Kuss) have strong research-based media and social media profiles. Griffiths' blog on additive behaviours, for example, has had 7.8 million visitors since 2011. He has also written articles for The Washington Post, The Independent, The Guardian, The Times, The Telegraph, The Daily Mail, The Mirror and The Sun and he is a regular contributor to The Conversation (25 articles in the current REF period with 1.3 million readers). His work has been cited over 75,000 times and his research has featured in thousands of national and international news stories since 2014.

4.8 Engagement with Psychology as a profession

Beyond the research domains, staff play an active role in supporting the development and progression of the profession in many ways. Staff are particularly active for instance within the British Psychological Society. This includes the BPS Research Board (Baguley; Deputy Chair, 2016-19), Education and Public Engagement Board (Banyard and Baguley), Standing Conference Committee (Sergeant), East Midlands Branch (Guest), the Forensic Psychology Committee (Athwal-Kooner and Slade), BPS Cognitive Section (Guest), BPS Special Interest Group in Oncology and Palliative care (Rennoldson), Mathematics, Statistics and Computing Psychology Section (Baguley, Andrews, Betts and Dr Justice), and the BPS Social Section (Bowe is chair elect).

NTU Psychology researchers serve as editors and members of editorial boards for 40+ journals and reviewers for 125+ different journals since 2014. Some editorial highlights include the British Journal of Mathematical & Statistical Psychology (Baguley, Consultant Editor, 2013-2018), Culture and Evolution (Dunn, Editorial Board, 2015-present), the BPS Cognitive Psychology Bulletin (Dunn, Chief Editor, 2017-present; Guest, Founding Chief Editor, 2015-2017) and the Journal of Writing Research (Torrance, Joint Editor, 2012-current).

The Department contributes expertise to major funding bodies for the discipline and to government and other bodies responsible for setting research priorities. Baguley, Crundall, Jones, Karanika-Murray, and Wood are long-standing members of the ESRC Peer Review College. Baguley was also a member of the ESRC NCRM funding panels for Commissioned Research Projects – phase 1 and phase 2 and in 2018 joined Panel A of the main ESRC Grant Assessment Panel providing expertise on psychology and statistical modelling.

Staff regularly review grant applications for a range of funders including the Ontario Problem Gambling Research Council, Gambling Research Australia, The Finnish Academy of Sciences, Netherlands Academy of Arts and Sciences, European Institutes for Advanced study, Swiss National Science Foundation, Social Sciences and Humanities Research Council Canada, the

Polish National Science Centre, as well as BA, BBSRC, EPSRC, ESRC, MRC, Newton Fund, NIHR, Public Health England and charities such as Arthritis Research UK.

4.9 Recognition and esteem

Members of the Department have received external recognition including *early career awards* such as the *PsyPAG Rising Researcher award* for outstanding doctoral research (Smith in 2016 and Harper in 2015), and the British Psychological Society's Qualitative methods in Psychology *mid-career citation of excellence* (Seymour-Smith). Betts recently won an Emerald Literati Award for her paper 'Adolescents' experiences of street harassment' which was hailed as, "*One of the most exceptional pieces of work,*" in 2019. Griffiths has won 22 awards including the US *National Council on Problem Gambling Lifetime Research Award* (2014), an *honorary doctorate* by Eotvos Lorand University (Hungary, 2017), the *Italian Premio Imbucci Award* from the Prime Minister's Office (2017), the US *Society for the Advancement of Sexual Health Research Award* (2018), *Responsible Gambling Recognition Award* from the Macau *Institute for Commercial Gaming* (2018), and most recently the *Highly Cited Researcher 2019 & 2020 Awards* from the *Web of Science Group* for "*recognition of exceptional research performance demonstrated by production of multiple highly cited papers that rank in the top 1% for field and year*" (2019). In 2016, Griffiths won NTUs inaugural Vice-Chancellor's *Outstanding Researcher Award* while Blagden won NTU's first *Outstanding ECR Researcher Award*.

By involving students in research, the Department has also seen recognition of undergraduate research such as the *Sean Morley Memorial prize* for road safety research won by Aaron Howard, and awarded in the Houses of Parliament in 2016.

There have been further successes in winning awards for impactful activity. The *Safer Living Foundation* collaboration won the *Robin Corbett Prize for Prisoner Rehabilitation* in 2015, the *Guardian University Award for Social and Community Impact* (2016), the *Guardian Public Service Award for Leadership Excellence* (2018) and *Charity of the Year* at the Third Sector Awards (2019). In addition, Winder has twice won a *Butler Trust Certificate* for her work on prisoner rehabilitation. Beyond sex offending, Crundall won the *Fire Magazine Award for Research Excellence* (2017) for his development of the Fire Appliance Hazard Prediction test, and Wood's team was shortlisted for a Teach Primary award (2019) for their Rising Stars Wellbeing resources.

Since 2014, staff have given over 200 keynotes or invited talks at both national and international conferences. As well as numerous keynotes delivered by Griffiths, Crundall, Winder and Wood, keynote addresses were given by mid-career researchers and practitioners including Kuss, McNamara, Slade, Blagden and Wakefield.