REF2021

Institution: York St John University

Unit of Assessment: Psychology, Psychiatry and Neuroscience (UoA 4)

1. Unit context and structure, research and impact strategy

Overview
Research in Psychology at York St John University (YSJU) is led by a young and ambitious team enthusiastic about developing a greater understanding of fundamental principles underpinning human behaviour and applying this knowledge to benefit society. Our research has grown significantly over the REF2021 assessment period, with focused recruitment and investment in our core research strengths in cognitive, developmental, and social psychology, and a developing area of strength in mental health. The overall growth is reflected in substantial increases in research active staff (from 5.0 FTE in REF2014 to 14.6 FTE for REF2021), and in the number of outputs returned (from 14 to 37, selected from a total of 90 peer-reviewed outputs published in the REF2021 period). Our staff publish in top tier journals, and we have a strong network of national and international collaborators. Central to our ethos is research with impact, and here we build on our successes in REF2014, where 100% of our impact was rated 3* and 4*.

The unit is based within the School of Education, Language and Psychology (ELP). Research in ELP is the overall responsibility of the head of school and the school research and knowledge transfer lead (SRKTL). The associate head of school for Psychology and the Psychology research lead (PRL) have direct responsibility for research within the unit. The SRKTL chairs the School Research Steering Group, which acts as a consultative body comprised of representatives from the academic disciplines within the school, including the discipline research leads. The Psychology Research Committee (PRC), chaired by the PRL, leads on the development of the unit's research strategy, and monitors its implementation. The PRC membership includes staff with research and impact-related leadership responsibilities, including an Impact and KEF lead and an Open Science champion.

Research and impact objectives 2014–20
In REF2014, 53% of our research overall was rated as world-leading or internationally excellent (50% of our outputs and 100% of impact cases were rated 3* and 4*, while 88% of the research environment was rated as conducive to producing research of internationally or nationally recognised quality).

In the REF2014 environment statement, we articulated our strategic objectives for the upcoming period as 1) strengthening the wider research culture of the unit, 2) growing our external collaborations and networks by increasing the external visibility of the unit, and 3) further enhancing the impact of our research, including through our contributions to the institutional commitment to social justice and the widening participation agenda. The detail of how we have achieved these aims is set out in various places in this document. Here we briefly review our progress in implementing the strategy articulated at the time of REF2014:

1. We have made significant achievements in enhancing the research culture in the unit. This is reflected in two key areas: a) staff development and support for high-quality research and b) the growth of postgraduate research (PGR) students.

   a) The three-fold increase in the number of research active staff in the unit was achieved by the recruitment of staff with strong or growing research profiles in areas of existing research strength (e.g., in cognitive psychology, Cole (recruited from Aarhus University, Denmark), Cutting (University of Birmingham), Mirković (University of York), Savill (University of York); in social psychology, Demasi (Loughborough University) Humă (Loughborough University)). We have increased opportunities for researchers to collaborate both within Psychology and across disciplines by embedding our research groups through regular meetings, and by running a

successful research seminar series for external and internal speakers and PhD students. We have established a competitive annual pump-priming funding stream to which all staff can apply for up to £3,000 for pilot work, research assistance and/or participant payments. We have formalised our processes for funding travel and conference attendance such that there are now regular calls for applications for travel funding throughout the academic year. In addition, the number of staff involved in PhD supervision has increased from 3 at the time of REF2014 to 13, with colleagues additionally engaged in supervision of doctoral research as part of our new Doctorate in Counselling Psychology programme. Finally, we have built research planning into our performance development review (PDR) systems. The PDR processes now incorporate specific goals for research activity, which are used to facilitate the setting of medium-term research plans.

b) We have made a significant investment in the growth of PGR students. We have committed over £437,000 in funded PhD places through our graduate teaching assistant (GTA) scheme, launched in 2018. As a result of this scheme, PhD student registrations have increased from 3 at the time of REF2014 to 11 as of 31st July 2020. The scheme is underpinned by three key principles: a) quality of the applicant, b) fit between the proposed project and the unit's areas of research strength and c) ensuring that a wide range of academic staff (particularly ECRs) are given opportunities to supervise PhD students, thereby increasing supervisory capacity within the unit.

2. External collaborative relationships have been expanded in several areas, as evidenced in the impact case studies, in several co-edited books and special issues, and in jointly authored outputs and grant applications with external collaborators (detailed information is provided in Section 4). We have also recently established a partnership with the Tees, Esk and Wear Valleys (TEWV) NHS Foundation Trust, focused on the new Foss Park Mental Health Hospital in York, to support our developing area of strength in mental health. Additionally, to enhance international visibility of the unit, we have increased funding of international conference presentations. For example, in the last full academic year prior to the COVID-19 pandemic, eight international conference presentations were funded from the internal budget, totalling over £7,000.

