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The Real-Time REF Review

**A Pilot Study to Examine the Feasibility of a
Longitudinal Evaluation of Perceptions and
Attitudes Towards REF 2021**

**Working paper on key findings
June 2019**

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EXECUTIVE SUMMARY

BACKGROUND

The UK first introduced a national research assessment exercise in 1986, and methods of assessment continue to evolve. Following the 2016 Stern Review and further rounds of technical consultation, the UK higher education (HE) community is now preparing for the next Research Excellence Framework – REF 2021.

Commentary about the REF across the sector is often critical, yet the exercise also performs several purposes for the research community.

1. Supporting the allocation of around £2 billion of quality-related research funding each year;
2. Informing strategic decision-making about national research priorities;
3. Providing an accountability mechanism for public investment in research;
4. Creating performance incentives for Higher Education Institutions (HEIs), departments and individual academics;
5. Giving HEIs information to inform decisions on resource allocation;
6. Providing a periodically-updated reputational benchmark, that may be especially important for less known HEIs.

Despite its importance in shaping research cultures, there is limited systematic and nuanced evidence about how academics across the sector view the REF, and which aspects are viewed favourably or unfavourably. The aims of this pilot study were twofold: first, it was designed to gather initial data to address this evidence gap; second, it was aimed at testing the feasibility of conducting a longitudinal study into academic and managerial attitudes towards the REF. We argue that further research to better understand the effects of the REF on research cultures, institutions, and individuals should be part of the evidence used to inform the development of future iterations of the exercise

The Real Time REF Review Pilot Study was developed and delivered by a research team from Cardiff University and the University of Sheffield, in collaboration with Research England.

OUR APPROACH

The pilot study focused on four universities: Cardiff University, University of Sheffield, University of Sussex, and University of Lincoln. These institutions were selected in large part because they have equivalent fit across REF Units of Assessment (UoAs) (broad areas of research) and complement one another in research profile and REF engagement. Considering the pilot nature of the study and participation by four universities, it is unclear how well results will generalise further across the sector.

Within the four higher education institutions, our focus was on eight subpanels of the REF, two drawn from each of the four main panels:

Fig 01: The eight subpanels of the REF selected for study in the Real-Time REF pilot.

Main Panel A: Medicine, health and life sciences

UoA 3 – Allied Health Professions, Dentistry, Nursing or Pharmacy

UoA 4 – Psychology, Psychiatry and Neuroscience

Main Panel B: Physical sciences, engineering and mathematics

UoA 11 – Computer Science and Informatics

UoA 12 – Engineering

Main Panel C: Social sciences

UoA 17 – Business and Management Studies

UoA 23 – Education

Main Panel D: Arts and humanities

UoA 28 – History

UoA 34 – Communication, Cultural and Media Studies, Library & Information Management

The pilot comprised **two phases of data collection**:

- 1) Phase 1 consisted of a survey study intended to understand the perceptions and experiences of research-active academics within the four universities;
- 2) Phase 2 consisted of semi-structured interviews with individuals who play an active role in REF management within the four universities.

METHODS

Data collection took place between April and August 2018, while changes to REF 2021 resulting from the 2016 Stern Review were in the process of being disseminated and implemented.

Participants were asked about their attitudes towards the REF, their knowledge and experience of the REF process, and the impacts of changes to REF 2021 following the Stern Review. More broadly, participants were asked about the perceived influence of the REF on research activities and management approaches to the REF. In addition, participants were asked to comment on the perceived impact of the REF on research cultures, and their views on what the purpose of the REF is and what it *should* be.

Phase 1: A survey of academic attitudes

The pilot study aimed for a sample of $n = 600$ and achieved a final sample of $n = 598$ respondents to a survey on the REF. Focusing on the disciplinary communities represented by the eight REF UoAs, academics representing all eight of the selected REF subpanels at each university responded to closed-ended questions.

Fig. 02: Percentage time spent on research by respondents in the study.

We explored the nature of many responses and relations primarily as a function of two professional categories: (1) academic position held and (2) REF panel; and two personal categories: (3) gender, and (4) caring responsibilities. Researchers representing all career stages took part. Just under 1/3 of respondents had some formal responsibility for managing the REF. Of the sample, 228 (38.1%) of participants identified as women, and 283 (47.3%) identified as men. 51.5% (308 respondents) identified as White British, and an additional 17.9% (107 respondents) identified as another White ethnicity.

Phase Two – Interviews with university managers

The research team conducted semi-structured interviews with 21 managers of the REF between July and September 2018 in the four participating higher education institutions. Interview participants at each institution were selected using a purposive sampling approach to gather a range of views from those coordinating and supporting the REF. Interviews were conducted with senior managers, members of each institution's research directorates (and heads of schools/ departments with REF lead responsibilities. Access to interviewees at each institution was granted through securing senior management agreement. Interviews were thematically analysed using NVIVO 10 software.

FINDINGS AND DISCUSSION

1. Attitudes to the REF

The pilot study revealed that academics have mixed but less strident views of the REF than might be assumed. Survey responses revealed that, across the whole sample, academic attitudes toward the REF were *moderately negative*. Researchers reported more positive attitudes if they also perceived that the REF encourages engagement with the community and with interdisciplinary work, does not discourage blue-sky research, and encourages researcher integrity.

For managers who were interviewed, broad views were moderate and tending towards positive, while acknowledging the challenges the REF poses to both managers and researchers. Those in senior management positions tended toward a more pragmatic and positive stance, whereas those in academic/REF lead positions were more likely to problematize the REF in line with survey data of academics.

Our study suggests that views on the REF are not as polarized or as extreme as is commonly believed, or reflected in coverage of the REF in the media. Extremely negative views were in the minority, while a majority of respondents had neutral or moderately negative attitudes about the REF.

Fig. 03: Percentage responses for attitudes toward the REF ranging from (-3 = extremely negative) to (3 = extremely positive), where 0 reflects a neutral (neither negative nor positive) attitude (2.5% missing responses).

2. Influences on research cultures

Both survey and interview data revealed the REF has both positive and negative influences on research activity. These data together suggested that, positively, the REF is seen to increase **engagement outside academia** and the use of **open research** activities, whereas **game playing** (where additional strategies are implemented, beyond those required by the exercise, in order to influence exercise outcomes) and **impacts on creativity** were deemed to be the most negative influences of the REF on academic culture.

Importantly, an insight that emerged from the survey data was that the focus on *open access and research practices* was the most consistently positive and impactful influence of the REF on both researchers' own work and UK academic culture. Survey data suggested the move to encourage more open research practices was seen as the most positive change in REF 2021. It also elicited the most consistently positive attitudes.

These findings suggest that additional emphasis on open access and open research practices would enhance researchers' experiences of the REF, although these causal interpretations based on correlational data merit further study.

Concerns related to the REF were seen to arise often in terms of overselling the claims of research findings for impact case studies and, in broader terms, this related to perceptions of REF as a "game". One concern with respect to the effects on research cultures was that REF 2021 would still promote tactical game playing by institutions – though perhaps at a reduced level than in REF 2014.

Differences by standing on demographic characteristics could only be considered in survey responses. However, survey responses were generally consistent across genders,

and across participants' academic positions. An important exception was that the small subsample of non-independent researchers (PhD students, postdoctoral researchers) had more positive views regarding many of the REF's influences on academic culture. Another was that participants expecting to submit to Panel B perceived the *most* beneficial influences of the REF on research activities. Participants expecting to submit to Panel D perceived the *least* beneficial influences of the REF on research activities.

Fig. 04: Perceived influence of REF on research activities in terms of how negative (-3) to positive (3), where 0 = neither negative nor positive.

3. The road to REF 2021

Researchers generally saw the changes to REF 2021 in a positive light. Increased emphasis on open research practices was seen as the most positive change. Increased weighting of impact from 20% to 25% was seen as the least positive change. On average, participants modestly agreed that REF 2021 is more supportive than previous exercises and viewed REF 2021 as offering somewhat greater flexibility than REF 2014. A further positive development was that respondents saw REF 2021 as placing more focus on quality rather than quantity of outputs, as compared with REF 2014. **Results support the case that REF 2021 offers moderate improvements over REF 2014, albeit with scope for further improvement in future cycles.**

Fig. 05: Mean attitudes toward changes to the REF 2021 (from REF 2014) overall, for women, carers, and self-identified early-career researchers, with 3 = positive, -3 = negative, 0 = neither negative nor positive.

4. Knowledge of the REF rules

We asked how participants received information about the REF and how aware they were of the recent changes. Participants demonstrated generally good knowledge of aspects new to REF 2021. Those in more senior positions demonstrated more accurate knowledge, and felt that changes to REF 2021 had been well communicated. The exception was relatively low awareness that further support is available for interdisciplinary research, suggesting a need for clearer communications in this area.

Most information about the REF came from informal discussions with colleagues, heads of departments, and university-wide communications. The smallest amount of information came from the REF website and social media. Non-independent and early independent-position researchers received more information about the REF from their mentors, as compared with later-career researchers. Respondents representing Panel D received more information from peers through informal discussions and social media. Analysis from the interviews showed that universities receive information in part through REF readiness activities, including the sharing of best practices.