3. Central to our ethos is that every opportunity is taken to develop the impact of our research, including by focussing on the institutional themes of social justice and widening participation. We have built on a strong performance in impact in REF2014 (40% rated 4*, 60% 3*) by a) enhancing our impact-specific support mechanisms, and b) in the way in which our research is practised.

a) Impact is facilitated through internal funding to support colleagues in articulating, developing, and tracking the benefits of their research. The REF2021 impact case studies have developed organically from work that began to generate impact, and specific funding and support was directed towards the colleagues contributing to this work. This included the explicit allocation of time for impact-related activities over and above the time allocated for research. To provide continued support for tracking the benefits of our research, all academic staff can apply for funding to support impact activities through the pump-priming scheme. Good practice is shared at regular research meetings and annual research away days. We have also established an Impact and KEF Lead role within the unit in 2019, with leadership responsibilities in research-derived impact.

b) As many of our students are the first in their family to go to university, or are otherwise from widening participation backgrounds, we take the following steps to ensure that they get the opportunity to be involved in research: undergraduate and master's students are regularly employed as research assistants; we offer research experience in our research groups as part of our undergraduate work placement

scheme; we use funding from the central university Students as Researchers scheme; and we have been successful in securing two undergraduate research assistantship grants from the British Psychological Society (BPS). Moreover, we have sought to embed a culture of research participation amongst our student body through the launch of a research participation scheme in 2018. This scheme enables students across all levels of study to volunteer as research participants in our ongoing research.

Outside the specific strategic objectives, we have developed support for interdisciplinary research and have engaged in various ways with the principles of open science.

Interdisciplinary research is supported through three mechanisms:
1) The university's Research Development and Innovation Fund (RDIF), established in 2020, specifically supports interdisciplinary collaborations. Larkin was awarded funding in this stream to examine the effects of a physical activity intervention in adults with severe mental illness and autism, in collaboration with colleagues in Sport.
2) A dedicated school-based funding stream established in 2019 enables researchers to bid for funding for projects that straddle disciplines within the school (Education, Languages and Linguistics, Psychology). Humă was awarded funding via this stream with a collaborator from Languages and Linguistics to examine interactional practices during viva voce examinations.
3) The Psychology pump-priming scheme encourages applications for interdisciplinary projects through the inclusion of colleagues from other disciplines (either internal or external to the university) as co-applicants on the bids. More broadly, opportunities for cross-disciplinary networking and discussion are provided through regular school- and university-wide research events.

We have readily engaged with the open research agenda through the Research at York St John (RaY) research repository, to which staff upload copies of the accepted versions of their publications. Beyond the requirements of the REF, we have also sought to embed the principles of open science in our everyday research practice by a) establishing the role of Open Science Champion leading on the open research agenda in the unit, b) incorporating open science principles and practices in the training of PGR students and c) joining initiatives such as the international open science journal club, ReproducibiliTea. Additionally, we have embedded the use of the Open Researcher and Contributor ID (ORCID) system, with all our returned staff having an ORCID number.

Research conducted in the unit abides by all relevant institutional and professional ethical standards, such as the BPS Code of Human Research Ethics and the World Medical Association Declaration of Helsinki. Responsibility for oversight of research integrity and ethical standards within the unit is managed by the SRL, in conjunction with the PRL with specific responsibly for psychology. A School Research Ethics Committee, which consists of members drawn from across the disciplines of Education, Language and Psychology, reviews applications from the unit and is currently chaired by a member of the unit (Cole). All members of the ethics committee undergo training to ensure they are up to date on current developments around research integrity and ethical practice, with regular events organised by the university Research Office (RO) to ensure that the wider staffing base has opportunities for continuing professional development in relation to ethical issues and research integrity.

Research and impact highlights 2014–20
Here we highlight some of our contributions to the theoretical and applied development of psychological science over the REF2021 period to illustrate the results of our research and impact strategy.

Cognitive psychology
The Cognitive Psychology Group has a critical mass of researchers with interests in basic and applied cognitive psychology, including language, future thinking, and tool use. Our researchers with interests in language and literacy have demonstrated that the home literacy environment

plays an important role in literacy development in children at family-risk of dyslexia (Hamilton, *Scientific Studies of Reading*), that semantic representations strengthen phonological representations in both novel word learning and verbal short-term memory (Savill, *Journal of Memory and Language, Journal of Experimental Psychology: Learning, Memory, and Cognition*) and that sleep-related memory consolidation plays a different role in word vs grammar learning and long-term consolidation (Mirković, *Cortex*). Cole has proposed a novel theoretical account of spontaneous and deliberate future thinking and has co-edited a special issue on this emerging topic (*Psychological Research).* Cutting's research has contributed to our understanding of the role of prior experience in tool innovation in child development (*Journal of Experimental Child Psychology*) and Coxon has shown that sound can further enhance the use of virtual reality as a non-pharmacological analgesic to aid pain management (*Royal Society Open Science*).

Developmental psychology
Our expertise in developmental psychology spans cognitive (Cutting, Hamilton) and social development (Noret), adolescence and emerging adulthood (Bell) and mental health (Davis, Larkin). Here we highlight our research in developmental psychology that underpins our impact case studies. Bell's research underpinning her impact case study has demonstrated a key role for digital technologies in the development of adolescents' body image and body shaping behaviours (*Body Image, Journal of Medical Internet Research*). Based on this research, Bell has developed and run the educational programme Body Image in the Digital Age, which includes interventions for adolescents and training for professionals working with young people. Bell's work has shaped local and national policy, including National Institute for Health and Care Excellence (NICE) guidelines on digital and mobile health interventions. Noret has examined the role of perceived social support in the relationship between experiences of being bullied or cyberbullied and mental health in school-aged children (*School Mental Health).* Noret, in collaboration with Macklin and Douglass, has applied her research on bullying and peer-victimisation in a programme of activities to tackle sexual violence and harassment affecting university students (All About Respect project, our second impact case study). This project was a runner-up at the Guardian Student Experience Award in 2019.

Social psychology
In social psychology, we have a focus on social interaction, with colleagues in the Discursive Social Psychology group using approaches informed by discourse analysis and conversation analysis to address core topics such as social influence and applied issues such as Brexit. Humă has developed a novel approach to the core social psychological concept of social influence by drawing on the tools of discursive psychology (*British Journal of Social Psychology).* Demasi has explored political discourse in UK debates concerning membership of the European Union (*Political Psychology).* Gibson (former staff member and current visiting professor in the unit) has been at the forefront of the radical re-evaluation of Stanley Milgram's obedience experiments, using rhetorical psychology to conduct secondary qualitative analysis on audio recordings from the experiments and developing a new conceptualisation of obedience based on this work (*British Journal of Social Psychology, European Journal of Social Psychology,* a monograph with Cambridge University Press)*.* Stirrat has contributed to research examining the role of facial properties in aggressive competitive behaviours (*Aggressive Behavior*).

Mental health
Our researchers examine mental health-related issues in typical and atypical populations, and across the life span. Larkin has examined the role of mind-mindedness in reducing stress in parents of children with developmental disorders (*Journal of Autism and Developmental Disorders*), and Davis has shown that children with autism are less likely to have imaginary companions than typically developing children (*Journal of Autism and Developmental Disorders).* Douglass has shown that the personality trait of narcissism moderates the relationship between age and loneliness in old age (*Frontiers in Psychology*).

Research and impact objectives 2021–26
The achievement of our goals over the past six years represents a process of building our research environment from a relatively low base. We believe that from those strengthened

foundations we can now focus on the following strategic aims: 1) growing research excellence in core areas of research strength, 2) expanding our portfolio of collaborative external relationships including by enhancing bidding activity and 3) continuing to grow our PhD community. These fit with the institutional research strategy which emphasises interdisciplinary working, demonstrating greater research excellence through external recognition, and wider dissemination of research as key goals. Our specific objectives over the next five years are thus as follows:

a) Growing research excellence in our core research strengths of cognitive, developmental and social psychology, and our developing area of strength in mental health. Staff recruitment will be focussed in these four areas with the objective of continuing to grow world-leading and internationally excellent research. We will grow research leadership in these areas by supporting staff with strong research profiles for promotion via the associate professorship pathway (see Section 2).
b) Increased bidding activity, with a focus on competitively awarded external grants at an appropriate level for the career stage of individual academics. This will be supported by mentoring, grant-writing training and academic leave in areas of demonstrable research strength. We will expand our strategic collaboration in mental health through further embedding our research partnership with the TEWV NHS Foundation Trust, with a particular view to expanding opportunities for interdisciplinary collaboration.
c) Further growth in PhD registrations and completions. We aim to recruit cohorts averaging three PhD students per annum through our fully funded GTA programme over the course of the next REF cycle.
d) We will continue embedding the principles of open science through initiatives proposed and promoted by the Open Science Champion, including increased engagement with pre-registrations and data sharing.

We will continue to provide support for achieving these goals by regular activities within the research groups, by continued financial support, including funded PhD places, pump-priming funding and support for international conference presentations, and by mentoring and training.

2. People

Staffing strategy and staff development
Our staffing strategy has been focused on the growth in academic staff members, ensuring staff recruitment favours candidates with strong or growing research profiles (as illustrated in 1) and ensuring that staff are well supported to develop as researchers. This staffing strategy resulted in a significant increase in the number of staff submitted: 14.6 FTE in REF2021 vs 5 FTE in REF2014. Five of the staff appointed during the current REF cycle as lecturers were promoted to senior lecturers via the accelerated promotions route based partly on their research contributions (Cole, Cutting, Davis, Douglass, Savill). All staff are employed on permanent contracts which cover both teaching and research.

Early career academics are assigned a formal mentor during the first year of their appointment. Ongoing mentoring at every career level is provided through a school run series of Research Conversations with senior research staff to help with publication planning and bidding activity, and these are used to inform goal setting at the PDR. Informal mentoring also occurs within the research groups. All members of the unit have the opportunity to discuss and reflect on both their own strategies and the wider unit strategy at annual research away days. The pump-priming scheme established in the current REF cycle is open annually for staff to apply, and all staff have access to funding to support conference presentations. Early career researchers (ECRs) are particularly encouraged to apply to these schemes. Through regular research group meetings and through the creation of opportunities for ECRs to be involved in PhD supervision we enable junior colleagues to receive guidance from more experienced researchers. Development is formally monitored through the annual PDR process.