Fig. 06: Mean responses for sources of information about the REF (lower scores signify the source is more influential), split by panels of the REF.

**Informal disc.* = informal discussions with colleagues; *professional* = professional services.

No single source of information stood out as predicting participants having more knowledge about changes to REF 2021. This suggests that trickle-down or peer-to-peer processes do not result in a significant loss of information compared with more formal approaches. For early-career researchers, a disproportionate amount of information about the REF may come from mentors, so there is likely to be a higher variability in the accuracy of this information and how these researchers build their own portfolio to meet expectations of the REF.

Participants still perceived a lack of clarity with respect to some REF 2021 expectations, despite holding positive views about the consultative nature of the process. Instead, most participants suggested that the late stage at which information was received (in terms of REF preparations) heightened a sense of uncertainty among managers and staff, which was deemed unhelpful. The findings suggest that, where possible, REF expectations should be outlined as early as possible in the process.

5. Institutional management and support

Analysis of the survey data reveals that between one-third and one-half of respondents reported their departments used supportive activities to motivate and guide them toward better REF performance, including providing academics with clear guidance. Interviews with managers revealed a range of readiness activities and structured interventions used to embed REF activity.

Table 07: Readiness activities for research outputs described by interviewees

READINESS ACTIVITIES	TARGETED INTERVENTIONS	STRUCTURED INTERVENTIONS
REF reading and ranking groups	Research mentoring	Performance Development Review (PDR)
Rolling REF/ REF stocktake	Training on star ratings	Reporting and monitoring dashboards/ systems
Implementation of system for open access database of papers	Meetings with research leads about star ratings	Internal code of practice for research assessment
Annual REF reading exercises	Regular communications and bulletins, information events, Open Access week	Movement of research staff to teaching contracts
Internal peer review group		
Appointment of External Research Advisors		

Departments were seen as using constructive and supportive motivational approaches towards the REF, more frequently than pressuring motivational strategies.

Although less frequent, the use of potentially pressuring motivational strategies was still noteworthy, in that just under 1 out of 6 respondents experienced the use of such techniques. The most common such strategy was indicating a role change if academics failed to perform in accord with the REF. Relatively few respondents reported the use of formal contract changes or promotions to motivate REF activities.

These techniques, and especially the expectation of role change, are problematic because they are likely to drive what managers ostensibly want to avoid, by encouraging affected researchers to be motivated primarily by REF performance and less by other drivers for conducting research.

Both interviewees and survey respondents identified the importance of departments using supportive approaches to motivate and inspire academics. Interviewees highlighted the idea that REF is a ‘team sport’ or collective endeavour rather than an individual activity, and this was reflected indirectly in these survey responses. Interviewees also described a broad set of approaches taken by universities and departments/schools to prepare academics for the expectations of the REF through enhancing communication and skills building. Overall, these approaches were varied and often resource/system intensive, and little was described in terms of their reception by academics. While some of these approaches are tailored to the climates of specific institutions and departments, others may be more or less adaptive across institutions.

It may be fruitful for institutions to share best practices in REF readiness rather than attempting to ‘reinvent the wheel’ as the REF process approaches the submission stage and as the new rules are more widely embedded (e.g., a greater focus on impact).

6. Identity, equality and diversity

The analyses from the pilot study considered differences as a function of gender, caring responsibilities, and those who self-identified as early career or occupied more junior roles (e.g., lecturers). On the whole, there were few differences between male and female

respondents' views, and those who had caring responsibilities, or did not. There were several notable exceptions, but these merit future study, given the large number of analyses overall may have yielded some findings by chance. Any differences between these demographic groups should be replicated in future research to obtain greater confidence that they reflect meaningful differences in the population.

Notably, women and independent early and mid-career researchers reported that changes made to REF 2021 were more likely to influence the expectations placed on them, although it was not clear whether these changing expectations would be positive or negative ones. The finding that early-career researchers report more influence is consistent with interviews, in which managers highlighted a disproportionate influence of the REF on early-career academics. The difference across genders is also noteworthy and merits future consideration.

Although not assessed in the survey data, analysis of the interviews conducted with university managers revealed some negative impacts upon the health and well-being of the research community with respect to the REF. With respect to the changes to REF 2021 where equality and diversity considerations are taken more plainly into account, most managers felt that this would have a positive impact upon the well-being of academics for whom equality and diversity issues were faced in the previous REF 2014. Analysis suggests that the new approaches to equality and diversity and reduction in outputs may lessen anxiety and stress caused by the rules of the previous REF cycle.

More broadly, several managers noted concerns over academic wellbeing arising from increased performativity, workload pressures and competition, in part, associated with the REF. Instead, stress and wellbeing issues were often raised by participants as symptomatic of broader challenges facing higher education, and further research would need to focus more specifically to ascertain the extent to which there exists a causal relationship between concerns about academic wellbeing and the REF.

It is notable that most if not all participants suggested that they felt stress was likely to reduce as a result of the changes post-REF 2014 as the sector further adapts to the demands of the REF process. Despite this, REF continued to be characterized as burdensome and, as such, more research into the localized and systemic effects specifically with respect to REF would need to be conducted to untangle these concerns from pressures coming from elsewhere within the higher education system.

In most analyses, we did not observe consistent and noticeable differences between those who identified as submitting to different REF panels. However, notable findings are: that those who identified as submitting to Panel B – engineering and physical sciences – reported the most beneficial influences on research activities in academic culture, and that those from Panel D – arts and humanities – reported the least beneficial influence of the REF on research activities.

Reflecting these differences, Panel D also saw the REF as being less successful in achieving its stated purposes, and particularly to influence the national agenda, while Panel B perceived that the REF was most successful in achieving what it sets out to do. Further, those who identified as submitting to Panel C – the social sciences – talked more about metrics and their complexities than Panel A – biomedical sciences – who had a tendency to have confidence in and rely on metrics such as citation and journal impact factors.

Further, in survey data, Panel C participants reported a greater influence of the REF on the quantity, quality, scope, and prestige of outputs they produced. This may suggest a challenge to meet expectations of the REF, particularly as interdisciplinary research is often located within this group of cognate disciplines.

7. Challenges and concerns

The REF can be seen to pose challenges and concerns for academics and managers alike. These include, but are not limited to: impacts on **authenticity and autonomy, influencing behaviours, diminishing morale, concerns for wellbeing, and encouraging concerning behaviours such as game-playing** (where additional strategies are implemented, beyond those required by the exercise, in order to influence exercise outcomes). The REF is inevitably seen to influence the authenticity of researchers' work, that is, how closely it represents their academic interests and values. Preliminary findings from the pilot study suggest that there may be small negative impacts on respondents' authenticity.

Future research should examine where negative impacts on authenticity may occur. There may be a small subset of respondents who feel negative impacts on authenticity and could be supported in more substantive ways. Interviewed managers acknowledged some potential conflicts with academic freedom, but there was a lack of consensus about this, and no one expressed confidence that it was driving people to conduct different research. Instead, managers suggested that REF might 'focus minds' on particular projects. This may come at the expense of more creative projects. Similarly, the REF exercise was not seen by surveyed respondents to impact their authenticity, relative to other potential influences of the REF, although, where there is an influence, it was seen to be slightly negative.

A potential risk to authenticity is reflected in a survey finding that 15% of respondents reported that they were asked to change the focus of their research to accommodate the REF. While this is a relatively small proportion of respondents (85% of respondents did not report this risk), it still indicates that a sizeable portion of research *content* within the UK may be directly shaped through REF expectations. The fact that interviewed managers did not feel they could comment on this influence suggests some degree of divergence between strategic aspirations and the realities on the ground for those conducting the research.

8. Where next?

Going forward, it will be important to understand *whether* and *how* attitudes related to the REF are changing with new rules, structures, and emerging deadlines. Understanding academic attitudes and experiences across time informs strategic changes to better support the research community, as well as policy recommendations for funders and institutions alike.

This pilot represents a first step in the right direction, but a larger, longitudinal study would allow an understanding of respondents' attitudes related to the specific reforms being introduced in this and future cycles of the REF – for example, staff selection, number of outputs, (non) portability of outputs, and the increased weighting of impact case studies.

Through an expanded longitudinal study, further research paying attention to the higher education institutions that took part in the pilot project, supplemented with further institutions and UoAs to increase the breadth of findings, would allow modelling *what* researchers and managers are feeling and *why* they are feeling these ways. This more systematic approach to 'research on research' is vital to informing the activities of a system that values evaluation, continuous improvement and evidence-informed policymaking.

The approach used in this Real-Time REF Review pilot, supplemented with additional breadth, could yield a more thoughtful, textured and empirically informed approach to how the REF is adapted and implemented in future cycles to:

- (a) better understand their relation to the salience and implementation of changes; and
- (b) predict changing attitudes and perceptions from current baseline measures at individual and institutional levels.

In sum, this pilot project suggests that researchers have mixed and complex reactions to the REF, and that these reactions are sensitive to aspects of the REF process and how it is implemented within universities. Through expanding the approach taken in this pilot study to a larger sample over time, further research would enable the sector to better understand the nature of the issues – problems and benefits – pertaining to the REF, to inform future assessment cycles beyond 2021.