Growth in staffing in the early years of the present REF cycle was followed by a significant investment in funded PhD opportunities through our GTA scheme. While prioritising quality of doctoral projects and candidates, the scheme was designed to ensure that opportunities were created for as wide a range of staff as possible to engage in PhD supervision. As a result, 13 staff in the unit are currently engaged in PhD supervision.

Excellence in research, including research impact, plays an important role in academic promotion. Staff are supported in applying for promotion by the head of school and SRL and explicitly encouraged to foreground achievements in research and impact. An accelerated promotions route to senior lectureship enables staff to apply for promotion for exceptional performance, including in research. The university's associate professor pathway offers a route to progression to full professorship based around excellence in research, with associate professors being allocated additional time for research as part of the workload planning model.

The university is a signatory of the Vitae Concordat to Support the Career Development of Researchers, which directly informs the approach to staff development. The approach recognises that the development needs of staff vary depending on the stage of career, while also acknowledging that a key set of skills underpins successful research careers. The university-run staff development programme is aligned with the Vitae Researcher Development Framework (RDF) and is open to all academic staff. Within the unit, skills-based staff development has been provided at the annual research away days, via weekly writing retreats (also open to PhD students) and by regular activities within the research groups. Internal funding has been used to support training events in advanced statistical and methodological approaches delivered by external providers (e.g., systematic reviews and meta-analysis, mixed effects modelling).

PGR students
The growth in our research student numbers was a key area of strategic investment over the current REF cycle. The introduction of the GTA scheme in 2018 resulted in the recruitment of eight PhD students, who are funded at levels equivalent to a research council studentship. This represents a total investment of £437,000 over a three-year period. This increased visibility has led to a concomitant increase in self-funding students, resulting in a total of 11 PhD registrations as of July 2020. As described in Section 1, recruitment to the funded PhD places is underpinned by three key principles: a) quality of the applicant, b) fit between the proposed project and the unit's areas of research strength, and c) ensuring that a wide range of academic staff (particularly ECRs) are given opportunities to supervise PhD students. Our focus on the growth of the PGR community within the unit has also resulted in an increase in PhD completions from none in REF2014 to three in this REF cycle, with two of our PhD graduates attaining lectureship positions and one a research fellowship.

A further notable addition during the current REF period has been the introduction of a Doctorate in Counselling Psychology in 2018. This programme comprises a combination of taught doctoral modules and a research thesis and confers chartered status as a counselling psychologist on successful completion. This is a key mechanism through which we are building our collaborative work with the Foss Park Mental Health Hospital, and it provides further opportunities for our academic staff to engage in the supervision of doctoral research and to collaborate with mental health practitioners.

YSJU has well-established processes for induction, training, and monitoring of PGR students. Formal reviews of PGR student progress are conducted every six months by academics external to the supervisory team. Progress is monitored centrally four times a year (by Research Degree Committee). All supervisory meetings are logged. Supervisory teams are made up of multiple academic staff from the PGR student supervisory register. To be added to the register, staff are required to meet stringent criteria for PGR supervision eligibility pertaining to engagement in research, continual professional development and formal YJSU training. Endorsement from Heads of School or School Research Leads is also required. Applications are assessed by a central committee of senior research staff (again, by Research Degree Committee). It is

mandatory that all supervisory teams have at least one member of staff with experienced supervisory status (have previously supervised a PhD student to successful completion). In addition, all PGR students have a PGR tutor who is available to provide support outside of the supervisory team.

All students undertake needs analysis periodically and an individually tailored training programme is created. The needs analysis is based on competencies in the Vitae Researcher Development Framework. Support is provided by supervisory teams and via a centralised PGR training programme that includes core and supplementary workshops at each year of study. Like our staff training programme, our PGT training programme aligns with the Vitae Researcher Development Framework. Core parts of the programme include Research Ethics and Integrity, General Data Protection Regulation (GDPR) for Research, Data Management, and Copyright and Intellectual Property rights. These sessions are compulsory for all PGR students.
A range of other central and local support is available to PGR students that include (1) access to centralised services (e.g. Student Services, Chaplaincy, Library and Learning Services, Careers); (2) access to a stipend of up to £900 (£450 part-time) to support travel and consumables associated with their research and professional development; (3) access to the YSJU Graduate Centre providing study space and remote access to a range of specialist software; (4) opportunity to complete a postgraduate certificate in academic practice to achieve associate fellowship of the Higher Education Academy (HEA); (5) administrative support provided by the School and Research Office and (6) various PGR events held throughout the year (e.g., Three Minute Thesis (3MT), Bake Your Thesis, and the annual PGR conference).

All psychology PhD students additionally have access to discipline-specific training through our 60-credit master's level research methods module, which is benchmarked against the Economic and Social Research Council (ESRC) Postgraduate Training and Development Guidelines. PhD students can take the entire module or can access specific sessions as relevant. PGR students are encouraged to attend training events in advanced statistical and methodological approaches organised within the unit. Support and development opportunities are also provided within the research groups through, for example, regular presentations, student-led journal clubs or hands-on data analysis sessions. PhD students are involved in the open science journal club ReproducibiliTea and regularly attend writing retreats organised by staff members. All PhD students present their work annually at the Psychology Research Seminar series.

Our PhD students are actively engaged with the local, national, and international research community. For example, a Psychology PhD student won the institutional Three Minute Thesis competition introduced in 2020; PhD student members of the Cognitive Psychology Group are active participants in the regional cognitive psychology community, including as co-organisers of a regional memory conference (Greater Yorkshire Memory Meeting [GYMM]); a PhD student is a committee member (section representative) at the national psychology postgraduate organisation PsyPAG; our PhD students present regularly at national and international conferences as lead authors (e.g., BPS annual conferences, European Society for Cognitive Psychology [ESCoP], Interdisciplinary Approaches in the Language Sciences [IMPRS]).

Equality and diversity
UoA4 sits within a broader context of support for equality and diversity at YSJU which has implemented several initiatives which ensure policies and practices relevant to researchers are inclusive, equitable and transparent. This is formalised in the YSJU Equality, Diversity and Human Rights Policy and the targets within the YSJU 2026 strategy (e.g., 10% BAME student and staff population; all staff are engaged in equality and diversity training and development appropriate to their role; median gender pay gap below 10%; 95% of staff think the university is a good place to work). Equality impact assessments are a routine part of annual monitoring and progress towards YSJU targets are reported to executive board and the governing body on a yearly basis. Of additional note, YSJU is a member of the Athena SWAN Charter (and is currently applying for a Bronze Award), a Stonewall Diversity Champion (ranked 49th place on the 2020 Top 100 Employers list) and Top 20 Trans employer, a Disability Confident employer, and a Mindful Employer. There are also several active staff networks available for staff to join

that align with these awards and this agenda including the LGBT+, BAME and Disability staff networks.

UOA4 complied fully with the YSJU institutional code of practice in selecting research outputs. The UoA lead also undertook Advance HE training on equality and mitigating bias as part of the role. Due to the small size of our submission, it is not possible to report a profile at UoA level here while also complying with HESA guidelines on anonymous reporting when presenting Equality and Diversity data (e.g., all our percentages would be based on less than 22.5 FTE). However, equality and diversity data for the UoA was reviewed internally following the completion of output selections and reported to both the SALT and Athena SWAN development groups as part of promoting greater diversity and inclusion at UoA, school, and institutional levels. Our data was also included as part of an equality and diversity impact assessment at institutional level.

Equality and diversity play a key role in our approach to staff development. For example, colleagues have been supported to participate in Aurora, Advance HE's leadership programme aiming to develop women leaders in higher education (Hamilton, Macklin). Colleagues who are returning from an extended period of parental leave are encouraged to apply for internal funding to support their work, with a recognition that it is at precisely these points in one's career where institutional support can be most useful. The university's approach to promotion and appointment to research leadership roles considers the fact that colleagues may have had periods of time where they have been less able to actively pursue their research career. This approach is based on the understanding that in such circumstances individuals should not be penalised but that instead the internal processes of the institution should be used to support colleagues in establishing and maintaining their research careers.

3. Income, infrastructure and facilities

External research income
Our research income has increased significantly over the current REF period (from £10,978 in total HESA research income in the period covered by REF2014 to £61,727 during the current REF cycle). Our strategy is to support colleagues to build a track record in attracting external funding, with an emphasis on a staged approach (e.g., from internal funding and/or a small external grant to larger external grants), including by partnering with experienced colleagues at research-intensive institutions. This has resulted in several successes and an overall increase in bidding activity and has provided a platform from which to build beyond 2021.

Over the current REF period we have significantly increased successes in funding awarded by external bodies on a competitive basis. Gibson was awarded a research fellowship from the Leverhulme Trust (£49,000) and funding from the British Academy (£9,900) for his work on Stanley Milgram's obedience experiments. The Experimental Psychology Society awarded funding to Cole for two projects on spontaneous future thinking (£6,000 in total, with one project delayed due to the COVID-19 pandemic) and to Cutting and Hamilton for a project examining the role of mentalising activities in reading comprehension (£3,500, not reported as HESA research income). Colleagues have also received funding from the BPS for undergraduate research assistantships (£1,600, Gibson, £1,600 Hamilton [not reported as HESA research income]), student researcher positions (£497, Humă), and conference organisation (£500, Humă).

Our area of strength in generating research income has been as a result of partnerships with local organisations or charities for projects that facilitated impact from our research. Noret received funding from the York Innovation and Family Fund (£6,163) and Bell has attracted funding from the City of York Council in collaboration with the National Society for the Prevention of Cruelty to Children (NSPCC) (£3,712) and York Mind (£7,500, with Noret) for her work in digital media and adolescent mental health. These recent projects from Bell have been delayed due to the COVID-19 pandemic.

This strength is supported by additional finances not reported as HESA research income for service evaluations, consultancy, and other research activities. Noret received funding for evaluating anti-bullying programmes (£14,000 from the Anti-Bullying Alliance), designing anti-bullying programmes in school sport (£5,900 from the Ben Cohen StandUp Foundation, in collaboration with colleagues from UoA 24), and child attainment and service evaluations (£10,000 from the Army Families Foundation). Noret has extended her work to tackle sexual violence and harassment in the community (£11,000 from the North Yorkshire Police and Crime Commissioner), and additionally working together with Macklin on problems associated with excessive alcohol consumption (£5450 from North Yorkshire Police). Similarly, Bell received funding from a local high school to further develop her work with adolescents engaging with digital media and how this can influence body image and mental health (£800 from York High School).