I. CONTEXT AND INTRODUCTION

It is now 33 years since the UK first introduced a national research assessment exercise, but frameworks and methodologies of assessment continue to evolve. Following the 2016 Stern Review¹, and further rounds of technical consultation², the UK higher education community is now in the advance stages of preparation for the next exercise – REF 2021. Commentary about the REF across the sector is often critical. It has been suggested by some that the REF is “a bloated boondoggle”, a “Frankenstein monster” and “a Minotaur that must be appeased by bloody sacrifices”. It is said to be responsible for a “blackmail culture”, a “fever” and a “toxic miasma” that hangs over our campuses.³ Yet the exercise also serves a range of purposes for the research community.

Table 1: The evolution of UK research assessment exercises (1986-2021)

Date	Exercise	Coordinating body	Key features
1986	Research Selectivity Exercise	Universities Grants Committee	37 cost-centres; 4-part questionnaire on research income, expenditure, planning priorities & output
1989	Research Selectivity Exercise	Universities Funding Council	152 units of assessment; 70 peer review panels; 2 outputs per member of staff
1992	Research Assessment Exercise (RAE)	HEFCE & devolved councils	HEIs select which staff to submit; 5-point scale; 2800 submissions to 72 UoAs; introduction of census date
1996	Research Assessment Exercise (RAE)	HEFCE & devolved councils	Up to four outputs per researcher; 69 UoAs
2001	Research Assessment Exercise (RAE)	HEFCE & devolved councils	2600 submissions to 69 units of assessment; 5 umbrella groups of panel chairs for consistency
2008	Research Assessment Exercise (RAE)	HEFCE & devolved councils	67 subpanels under 15 main panels; results presented as quality profiles
2014	Research Excellence Framework (REF)	HEFCE & devolved councils	4 main panels; 36 subpanels; introduction of 20% impact element
2021	Research Excellence Framework (REF)	Research England (UKRI) & devolved councils	All staff with ‘significant responsibility’ for research submitted. Impact 25% weighting.

Lord Stern’s review argued that the REF now has six distinct purposes:

¹ Stern, N. (2016) *Building on Success and Learning from Experience: An Independent Review of the Research Excellence Framework*. BEIS, July 2016.

² Further consultations on REF 2021 are detailed here: <https://www.ref.ac.uk/about/background/>

³ Wilsdon, J. (2015) In defence of the REF. *The Guardian*, 27 July 2015
<https://www.theguardian.com/science/political-science/2015/jul/27/in-defence-of-the-ref>

7. Supporting the allocation of around £2 billion of QR funding per annum;
8. Informing strategic decision-making about national research priorities;
9. Providing an accountability mechanism for public investment in research;
10. Creating performance incentives for HEIs and individual academics;
11. Giving HEIs information to inform decisions on resource allocation;
12. Providing a periodically-updated reputational benchmark, that may be especially important for less known universities.

The reforms recommended by the Stern Review aimed to improve the REF exercise, so it could continue to serve these purposes, while reducing its overall burden on institutions and individuals, and limiting negative effects on research cultures and careers. Several of these reforms have been implemented, and preparations are intensifying for REF 2021. It is now important to understand perceptions and attitudes towards the REF and how they change over time. While many individuals within the academic sector may hold strong opinions about the REF, little rigorous research has been conducted into these attitudes and perceptions.

1.1 Overarching aims of the pilot study

Working in partnership with Research England, a team of researchers from the universities of Cardiff and Sheffield initiated this pilot study to explore ways of filling this evidence gap. Rather than waiting for REF 2021 to complete before reviewing how well it worked, we set out to test the feasibility of a more formative approach.

We aimed to evaluate perceptions and experiences of the REF in real time, among researchers at all career stages, and across a diverse range of disciplines and universities. We hoped to better understand the changing effects of the REF on research cultures, institutions, and individuals – and particularly whether the changes prompted by the Stern Review, are succeeding or failing in their goal of reducing burdens on researchers and institutions.

The pilot had two overarching aims: 1) To develop materials that could be used, or adapted, for a subsequent larger-scale longitudinal study in 2019-2022; 2) To collect baseline data that could help us to better understand the experiences, reactions, and attitudes of UK researchers in response to developments within the REF. The data also formed the basis of recommendations to Research England for future evaluation of REF 2021.

Research for the pilot focused on four universities – Cardiff, Sheffield, Sussex and Lincoln – eight units of assessment (UoAs) in each, two under each of the main REF panels (see Ch. 2, Table 2 below).

Data collection was guided by existing research on human motivation and on attitudes, practical considerations regarding ways in which the REF is implemented, and a desire to better understand how the exercise is perceived by academics. First, we examined attitudes, by evaluating their valence (positivity and/or negativity) and strength, as well as underlying beliefs. We also assessed the extent to which attitudes toward the REF relate to experiences influenced by, but outside of the REF exercise – particularly the ways that academic departments manage and support researchers. Finally, we sought to explore awareness and knowledge about REF 2021 (and the post-Stern Review reforms), and levels of involvement with REF processes. These are important, as various strands of research have demonstrated how factors such as knowledge and personal involvement

influence how individuals think about and derive their attitudes, as well as affecting the likelihood that these attitudes might change over time.⁴

Our approach drew on frameworks within motivational psychology – particularly self-determination theory⁵ – which suggest that guiding influences can be perceived as supportive to the extent they provide a balance of structure (in this case, the structure provided by the REF) paired with choice (options within that structure), and that explanations for why decisions are made are communicated effectively – in this case by university and departmental managers. Within motivational theory, these strategies are often contrasted with more pressuring approaches that demand results through promising that negative or positive consequences will follow certain behaviours. From this perspective, it was important to consider how those in managerial positions perceive their role in implementing REF procedures. Further, we recognised interrelated levels of analysis: (1) how the REF itself is perceived; (2) universities as implementing REF reforms in different ways; (3) departments as creating sub-cultures for REF reforms; and (4) how individuals' own motivations and past performance relates to how they perceive new REF procedures.

Specific topics explored through the pilot phase of research included:

- Perceptions of the REF and recent changes to the exercise;
- The relationship between the REF, research productivity and interdisciplinarity;
- The changing role and emphasis on impact within REF;
- Managerial approaches to the REF;
- Perceptions of the REF across time;
- Effects of REF on research cultures, and whether these vary by career stage, UoA, and other aspects of diversity.

1.2 More diverse and distributed perspectives

Formal consultation exercises within the HE sector are often dominated by institutional voices. The pilot study was an experiment in the feasibility of drawing on a more diverse and distributed set of perspectives and experiences of the REF than ever before. It is one example of the more creative, strategic, and long-term approach to evaluation, which should be made easier by the unified structures and enhanced analytical capabilities of UK Research and Innovation.

From an academic and policy perspective, it also reflects a shift now underway in several countries towards more sophisticated forms of 'research on research' or 'meta-research'. It is important to underline that the findings of this pilot will not directly influence REF 2021 – the rules and guidance for the current cycle are now fixed. But they should give the research community a head start, and a richer evidence base, on which to draw in thinking about what comes after REF 2021, and whether any further reforms to the exercise may be required. The findings may also be useful as a contribution to wider communication, discussion and debate in the lead up to REF 2021.

⁴ See e.g. Maio, G. & Haddock, G. (2015) *The Psychology of Attitudes and Attitude Change*. London: SAGE

⁵ Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.

2. METHODS

Given the relatively modest scale of the pilot, we concentrated research efforts on four universities: Cardiff University, University of Sheffield, University of Sussex, and University of Lincoln. It is not possible for four universities to represent the full diversity of UK higher education institutions (HEIs), but these were selected to provide some degree of contrast in research profile and REF engagement.⁶ Pragmatic factors also influenced the selection: we needed four HEIs with a good spread of equivalent Units of Assessment, as submitted in REF 2014. Finally, the research team was drawn from Cardiff and Sheffield, which made it easier to secure their institutional agreement to participate in the pilot exercise.

Within the four HEIs, our focus was on eight subpanels of the REF, two drawn from each of the four Main Panels – as set out in Table 2 below.

TABLE 2: REF 2021 Units of Assessment included in the pilot study

Main Panel A: Medicine, health and life sciences UoA 3 - Allied Health Professions, Dentistry, Nursing or Pharmacy UoA 4 - Psychology, Psychiatry and Neuroscience
Main Panel B: Physical sciences, engineering and mathematics UoA 11 - Computer Science and Informatics UoA 12 - Engineering
Main Panel C: Social sciences UoA 17 - Business and Management Studies UoA 23 - Education
Main Panel D: Arts and humanities UoA 28 - History UoA 34 - Communication, Cultural and Media Studies, Library & Information Management

As discussed further in section 5 below, given the pilot nature of the study, sampling was intended to produce initial, tentative conclusions regarding researchers' experiences of the REF. Our sampling frame was more specifically selected to examine the feasibility of the pilot study design, and to test the methodology with a range of academic disciplines across a variety of institutional cultures, with an eye toward a larger, longitudinal study.