Unit members have also had success as co-investigators or members of research teams where funding has been held by other institutions. Bell was a co-investigator on two Engineering and Physical Sciences Research Council-National Institute for Health Research (ESPRC-NIHR) projects exploring mental health implications of digital technologies (£60,000 in total), led by Lancaster University. Hamilton was a co-investigator on a project examining reading experiences in secondary school pupils (£4,800), funded by a Newcastle University Humanities and Social Sciences Research Institute Pioneer Award. Larkin is a co-investigator on an ESRC grant examining maternal mind-mindedness (£512,000), led by the University of York.

In addition to these successes, we have increased the overall volume of competitive bidding activity in the unit. The bids included collaborations with colleagues within the university, for example, Leverhulme doctoral scholarships with Languages and Linguistics (Gibson, Hamilton, Mirković), Innovate UK Smart Grants with colleagues in Education (Larkin), and external collaborations resulting in bids to national and international funding bodies, such as Disability Research on Independent Living (DRILL) and ESRC (Hamilton), Facebook Research (Bell), Horizon 2020 (Mirković), Open Research Area in Europe (Mirković), and UK Research and Innovation Mental Health Networks (Bell). Douglass was part of a multi-disciplinary team funded by the Home Office (£8,000) to evaluate Northumbria Police's Divert project aimed at vulnerable young people at risk of engaging with serious and organised crime.

Infrastructure and facilities
To facilitate the achievement of its key strategic aim of research with impact, the university launched its first dedicated RO in 2018. The RO includes a head (1.0 FTE) and a further 5.15 FTE staff. Its remit includes supporting grant applications, monitoring research performance, overseeing research governance and compliance, coordinating staff research training and managing the PGR student experience. The work of the RO is complemented by a new Business Development and Knowledge Exchange Office (BDKEO). The BDKEO includes a director (1.0 FTE) and a further 13.5 FTE staff. The BDKEO is responsible for supporting staff in increasing the range and scope of applied research, business development and knowledge exchange.

During the REF2021 assessment period, the unit has requested and received approximately £210,000 in internal funding for specialist equipment and software to support research. These investments have ensured the sustainability of our research. Investments are guided by staff and PGR student needs and are responsive to changing contexts, such as increasing access to online platforms (e.g., Gorilla, Prolific). Notable investments include: £50,000 to establish a 64-channel active electrode electroencephalography (EEG) laboratory with an adjacent control room to monitor EEG data acquisition; a total of £41,000 for additions to an extensive test library including child and adult measures of language ability, intelligence, memory, bullying and mental health; and regular upgrades in line with the latest technological advances to virtual reality equipment totalling £22,000. Additional specialist equipment available for research purchased during the assessment period includes psychophysiological measures (Shimmer, Empatica), circulating baths for studies investigating reactions to aversive physical stimuli (i.e. immersion of

hands in cold water), eye tracking glasses (Pupil Labs), portable recording equipment, transcription aids, a bank of laptops and computer peripherals.

A number of specialist laboratories support research within the unit. Eight small experimental rooms support research within the Cognitive Psychology Group. Several of the experimental cubicles are specialised to support growth in research using EEG, remote eye-tracking and virtual reality. A further three mid-sized laboratories are equipped with wall-mounted cameras, microphones and screen capture devices for high-definition recordings of focus groups and child studies conducted by colleagues in the social and developmental psychology groups. An adjacent video control room is used for storing and analysing video data. One additional laboratory is a large and flexible space featuring a total of 48 computer terminals and is suitable for group testing as well as for training and skills development. It is used as a key location for postgraduate research methods training.

Researchers in the unit have access to a range of software packages and platforms for data collection (E-Prime, Gorilla, Inquisit Lab and Web, Brain Vision Recorder, Qualtrics, Noldus MediaRecorder) and data analysis (SPSS, MPlus, Comprehensive Meta-Analysis, MATLAB, BeGaze, BrainVision Analyzer, NVivo, Observer XT), many of which are accessible both on and off campus. Researchers further benefit from recent investments in systems to streamline research administration, including participant recruitment (Sona Systems, Prolific) and laboratory and equipment bookings (Connect2).

Three dedicated psychology technicians (1.8 FTE) are based within one of the laboratory suites to be on hand to provide assistance across the full range of research activities undertaken within the unit. The technicians support research within the unit by overseeing the day-to-day running of the laboratories, by providing advice and training on the use of specialist equipment and software, and by securing internal funding for specialist resources. Administrative support is provided by a university-wide administrative team, including dedicated administrators for Psychology (1.6 FTE), with additional support available to manage peaks in demand.

During the current REF period, we have introduced a Research Participation Scheme, enabling students to volunteer as participants in our ongoing research. The scheme has been designed to ensure it has pedagogical value in giving students at all study levels a valuable insight into the research process, while simultaneously enhancing the sustainability of our research activity by ensuring access to participants.