The project comprised **two phases of data collection:**

- 3) Phase 1 consisted of a survey study intended to understand the perceptions and experiences of independent and research active academics;

⁶ Two of our four selected HEIs (Cardiff and Sheffield) sit within the Russell Group; one is a smaller research intensive outside of the Russell Group (Sussex); one is a post-1992 HEI (Lincoln). Adopting another recent four-cluster typology of UK HEIs, three sit in Cluster 2 (Cardiff, Sheffield and Sussex) and one in Cluster 3 (Lincoln) – see Boliver, V. (2015) 'Are there distinctive clusters of higher and lower status universities in the UK?'. *Oxford Review of Education*, 41 (5). pp. 608-627.)

- 4) Phase 2 consisted of semi-structured interviews of 45-60 minutes each, with 21 individuals who play an active role in REF management in the four universities.

Data collection took place between April 2018 and August 2018, while changes to REF 2021 resulting from the Stern Review were in the process of being disseminated and implemented. It should be noted that this period also followed shortly after strike actions across the sector related to proposed changes to the Universities' Superannuation Scheme (USS) (in February and March 2018).⁷ Responses to the study, particularly in Phase 1, may have been influenced by this period of industrial unrest within the sector.

The nature of the questions asked in both phases were intentionally similar, in order to explore patterns and relationships between them. The questions were guided by the focus of the research team and Research England, based in theory and/or by issues that may be practically useful to inform the development of research assessment.

The design and conduct of the study, particularly with respect to the survey portion, was also informed by strategic advisors in each of the four universities. These individuals held an active role managing the REF within their institution and provided guidance in terms of appropriate departments or schools to contact, the appropriateness of particular REF related questions for their universities, for example, in terms of job roles and using language consistent with that of the university. Strategic advisors did not influence the *nature* of the questions asked but ensured that the survey would be understood in each institution and therefore more effective in achieving its aims.

2.1 Quantitative methods

Data collection was undertaken from April 2018 to early August 2018. We aimed for a sample of $n = 600$ and achieved a **final sample of $n = 598$** respondents to the survey. We focused on the disciplinary communities represented by the eight REF UoAs, as listed under Table 2. The selection of sub-panels and criteria for university selection was co-designed and agreed with Research England. Although we focused on recruitment linked to selected subpanels (for example, identifying departments with the most individuals likely to be submitted), we accepted responses from some individuals outside of those panels, or those who did not know the panel to which they would be submitted. Further, we sought to recruit research active academics, so any respondents who reported that 0% of their time was devoted to research were not invited to complete the remainder of the survey (though still received compensation); No participants reported 0% research time commitment. Finally, we sought researchers who met independence criteria for REF eligibility. This criterion was stated in recruitment materials, but we did also accept some participants who identified as being in non-independent research positions (see below for additional details).

Survey Summary

The online survey completed by participants focused on ten research questions that were identified as being important by the research team and/or our collaborators in Research England (see *Appendix 1* for the full survey). These were:

⁷ UCU (2018) 'UCU announces 14 strike dates at 61 universities in pensions row'. Press release, 29 January 2018 <https://www.ucu.org.uk/article/9242/UCU-announces-14-strike-dates-at-61-universities-in-pensions-row>

1. What are the perceived influences of the REF exercise on the research activities undertaken by the academic community?
2. Who/what are the primary sources of information about the REF exercise?
3. How much knowledge do academics have regarding the recent Stern Review recommendations and developments for REF 2021?
4. How do academics see recent changes to REF 2021 in terms of the extent and benefits of their influence?
5. How do academics view the REF 2021 exercise in relation to REF 2014?
6. What are the perceived influences of the REF exercise on the research activities undertaken by the academics surveyed (via a self-report of own experiences)?
7. What are academics' personal attitudes toward the REF? What are its perceived potential benefits and detriments?
8. Which management approaches do academics report are as being used in their departments, in response to expectations placed by the REF exercise, and how do these relate toward attitudes toward the REF exercise?
9. How are academics being supported, or not, by their departments and how do these experiences of support by departments, relate to attitudes toward the REF exercise?
10. How do academics view the REF is achieving its official purposes, and to what extent is the REF exercise *supposed* to be pursuing these purposes, according to UK academics?

In most cases, we were also interested in how these experiences differed as a function of academic position (e.g., lecturer, senior lecturer, professor), REF panel (A, B, C, or D), gender, and caring responsibilities (e.g. for young children).

Research Ethics

The procedure was reviewed and approved by the School of Psychology Ethics Committee at Cardiff University. Participation was entirely voluntary. Participants were informed about the study procedures and data handling approach at the start of the study, and debriefed at the end of the study. Data was and will be handled in accordance with the General Data Protection Regulation (GDPR).

Participant Recruitment

Participants were recruited by engaging with the support of management, and by approaching participants directly. First, individuals overseeing relevant faculties were asked to support the project, and to encourage their academics to participate through emails and verbal communications. The benefit of this approach was that it was likely to secure higher rates of responding from participants with a diversity of views. This approach may have had higher success in particularly 'healthy' departments. To ensure a balanced view, we heavily supplemented the sample with individuals recruited through departmental email lists. In departments with very low response rates, we approached academics through individually tailored emails in target research areas.

Participant Compensation

The first waves of participants were compensated with a £10 voucher for each survey completed. After recruitment had slowed in an initial phase of the survey recruitment period, we transitioned to entry for the chance of winning a raffle prize of £500 after initial response rates waned, given research suggesting large monetary incentives may

increase participation.⁸ We offered monetary compensation intentionally to support recruitment of participants with a diversity of views – that is, it was important for the purposes of this study that participants had varied motives for undertaking the study. Indeed, it was critical that motives for completing the survey were based as little as possible by levels of satisfaction or dissatisfaction with the REF.

2.2 Qualitative methods

To complement the quantitative survey, we conducted semi-structured interviews ($n = 21$) between July and September, 2018, in the four participating HEIs.

Interview participants at each institution were selected using a purposive sampling approach, in order to gather a range of views from those coordinating and supporting the REF. Interviews were conducted with senior managers, members of each institution's Research Directorates (including Directors and Managers) and Heads of Schools/Departments with REF lead responsibilities. Access to interviewees at each institution was granted through securing the agreement of senior management. As such, each participating HEI provided the research team with a central administrative contact who nominated five managers to interview, though in two cases we received six nominations. We asked these managers vary in the nature of their role (e.g., administrative or academic; based in or outside of departments). We also asked they vary in terms of the area of research with which they worked, and that they were concerned with at least one of the eight units of assessment under study. Contact with potential interviewees was then made either direct by the research team, or via the central administrator, with scheduling taking place in the months prior to July 2018.

All potential interviewees were invited in advance to participate by email and provided with an information sheet about the project's aims and objectives and details of the research team (see *Appendix 2 and Appendix 3*). The invitation also included an informed consent form (*Appendix 4*), which detailed how data would be collected, stored and managed in line with the principles of GDPR. Participants were informed of the project's ethical clearance, and assured that their responses would be anonymised in the reporting of the research. Participants were also assured that none of their comments or responses would be attributed to them, nor would the identity of anyone mentioned in the interviews be disclosed.

Almost all of those invited to participate in the interview phase accepted. Where invitees declined, this was because of scheduling conflicts. Interviews mainly took place face-to-face and on site, at the institution. In the few cases where this was not possible, interviews took place over the phone or via Skype. All interviews lasted between 45 and 60 minutes. Prior to starting the interview, participants were first invited to read and sign the informed consent form (*Appendix 4*).

Interviewees were asked about:

- Their involvement in the REF in 2014 and prospectively for 2021;
- Their general attitudes towards the REF, and what they see as its main purpose(s);

⁸ Göritz, A. S., & Luthe, S. C. (2013). Lotteries and study results in market research online panels. *International Journal of Market Research*, 55(5), 611-626.

- Their perceptions of challenges and opportunities of the REF for the wider community;
- Lessons learned from REF 2014;
- Ways in which their institution was implementing and embedding REF 2021 preparations;
- How the post-Stern Review reforms were playing out; and the level of managers' knowledge and engagement with these changes.

All interviews were recorded, transcribed and later coded and analysed using NVIVO 10 software. Analysis followed a broadly deductive approach to coding, beginning with an agreed coding framework reflective of the interview schedule (see *Appendix 2*), where the research team in conjunction with Research England agreed terms and themes on which to focus the analysis. In addition, throughout the coding process a more inductive approach was taken to issues that emerged from the data. A reflexive log of the coding process was kept in order to consider the emerging themes and revisit trends in the data. The coding framework used for analysis is found in *Appendix 5*.

3. SURVEY FINDINGS

3.1 Analytic considerations

Conclusions in this report are supported by tests of statistical significance where reported in footnotes.

To explore patterns in the survey data, initial analyses were conducted examining means, and when appropriate, mean differences in each of ten areas under investigation. Omnibus effects followed up by post hoc analyses⁹, were conducted in many cases. When it was the more sensible approach (e.g., for an exploratory and primarily descriptive enquiry), means are described to broadly provide impressions of academics' overall experiences and attitudes related to the REF. For the purposes of this report, interpretations which are informed by data rely on traditional tests of significance ($p < .05$). In future analyses designed to further understand the nature of the current findings, effect sizes could be considered for more information regarding the magnitude and practical significance of effects identified.¹⁰

We explored the nature of many responses and relations, primarily as a function of two professional categories: (1) academic position held and (2) REF panel; and two personal categories: (3) gender, and (4) caring responsibilities. In terms of other protected characteristics, disability and ethnicity were also measured and should be considered in future analyses. In some cases, we also took into account other factors, such as whether individuals had formal responsibilities for managing the REF. We undertook these tests – evaluating the extent to which responses differed as a function of participant professional and personal categories – where it was most informative. Crucially, a number of other characteristics were assessed which could be further considered (e.g., age, time spent working within the UK, time since PhD, percent of job time spent on research), but for brevity, we did not specify these in the current analyses, as they were not central to our purpose here.

Additionally, although we set out to recruit participants identified as independent researchers within the UK, 12.5% of the sample, or 75 individuals, responded who self-identified as holding a non-independent position (e.g., PhD or postdoctoral researcher). These respondents were included. Analyses considered how these individuals differed on outcomes of interest, and this group showed diverging patterns on a number of key issues (see results below). As such, it is important to remember that results across the sample include the, albeit minority, view of researchers holding non-independent positions, who are in most cases not themselves eligible for REF 2021 submission.

⁹ Omnibus effects refer to one test of significance across all conditions. Typically, if the omnibus test is significant this warrants further examination into how various conditions differ from one another. This approach minimizes the chance of falsely identifying a significant difference, which is evidenced due to chance.

¹⁰ Cumming, G. (2013). *Understanding the new statistics: Effect sizes, confidence intervals, and meta-analysis*. Routledge

3.2 Personal characteristics of participants

598 researchers across four institutions took part in the study. The sample was distributed well in terms of gender and age, but had limited representation in terms of diverse ethnicities and caring responsibilities.

The sample consisted of 598 participants. Participants could skip questions, yet questions received a response rate of 80% or more across the sample, with the exception of:

- Evaluation of REF changes in terms of their influence on changing academics' experience (385-466 responses; 64.4% – 77.9%)
- Comparisons made between 2014-2021 REF activity were also lower (355 responses; 59.4%); yet, these items were only shown to respondents who were submitted or considered for the 2014 exercise (377 respondents in total). Thus, only 5.8% of the eligible population did not complete these items.

Gender. A basic comparison of 2014-2015 HESA data indicates that the demographics of the sample were broadly representative of the gender distributions of academic staff within higher education in the UK. Of the sample, 228 (38.1%) of participants identified as women, and 283 (47.3%) identified as men (see full breakdown in Fig. 1 below).

Fig. 1: Gender distributions in terms of percent responses.

Age. Although participant ages ranged from 18-65+, most respondents reported being between the ages of 35-44 years ($n = 190$, 31.8%), followed by the age range of 45-54 years ($n = 134$, 22.4%). See Fig. 2 below for distributions.

Fig. 2: Age distributions in terms of percentage responses.

Ethnicity. Of participants, 51.5% (308 respondents) identified as White British, and an additional 17.9% (107 respondents) identified as another White ethnicity. Forty-seven (7.9%) respondents identified with a specified ethnicity that was not white (Fig. 3).

Fig. 3: Ethnicity distributions in terms of percent responses.

Caring responsibilities. Of the sample, 208 (34.8%) respondents reported having caring responsibilities of some sort, while 390 respondents either did not have caring responsibilities or did not respond. Only a small number – 33 respondents (5.5%) – reported having taken maternity leave, 4 participants took extended paternity leave (0.7%), 3 took shared parental leave (0.5%), and one reported taking adoption leave since 2014.

3.3 Career characteristics of participants

Researchers representing all career stages took part. Those who identified as holding non-independent or early independent positions (e.g., postdocs, lecturers) were much more likely to self-identify as early career. Just under 1/3 of respondents had some formal responsibility for managing the REF.

Stage of career was assessed in two ways. First, participants reported their academic position. These were then coded by the research team into four categories roughly representing career stage: non-independent position (PhD students and postdocs); early independent positions (e.g., lecturer); mid-career position (e.g., senior lecturer, reader); and senior-level academics (e.g., professor). Further, self-reported career level was evaluated and 220 (36.8%) identified as an early career researcher, while 374 (62.5%) reported they were not. Importantly, those in non-independent and early independent positions were much more likely to self-identify as being early career (see Fig. 4 for distributions).¹¹

Fig. 4: Number of respondents who identified as early career, split by four coded career positions.

Do you identify yourself as an Early Career Researcher?		Non-independent	early independent	mid-career	senior
	Yes	68	115	35	0
	No	7	46	167	135

**Note, two participants who reported early career status but not role are not included in this breakdown.*

We further asked whether participants were on current fixed term and open-ended contracts, and whether they had been on fixed term contracts since REF 2014. The percentages of responses for these items are summarised below and show a majority of participants were on open-ended contracts and had been on such contracts since 2014.

Fig. 5 below presents distributions of career variables for an illustration of the sample composition. Each row represents the spread of one career variable.

Fig. 5: Illustration of distributions; Percentage responses for key career variables evaluated in the study.

0% -----Percent of Responses in Each Category-----100%				
Very early position (12.5%)	Early independent (26.9%)	Mid- career (34.1%)	Senior (22.9%)	Missing (3.5%)
Self-reported early career (36.8%)		Self-reported not early career (62.5%)		Missing (.7%)
Fixed-term contract (17.9%)	Open-ended contract (81.9%)			Missing (.2%)
Fixed-term since 2014 (24.4%)	No fixed-term since 2014 (57.2%)		Missing (18.4%)	
No formal responsibilities for REF management (69.9%)			Formal responsibilities management (29.9%)	Missing (.2%)

¹¹ Chi-squared analysis indicated that role strongly differentiated self-perceptions of being early career $\chi^2 = 283.92, p < .001$.

Workload focus on research. On average, academics reported 48.86% of their time involved conducting research, with a range from 4% to 100% (the latter, in 49 cases or 8.2% of the sample); the mode was 40%, with 122 respondents (20.4%), reporting this (Fig. 6).

Fig. 6: Percentage time spent on research by respondents in the study.

3.4 REF Units of Assessment

Participants represented all 8 of the selected REF sub-panels. Following the July 2018 draft guidance for REF 2021, researchers had higher awareness of changes to REF 2021 but their attitudes did not change.

Unit of Assessment (UoA) representation was achieved from each of the four primary panels of the REF (Fig. 7).

Fig. 7: Percentage responses from each of four panels of the REF.

Individuals expecting to submit to Panels C and D are somewhat underrepresented in the sample; however, the smaller percentages of respondents within these panels reflect the smaller populations of academics within the four institutions sampled who are submitting to these panels.

Though we primarily recruited from the eight sub-panels of the REF that were the intended targets of this study, participants from other sub-panels who took part were included in analyses (Fig. 8).

Fig. 8: Percentage responses by the sub-panels of the REF. Highlighted rows reflect intended sub-panels.

Sub-panel	% Across Sample		% Reported Within Panel	
	Panel	%	% women	% men
Health, Dentistry, Nursing or Pharmacy	A	12.0	45.8	43.1
Psychology, Psychiatry or Neuroscience	A	15.7	41.5	47.9
Agriculture, Veterinary and Food Science	A	.5	33.3	66.7
Computer Science and Informatics	B	8.7	23.1	61.5
Engineering	B	14.2	15.3	62.4
Chemistry	B	.5	66.7	33.3
Business or Management Studies	C	11.5	37.7	52.2
Education	C	4.2	52.0	28.0
Law	C	.3	0.0	100.0
Politics and International Studies	C	.3	50.0	50.0
Social Work and Social Policy	C	.7	50.0	25.0
Sport and Exercise Sciences, Leisure and Tourism	C	.2	0.0	100.0
History	D	8.9	47.2	34.0
Communication, Cultural and Media Studies, Library or Information Management	D	6.9	48.8	41.5
English Language and Literature	D	.5	66.7	33.3
Art and Design: History, Practice and Theory	D	.5	33.3	33.3
Music, Drama, Dance, Performing Arts, Film and Screen Studies	D	.8	60.0	40.0

July 2018 submission guidance. Data collection took place before and after the 23 July 2018 publication of the funding councils' draft guidance on submissions to REF 2021.¹² Importantly, knowledge and awareness about REF 2021 was higher in those who responded following publication of this guidance.¹³ On the other hand, attitudes and perceived impact of the REF on the academic community, did not significantly differ between those who responded before the draft guidance publication and those who responded following its publication.

3.5 Perceived impacts on the community

The REF was seen to influence some research activities more than others. Mostly, it was seen to influence researcher behaviour and engagement outside of academia, as well as game playing within academia. Responses were consistent across genders, though reports did differ as a function of participants' academic position and their sub-panel.

How do researchers see the REF has impacted different research activities? Broadly speaking, the REF was seen to differentially impact the various research activities conducted by academics in the UK.¹⁴ Responses were provided using a scale in which positive scores meant the REF was seen to *increase* a particular activity (increasingly as scores moved from 1-3), 0 indicated the REF was seen to have *no effect*, and negative scores meant the REF was seen to *decrease* a particular activity (more decrease as scores moved from -1 to -3). See Fig. 9 below for distributions based on these scale options. Examining means, participants saw the REF as having:

- *Increased* the likelihood of engaging with policy-makers ($M = 1.10$).
- *Increased* the extent researchers change culture outside of academia ($M = 1.64$).
- *Increased* the likelihood of game playing in the academic community ($M = 1.99$).
- *Increased* the likelihood that academics will engage with open science practices ($M = 1.08$).
- *Decreased* the likelihood that they would pursue 'blue sky' research ($M = -1.24$) while *slightly increasing* the likelihood of pursuing predictable short-term outcomes ($M = 1.02$).
- Made *no* impact on interdisciplinary research ($M = 0.17$) or the likelihood of undertaking research with integrity ($M = -0.13$).