As part of our collaborative relationship with the TEWV Foss Park Mental Health Hospital we have a memorandum of understanding that includes a focus on sharing of expertise and resources, including access to facilities at the hospital. This partnership includes the establishment of clinical research fellows, whereby hospital staff complete doctoral research within the hospital supervised by our staff and senior clinicians. The overall aim of this partnership is to enable staff to undertake research with patients, to increase collaboration between researchers and clinicians and to facilitate greater patient-public involvement in research activities.

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

Research collaborations, networks and partnerships
The vitality of our research is underpinned by research collaborations and partnerships supported strategically in several ways. Staff can apply for travel funding to facilitate meetings and collaborative research with colleagues at other institutions and in industry. Similarly, partners can be funded to visit the university, either on an individual basis or as part of wider group meetings. For example, staff are encouraged to invite collaborators to present as part of the Psychology Research Seminar series and to arrange research meetings around these visits (e.g., 19 external speakers were hosted in this way in the last three years). Staff are supported to present their work at national and international conferences (e.g., 21 in the last three years) and we have also provided funding for the convening of research meetings (e.g., Cole to host a

specialist workshop on spontaneous future thinking with seven international speakers and the regional GYMM meeting; Demasi to host the Political Discourse Day workshop, and Humă the Resistance in Talk-in-Interaction research seminar series).

Unit members are actively engaged in research collaborations with colleagues at other institutions nationally and internationally. We have well-established research collaborations with the Department of Psychology at the University of York, with three members of staff holding honorary or visiting positions there (Larkin, Mirković, Savill). Collaborations with York colleagues have resulted in co-authored publications with our staff as lead authors (14), in joint grants and grant proposals (3) and in joint supervision of PhD students (3). The close relationship with York enables staff and PGR students in cognate areas (e.g., cognitive and developmental psychology) to regularly attend and present at research group meetings at York, further enhancing PGR and staff training opportunities and fostering collaborative research links.

Two members of the unit (Demasi, Humă) are members of the Discourse and Rhetoric Group (DARG) at Loughborough University, ensuring ongoing collaborative work that continues to result in jointly authored publications (12, including an edited book and a journal special issue) and providing additional opportunities for PhD students using discourse analytic methods to benefit from access to DARG meetings. Demasi and Humă are additionally involved in collaborative work and joint PhD supervision with Gibson, a former member of staff currently at Heriot-Watt University.

During the REF2021 assessment period, and as evidenced in our published outputs, additional collaborative research has been undertaken with colleagues from the following institutions: University of Cambridge (Bell), University of Oxford (Hamilton, Mirković), University of Manchester (Bell, Cole, Savill), Northeastern University, USA (Humă), University of Pittsburgh, USA (Bell), University of Birmingham (Cutting), University of Sussex (Bell), Durham University (Davis), Monash University, Australia (Bell), University of Strathclyde (Noret), University of Bradford (Cole), City, University of London (Cole), Northumbria University (Savill), Glasgow Caledonian University (Douglass), University of Hertfordshire (Cole), University of Huddersfield (Davis), Leeds Beckett University (Bell), Leeds Trinity University (Davis) and Teesside University (Demasi).

As described in Section 3 and the impact case studies, members of the unit have developed relationships with local, regional and national government organisations, including the City of York Council and local schools, the North Yorkshire Police and Crime Commissioner, and charities like Mind and Anti-Bullying Alliance. These relationships have facilitated our research and its impact in that the research users have been included in the projects from the outset.

Our developing collaborative relationship with the TEWV NHS Foundation Trust is led by a member of staff (Larkin) who holds an honorary clinical psychologist position with the trust. The development of research collaborations that involve the unit (including those colleagues who do not currently have significant responsibility for research but are involved in counselling doctorate supervision) and the trust is overseen by Larkin, who has expertise at the intersection of clinical practice and research. Larkin also holds a clinical psychologist role at The Retreat, a York-based therapeutic organisation, in which she provides psychological therapy to adults with autism and ADHD, and clinical supervision and training to fellow staff members.

Contributions to the research community and society
Staff are encouraged to support the broader research community and society by reviewing for journals, conferences, publishers and funding bodies, through journal editorships and editorial board memberships, by examining research degrees, delivering invited talks and being involved in broader public engagement activities.

<u>Editorial roles</u>
Our staff have held editorial roles for several journals: *Memory & Cognition* (Cole is a consulting editor), *Humanities & Social Sciences Communications* (Mirković is an associate editor), *SAGE*

Open (Hamilton was a handling editor) and *BPS Developmental Psychology Forum* (Hamilton is a co-editor). They have also served on editorial boards: *Journal of Youth and Adolescence* (Bell), *Psychology Teaching Review* (Coxon). Members of the unit have edited journal special issues and books: Humă co-edited a special issue of *Qualitative Research in Psychology* on discursive psychology; Cole co-edited a special issue of *Psychological Research* on spontaneous future cognition; Mirković co-edited the book *Speech Perception and Spoken Word Recognition* (Routledge, 2017).