Fig. 9: Means & Distributions of Perceived Impacts of REF on research activities.

¹⁴ Omnibus effect from repeated measures ANCOVA using a Greenhouse-Geisser correction, $F(5.49, 1933.99) = 141.27, < .001$; differences between these views did not differ as a function of gender, $F = -.93, p = .47$, but they did as a function of role, $F = 1.66, p = .69$, and panel, $F = -3.76, p < .001$.

Non-independent researchers (PhD students, postdocs) had more positive views regarding many of the REF's impacts on academic culture. Participants expecting to submit to Panel B perceived the *most* beneficial influences of the REF on research activities. Participants expecting to submit to Panel D perceived the *least* beneficial influences of the REF on research activities.

Fig. 10 below shows responses split by academic position. Differences were driven primarily by differences between non-independent position researchers (please note this was a fairly small sample size of $n = 75$) and researchers in other positions:

- Non-independent position researchers being less likely to view negative impacts by the REF to blue sky research;
- Non-independent position researchers being more likely to see the REF as increasing interdisciplinary research;
- Non-independent career researchers reporting that the REF has increased open research practices, and research conducted with integrity.
- Senior staff viewed that the REF had a more negative impact (reducing) interdisciplinary research as compared to mid-career researchers;
- Complementary findings were predicting attitudes toward game playing, with a more positive attitude reported by non-independent position researchers.¹⁵

Fig. 10: Mean responses split by career position as well as for the combined sample.

¹⁵ Simple between-subjects ANOVAs supported these conclusions; all $ps \leq .01$.

How did perceived influences vary across REF panels? Respondents were asked to identify the REF sub-panel to which they might be submitted. The responses to these questions were coded by the research team into the four REF main panels (see also Fig. 8 above for distributions of these panels). Examining differences between individuals within these different panels, those likely to be submitted to Panel D reported greater impacts of the REF in increasing engagement with policy makers than those submitting to Panels B and C. Importantly, those submitting to Panel D also reported more negative impact, in terms of the REF having undesirable impacts on most research activities, as compared to those in Panels A and B.¹⁶ For example, those submitting to Panel D were the only group to report the REF *reducing* interdisciplinary research (Fig. 11 illustrates these distributions split by panel).

Overall, those expecting to submit to Panel B reported the most consistent perceived benefits, or reduced negative impacts, resulting from the REF exercise. The main *benefit* of the REF to interdisciplinary research was reported by those submitting to Panel B along with less negative impact to blue sky research.¹⁷ Individuals submitting to Panel B reported the greatest benefit to open research practices,¹⁸ and to research conducted with integrity, and a lower likelihood to engage in game playing.¹⁹

Fig. 11: Mean responses split by those submitting to the four REF panels (A, B, C, D).

Finally, examining differences between genders, both men and women perceived similar influences of the REF exercise on research activities of academics within the UK (Fig. 12 below illustrates these differences).

¹⁶ Simple between-subjects ANOVAs supported these conclusions; all $ps < .05$.

¹⁷ As compared to those submitting to Panels A and D.

¹⁸ All these in relation to responses from those submitting to Panels C and D.

¹⁹ The latter two showed significant differences between those submitting to Panel B and all other panels. Simple between-subjects ANOVAs supported these conclusions; all $ps < .05$. Effects held when controlling for role (to account for potential optimism of non-independent researchers).

Fig. 12: Mean responses split by gender.

Overall attitudes toward the REF were *moderately negative* with some disagreement. Researchers had more positive attitudes if they also perceive that the REF encourages engagement with the community and interdisciplinary work, *does not* discourage blue-sky research, and encourages researcher integrity.

How is the REF's impact on the research community viewed? Participants were asked "Overall, in your view, what influence has the REF had on researchers within the UK?". The overall attitude was negative²⁰ but modestly so, with large disagreements amongst respondents ($M = -0.62$, scale ranging from -3 to +3; Fig. 13 below).

Fig. 13: Percentage responses for attitudes toward the REF ranging from (-3 = extremely negative) to (3 = extremely positive), where 0 reflects a neutral (neither negative nor positive) attitude (2.5% missing responses).

What predicts attitudes? To explore correlational models, analyses statistically controlled for career role and panel, which accounted for 9.5% of the variance in attitude toward the REF. The perceived impacts of the REF on various research activities together

²⁰ Significantly more negative than the midpoint

accounted for 36.8% of the overall attitude toward the REF's impact. In a conservative model with all REF impacts on the academic community defined simultaneously, the most important qualities **related to positive attitudes** are:²¹

- Higher perception the REF increases the likelihood researchers will engage with potential users of their research findings (in policy, business, civil society etc.);
- Higher perception the REF increases the pursuit of risky 'blue sky' research that may not yield predictable outcomes, and perceiving that it does not increase pursuing incremental research that is more likely to yield predictable short-term outcomes;
- Greater perception the REF encourages researchers to undertake research with integrity and less perceived increases in "game-playing" (e.g., staff recruitment, embellishment of impact);
- Perceiving the REF to increase engagement in interdisciplinary research.

3.6 Information about the REF

Most information about the REF came from informal discussions with colleagues, heads of departments, and university-wide communications. The least amount of information came from the REF website and social media.

Participants reported on the relative influence of sources of information on the REF by ranking their influence from 1 (*highest influence*) to 9 (*least influence*).

Where do researchers receive information about the REF? An exploration of the means (here, *lower* numbers represent *more* influence) showed that, in general, most information came from **informal discussions** with colleagues ($M = 3.06$), followed closely by **heads of departments** ($M = 3.11$), and **university-wide communications** ($M = 3.17$). In a second category of comparable, less familiar sources, were social media, academic mentors, professional services, UKRI and REF website (all around $M = 5.18-6.10$).

Fig. 14 below illustrates the distributions of responses signifying the relative contribution of each form of communication, with each dot representing one response. Lower scores mean that individuals felt this was a *top* contribution. Thus, lower scores reflect more influence by a source of communication.

²¹ Positive engagement with the community, $t(499) = 6.19, p < .001, pr = .27$; less harm done to blue sky research, $t(499) = 4.89, p < .001, pr = .22$, and less push towards incremental research, $t(499) = -2.02, p = .04, pr = -.21$; encouragement to engage science with integrity, $t(499) = 5.50, p < .001, pr = .24$; and lower encouragement of game playing, $t(499) = -5.30, p < .001, pr = -.23$; encouragement to engage in interdisciplinary research, $t(499) = 2.63, p = .009, pr = .12$.

Fig. 14: Means and distributions of responses for sources of information about the REF (lower scores signify the source is more influential).

Looking at *mode* responses (Fig. 15) for each source of information, allowed us to explore a relative amount of influence attributed to each source of information.

Fig. 15: Mode responses for sources of information about the REF.

Source of Information	Ranking	# Response
Heads of departments	1	154
Informal discussions with colleagues	2	132
University-wide-communications	3	134
UKRI communications	5	137
Professional services	7	118
Academic mentors	7	110
Social media	8	135
REF website	9	188

Non-independent and early independent position researchers received more information about the REF from their mentors, as compared to later career researchers. Respondents representing Panel D received more information from peers through informal discussions and social media.

Similar patterns emerged among those who have REF management roles. The exception²² showed the main differences occurred in terms of information from mentors, which²³ affected participants in more *junior* positions more heavily ($ps < .01$), and

²² supported by an omnibus mixed-methods ANOVA, $F(17.37, 2622.91) = 8.36, p < .001$

²³ Tukey post-hoc analyses showed

information from the REF website, which was more heavily utilised by mid-career and senior respondents ($ps \leq .008$). See Fig. 16 below for these averages.

Fig. 16: Mean responses for sources of information about the REF (lower scores signify the source is more influential), split by career position, and for those who have formal responsibilities managing the REF.

**Informal disc. = informal discussions with colleagues; professional = professional services.*

Further, the importance of various sources of information differed by panel²⁴, though weakly (Fig. 17 presents means by panel). **Differences were most apparent for those submitting to Panel D**, who reported a greater reliance on social media and informal discussions than other panels ($ps < .05$), and less reliance on university communications, professional staff, and the REF website ($ps < .05$).

Fig. 17: Mean responses for sources of information about the REF (lower scores signify the source is more influential), split by REF panels.

**Informal disc. = informal discussions with colleagues; professional = professional services.*

²⁴ $F(17.37, 2622.91) = 2.11, p = .005$

3.7 Knowledge of the REF

Researchers had generally good knowledge of aspects new to REF 2021. Those in more senior positions demonstrated more accurate knowledge.

Participants were provided the prompt: “Some of the following statements are true about REF 2021 and some are false. Which of the following statements are **FACTUALLY CORRECT** statements regarding initial decisions made about REF 2021?” They were then asked to identify whether or not each of five statements about REF 2021, based on aspects new to REF 2021, is factually correct; three of these were correct.

Participants accurately identified, on average, around 4 ($M = 4.06$) out of 5 questions (See Fig. 18 below for distributions). **The question most frequently missed was still generally well understood**, with 69.4% of participants who responded to the question answering *incorrectly* that the weightings of impact in REF 2021 will be identical to the weighting used in REF 2014. Career levels affected knowledge²⁵, such that the highest number of incorrect answers came from non-independent position researchers ($M = 3.35$) followed by early independent and mid-career positions ($M_{\text{early}} = 4.10$, $M_{\text{mid-career}} = 4.01$) and senior researchers answered the highest number of responses correctly ($M = 4.37$).

Fig. 18: Percentage of participants who identified each of 0-5 characteristics of REF 2021 accurately.

Do sources of information relate to knowledge? In estimating the extent to which both individual differences and the sources of information described above relate to knowledge²⁶, 8% of the variability in knowledge came from panel and career position, but above that, sources of information (described above) did not contribute additional knowledge, accounting for only an additional 1.4% of variability in knowledge. As such, it appears that no source of information is particularly important for increasing knowledge of the REF, using this operationalisation of ‘knowledge’.

²⁵ $F(3, 466) = 9.11, p < .001$

²⁶ A hierarchical regression model predicting knowledge (i.e., number of questions answered correctly).

3.8 Changes to REF 2021

Changes to REF 2021 had been well communicated. The exception is relatively low awareness that further support is available for interdisciplinary research, suggesting a lack of clear communications around this area. Those in senior posts reported more awareness; but individuals submitting to all panels were similarly aware.

Researchers were asked whether or not they were aware of five recent changes to REF 2021; namely, that: (1) *All staff with significant responsibility for research to be submitted, with a minimum of one output each, a maximum of five, and an average of 2.5 outputs*; (2) *there is an increase in the weighting for impact from 20% to 25% of the overall exercise, with one impact case study per 20 full-time equivalent (FTE) staff*; (3) *Outputs may be submitted by both the institution employing the staff member on the census date and the originating institution*; (4) *Certain outputs should be made open access to be eligible for submission to REF 2021*; and (5) *Provisions within the REF panels to support the assessment of interdisciplinary research outputs*.

What changes are academics aware of? Results suggested a high level of awareness of changes to REF 2021. Yet, findings also indicated more awareness of some changes than others, indicating a need for greater clarity in communication around some changes. Descriptively, a high proportion of participants reported awareness that academics with significant responsibility for research will be submitting 1 to 5 outputs for REF 2021, an average of 2.5 outputs per academic (82.7% of those who responded), and that certain outputs should be made open access to be eligible (84.6%). Fewer reported awareness of a change to 25% weighting for impact (67.7%) and that outputs may be submitted by both the current employer and originating institution (67.5%). The lowest percentage of respondents reported they were aware of further support to interdisciplinary research (40.6% of those who responded).

Are academics across positions and panels similarly aware of changes to REF 2021? Awareness varied substantially by career level²⁷, with very early career reporting the least awareness, and early and mid-career researchers showing less awareness on all measures compared to senior respondents ($ps < .05$; see Fig. 19 below). The most notable exception was that non-independent position researchers reported similar awareness to independent position and mid-career researchers on open access or interdisciplinary. Overall, there was no compelling evidence that awareness differed as a function of panel, though means split by panel are presented in Fig. 20 to illustrate these trends.²⁸

²⁷ Results of a multivariate ANOVA; Omnibus F with Wilks' Lambda correction, $F(15, 1250.94) = 7.40, p < .001$

²⁸ $F(15, 1250.94) = 1.57, p = .08$

Fig. 19: Percentage of participants who reported awareness of each of five changes to REF 2021, split by career position.

Fig. 20: Percentage of participants who reported awareness of each of five changes to REF 2021, split by REF panel

Do REF changes affect expectations placed on researchers?

Changes made to REF 2021 are seen by academics to influence the expectations that are placed on them. This is reported in higher rates by women and independent early and mid-level position researchers. The greatest influence on expectations comes from increased emphasis on open research practices, while support for interdisciplinary research is least likely to influence expectations.

Participants were also asked if changes to REF 2021 would affect the expectations placed on them, on the whole. Of those who responded, 75.7% said that the changes to REF 2021 will affect expectations on them as researchers. **This finding suggests that structural changes to the research assessment are felt by most academics to influence the expectations placed on them.** Women anticipated a greater change in expectations, as did early independent position and mid-career researchers (Fig. 21).

Fig. 21: Percent of participants who anticipated changes to REF 2021 would influence the expectations placed on them, presented separately for women, by academic position, for those with caregiving responsibilities, and those who have formal management responsibilities (note, the latter two, marked with *, are not significant predictors).

Have expectations on researchers changed as a result of specific changes made in anticipation of REF 2021? Participants were asked: “Do you feel that the expectations placed on you as a researcher by your school/department have changed in response to these recent developments in the following areas?” Some changes were seen to influence expectations more than others.²⁹ This was similar across roles and panels³⁰, patterns which are summarised in Fig. 22. Overall, *most* participants had seen expectations on them changing as a result of changes regarding open access (57%³¹). The *least* change was experienced as a result of support for interdisciplinary research (27%), *ps* < .001.

Fig. 22: Percentage who reported that expectations on them had changed as a function of changes to REF 2021. Reported overall, for women, carers, and self-identified early career researchers.

Are expectations on researchers expected to change as a result of REF 2021? To complement questions regarding whether changes in the workplace had taken place

²⁹ $F(3.81, 1012.72) = 14.85, p < .001$
³⁰ *ps* for interactions > .16
³¹ Means in these models adjust for controls

after changes to REF 2021, participants were also asked: “In light of these initial decisions regarding REF 2021, do you think that your school's[department's] expectations on you as a researcher should (may be reasonably expected to) change?”

Overall, just under half (49.8%) of respondents reported that they anticipated changes to REF 2021 would influence the expectations placed on them as researchers. Some changes to REF 2021 were expected to influence expectations on researchers more than other changes³², this was similar across roles and panels (See Fig. 23).³³ Similar to the results reported above, regarding how expectations have *already* changed, the most amount of change was *expected* as a result of greater open access (52%³⁴), and the least amount was expected as a result of increased support for interdisciplinary research ($M = 42\%$).³⁵

Fig. 23: Percent who reported that expectations on them are expected to change as a function of changes to REF 2021. Reported overall, for women, carers, and self-identified early career researchers.

Are changes to REF 2021 seen as positive or negative?

Researchers generally saw changes to REF 2021 in a positive light. Increased emphasis on open research practices was seen as having the most influence on expectations placed on researchers, and was also seen as the most positive change to REF 2021. Increased weighting of impact from 20% to 25% was seen as the least positive change.

Participants were also asked: “In your view, will these recent developments be **positive** or **negative** for the research community within the UK?”, and gave their views regarding each of the five changes described above on a scale ranging from -3 (*Negative*) to 3 (*Positive*), where 0 was *neither negative nor positive*.

Overall, changes were seen in a moderately positive light. Yet, some changes were perceived in a more positive light than others.³⁶ The most positive changes were to increase open access research ($M = 1.13$) and to support interdisciplinary endeavours ($M = 1.20$; $ps < .001$), followed by the change to an average of 2.5 outputs and portability of

³² $F(3.60, 935.03) = 2.56, p = .04$
³³ ps for interactions $> .14$
³⁴ Means in these models adjust for controls
³⁵ $ps < .001$
³⁶ $F(3.75, 1549.86) = 26.01, p < .01$

outputs ($M = 0.88$). The most neutral (least positive) attitudes were toward the increased weighting of impact ($M = 0.24$). Distributions of these perceptions are presented in Fig. 24 below; more responses towards the top of the figure represent more perceived positive impacts.

Fig. 24: Means and Distributions of Attitudes Towards Changes, Overall.

These reports were similar for respondents representing the four different panels. In a second model with a subset of participants who reported on their gender and caregiving responsibilities, neither of these factors influenced the extent to which the different changes were seen as being positive relative to one another, see Fig. 25 below.³⁷

Fig. 25: Mean attitudes toward changes overall, for women, carers, and self-identified early career researchers, with 3 = positive, -3 = negative, 0 = neither negative nor positive.

³⁷ Differences between positivity ratings (within-subjects effect; $F(11.26, 1549.86) = 1.44, p = .15$); moderation by between-subject factors, $ps > .05$.

3.9 Reflections on REF 2014

On average, participants moderately agreed that REF 2021 is more supportive than the 2014 exercise. Researchers viewed REF 2021 as offering somewhat more flexibility than REF 2014. Further, they saw REF 2021 as placing more focus on quality rather than quantity of outputs, as compared to REF 2014. Results support moderate benefits to REF 2021 over REF 2014, with room for further improvement.

Participants who were considered for submission or submitted in 2014 ($N = 370$) were asked to reflect back to how REF 2021 compares to REF 2014 along a number of dimensions, using a scale ranging from 0 (*not at all agree*) to 6 (*strongly agree*). In general, respondents viewed REF 2021 favourably in comparison to REF 2014, these responses were different when considering various aspects of the REF 2021-2014 comparison.³⁸ Fig. 26 below summarises the distributions of each quality of the REF which was assessed.