Peer reviewing
Staff regularly undertake peer reviews for academic journals and publishers, and for funding bodies. During the current assessment period, staff have reviewed for over 70 journals including *Applied Psycholinguistics; Body Image; Brain and Language; British Journal of Educational Psychology; British Journal of Social Psychology; Cognition; Cognitive Psychology; Developmental Psychology; Developmental Science; European Journal of Social Psychology; Frontiers in Psychology; Journal of Adolescent Health; Journal of Child Psychology and Psychiatry; Journal of Cognitive Neuroscience; Journal of Memory and Language; Journal of Experimental Psychology: Human Perception and Performance; Journal of Experimental Psychology: Learning, Memory, and Cognition; Memory & Cognition; Personality and Individual Differences; PloS One; Psychonomic Bulletin & Review; Quarterly Journal of Experimental Psychology; Scientific Studies of Reading; Sex Roles; Virtual Reality*, and for a number of publishers including McGraw-Hill, Oxford University Press, Palgrave Macmillan and SAGE. Staff have also undertaken reviews for funding bodies including ESRC, European Science Foundation, National Science Foundation (USA) and the Swiss National Science Foundation, and serve as expert reviewers (European Science Foundation College of Expert Reviewers [Noret]).

Invited talks and keynotes
Members of the unit have delivered invited talks at the following institutions: University of York (Bell, Davis, Douglass, Mirković, Savill), University of Oxford (Mirković), University of Bristol (Bell), University of Sussex (Hamilton), University of Warwick (Mirković), Tufts University, USA (Humă), University of Leeds (Hamilton), University of Liverpool (Mirković), Swansea University (Cole), Royal Holloway, University of London (Mirković), University of Hull (Cole),University of Bradford (Cole), Canterbury Christ Church University (Hamilton), University of Central Lancashire (Bell), University of Hertfordshire (Cole), Leeds Beckett University (Davis), Leeds Trinity University (Davis), University of Salford (Bell, Demasi), Solent University (Noret), Teesside University (Bell, Demasi). In addition, members of the unit have delivered invited keynote addresses at the UK Psychological Trauma Society Annual Conference (Larkin), the BPS Northern Ireland Branch Flavour of Psychology (Bell) and the Current Trends in Psychology conference in Novi Sad, Serbia (Mirković).

Research degree examinations
Members of the unit have examined doctoral theses at the following institutions: Bond University, Australia (Bell), Curtin University, Australia (Bell), Lancaster University (Mirković), University of Notre Dame, USA (Bell), University of Plymouth (Hamilton), University of Queensland, Australia (Cutting), University of Roehampton (Hamilton) and University of Salford (Coxon).

Conference and symposia organisation
Conferences and events organised by unit members include the British Human Computer Interaction Conference (Bell served as panels chair), the BPS Social Psychology Section Annual Conference (Gibson), GYMM (Cole), the BPS North-East of England Branch conferences (Bell and Douglass served as conference chairs), the Political Discourse Day (Demasi) and the Resistance in Talk-in-Interaction seminar series (Humă). Staff members have served on conference organisational committees (Humă for the 5th International Conference on Conversation Analysis) and have convened symposia at national international conferences: ESCoP (Cole), Psychonomic Society (Mirković) and BPS Social Psychology Section (Demasi).

Contributions to professional organisations

Staff within the unit are encouraged to take on external roles within the disciplinary community and in interdisciplinary initiatives. For example, several colleagues have held roles within the BPS's North-East of England Branch, with Bell and Douglass having both served as chairs, and Hamilton as honorary secretary. In addition, Bell serves on the society's Standing Conference Committee, and Hamilton is a committee member of the society's Developmental Psychology Section. Cole was a member of the York NHS Trust Research Ethics Committee, and Noret has served as a trustee of the Ben Cohen StandUp Foundation anti-bullying charity.

Public engagement
Over the course of the current REF cycle, members of the unit have engaged with diverse communities and audiences. In addition to popular talks and articles aimed at a general audience, we have also sought to engage with those groups and communities to whom our research speaks most directly, such as people with autism and their families, and young people who may be exposed to pressures concerning body image. For example, colleagues have made contributions to the mass media, such as Bell as an on- and off-screen consultant for a documentary on body image for the BBC's *The Truth About…Cosmetic Treatments*, and Douglass's appearance on *The One Show* (BBC, March 2018). Colleagues have also contributed highly read articles in online outlets, such as The Conversation (Bell, Davis) and the Beauty Demands Network blog (Bell, 31,000+ views). The unit's research has attracted coverage in the popular print media, including Bell's research in *Cosmopolitan*, *The Times*, *The Sunday Times South Africa* and Davis' research in the *i* newspaper, *The Telegraph* and the *Daily Mirror*. Examples of events that colleagues have been involved in include talks at popular science events such as the Pint of Science festival (Bell, Cutting), the British Science Festival (Cole), the BPS's Psychology in the Pub series (Demasi, Gibson), and at events aimed at specific groups such as the York Celebrates Autism event (Hamilton). We have also sought to make organisational contributions to initiatives that seek to engage the public with research, such as through Hamilton's and Larkin's co-facilitator role with the York Autism Community of Practice, and Humă's role in the organisation of the York Pint of Science Festival.