The greatest benefit attributed to REF 2021 was greater flexibility ($M = 3.91$) and encouragement of greater quality ($M = 3.27$) over quantity ($M = 2.48$) of outputs. This view regarding the extent to which REF 2021 is different from REF 2014 did not differ between panels, genders, or caring responsibilities ($ps > .12$), and overall level of agreement that the change that had occurred did not depend on membership to these groups ($ps = .14$).³⁹

Fig. 26: Mean agreement regarding REF 2021 as being more supportive and flexible than REF 2014, and encouraging a greater number and quality of outputs

³⁸ $F(2.47, 688.80) = 7.82, p < .001$

³⁹ a small difference was apparent as a function of position, but this was carried by a very small ($n = 8$) number of non-independent researchers showing different trends.

3.10 Influence on respondents' research

The REF has relatively greater influence on prestige of outputs and open science practices. Those submitting to Panel C reported more of an influence of the REF on quantity, quality, scope, and prestige of outputs they produced.

Participants were asked: “How much has the REF influenced your research activities OVER THE PAST 4 YEARS in each of the following areas?” and reflected on influence in terms of the: *quantity* of outputs they produced, *quality* of outputs, *scope* (in terms of number of studies), number of participants, *novelty* (in terms of the research question), *prestige* of output (in terms of the journal, or publisher), public *relevance* for culture or society, *creativity*, *open science practices*, and *authenticity* (in terms of how the work is an authentic expression of their intellectual interests and agenda). They reported the extent of influence using a scale which ranged from (0) *not at all* to (6) *very much*.

Participants reported fairly modest amounts of influence when considering their own research activities. Responses were consistently around the **mid-point** in terms of amount of perceived influence (Fig. 27). Participants reported relatively more perceived influence in terms of the prestige of outputs and open science practices, and relatively lower perceived influence was reported for scope, novelty, creativity, and authenticity of research.⁴⁰

Fig. 27: Mean agreement regarding influence of the REF upon respondents' research activities.

⁴⁰ Within-subjects effect, $F(6.31, 2683.06) = 20.11, p < .001$; follow-up comparisons, $p > .05$. Moderation effects for panel, $F(18.94, 2683.06) = 3.01, p < .001$, role, $F(18.94, 2683.06) = 1.75, p = .03$. In a second model defining these additional predictors, there was no moderation by gender, $F(6.33, 2424.46) = 0.41, p = .89$, though caring responsibilities, $F(6.33, 2424.46) = 2.57, p = .02$, moderated the effect. Post-hoc comparisons interpreted were $ps < .01$.

To better understand these effects, additional models⁴¹ compared career levels, genders, and their interactions in predicting influence of the REF on research activities. Men and women experienced the influence of the REF upon their research activities in the same way, and overall, there was no evidence that the perceived influence of the REF on one's own research differed as a function of caregiving responsibilities.⁴²

Responses differed across individuals in different panels, and, very slightly, academic positions.⁴³ Few meaningful patterns emerged when examining how individuals in different positions experienced REF as influencing their research activities (See Fig. 28). A notable exception was that non-independent position respondents reported a greater impact of the REF on the *quantity* of the research they produced as compared to more senior researchers.⁴⁴ Across panels, most of the differences in responses presenting the four REF panels were due to those submitting to Panel C reporting more of an influence of the REF on quantity, quality, scope and prestige of outputs they produced (Fig. 29).⁴⁵

Fig. 28: Mean agreement regarding influence by the REF on respondents' research activities by position.

Fig. 29: Mean agreement regarding influence by the REF on respondents' research activities by panel.

⁴¹ between-subject ANOVAs

⁴² There were no effects of gender or interactions of gender with career level (that is, women responded similarly at all career levels, $ps < .05$).

⁴³ Interaction by panel for the within-subjects effect, $F(18.94, 2683.06) = 3.01, p < .001$; by position, $F(18.94, 2683.06) = 1.75, p = .02$.

⁴⁴ In most cases Tukey posthoc comparisons following simple effects were weak or non-significant.

Although non-independent position researchers showed large mean differences, they were also highly variable in responses and did not significantly differ from participants in other positions ($ps > .05$).

⁴⁵ Posthoc comparisons following significant omnibus simple effects showed significant differences of $p < .01$ when comparing this panel for others, except for non-significant differences between C, B, and D on quantity, and C and A on scope ($p > .05$).

Are influences seen as positive or negative?

Respondents saw the following in a (modestly) positive light: the REF's impact on the quality of their research and prestige of outputs, the relevance of their research on the wider community, and open research practices. The most negative influences were seen for creativity and authenticity of participants' research.

In terms of how the REF was seen to impact research activities, researchers felt that the influence of the REF on the quality of their research and the prestige of outputs, its relevance for the wider community, and open science has been moderately positive. On the other hand, the REF's influence on novelty, creativity, and authenticity was perceived to be, overall, very slightly negative (Fig. 30). These patterns were not influenced by panel, position, gender, or caring responsibilities.⁴⁶

Fig. 30: Perceived influence of REF on research activities in terms of how negative (-3) to positive (3), where 0 = neither negative nor positive.

⁴⁶ Overall within-subjects effect, $F(5.72, 2934.43) = 74.13, p < .001$, all follow-up comparisons, $p > .05$. There was no moderation effects for panel, $F(17.04, 2352.01) = 1.39, p = .13$, role, $F(17.04, 2352.01) = 1.48, p = .09$; in a second model defining these additional predictors, there was no moderation by gender, $F(5.85, 2198.17) = 0.79, p = .58$, or caring responsibilities, $F(6.33, 2198.17) = 1.30, p = .25$.

3.11 Personal attitudes towards the REF

Participants reported more negative (detrimental) than positive (beneficial) qualities of the REF. Views, on average, were moderate - both in terms of the benefits and detriments of the REF.

Participants were asked: “Thinking more broadly, please evaluate how POSITIVE the beneficial qualities of the REF are for you”; and “Thinking more broadly, please evaluate how NEGATIVE the detrimental qualities of the REF are for you.” In both cases these items were paired with scales ranging from (0) not at all [positive/negative, depending on item] to (6) extremely [positive/negative, depending on item]. See Fig. 31 for distributions in endorsement of both positive and negative qualities of the REF.

Overall, respondents saw some positive qualities of the REF ($M = 2.58$, $SD = 1.53$), but more they reported more negative qualities ($M = 3.62$, $SD = 1.46$)⁴⁷. This effect did not vary as a function of panel, career stage, gender, caring responsibilities. **It seems that when thinking broadly, academics consider the negative qualities of the REF to outweigh the positive qualities.**

Fig. 31: Percentage reporting positive and negative attitudes toward the REF exercise.

⁴⁷ Overall within-subjects effect, $F(1, 405) = 18.32$, $p < .001$. There was no moderation effects for panel, $F(3, 405) = 2.15$, $p = .10$, role, $F(3, 405) = 2.01$, $p = .11$; in a second model defining these additional predictors, there was no moderation by gender, $F(1, 368) = 0.06$, $p = .81$, or caring responsibilities, $F(1, 368) = 0.11$, $p = .74$.

3.12 Management approaches

Around 1/3 to 1/2 of respondents reported that their departments used supportive activities to prepare for the REF, including providing individual guidance and support. Those who reported these activities had more positive attitudes toward the REF. Just under 1/6 respondents reported that their departments used potentially pressuring activities, such as role changes if academics do not perform, and asking academics to change their research focus to accommodate the REF. The first of these was linked with more negative attitudes toward the REF, but not the latter. Relatively few respondents reported the use of contract changes or promotions to motivate REF activities.

Participants were asked whether their department had undertaken each of a number of activities in preparation for REF 2021. These activities were selected to represent different approaches to managing and motivating researchers, and were based on theory that some would be more constructive (because they have been viewed as being supportive and energising in other contexts), whereas others would be seen as more pressuring with potential implications they might increase short-term motivation at the cost of sustained motivation in the long term.⁴⁸

Participants reported that they had experienced neutral or constructive strategies at high rates (Fig. 32 below), including having received guidance from others within their department (68.3%), feedback from others within their department (66.9%), and the experience of having received support (55.2%). Findings also indicated that departments tended to communicate the importance of research activities beyond their contribution to the REF (59.3%).

Complementing this, we see relatively less exposure to potentially pressuring strategies such as the conditional promise of promotions (5.0%), expectations of contract change if failing to perform (10.3%), expectations of role change if failing to perform (17.5%), or being asked by departments to change the focus of their research to accommodate REF (15.4%). **The use of these strategies to motivate REF activities was lower than that of**

⁴⁸ Deci, E. L., Connell, J. P., & Ryan, R. M. (1989). Self-determination in a work organization. *Journal of Applied Psychology*, 74(4), 580-590.

constructive strategies, but noteworthy in that just under 1 out of 6 respondents reported the use of each of two potentially concerning activities.

There was little alignment of workload to respond to REF expectations (23.7%). This might be a resource issue: a desire to align workload versus the ability to do so and maintain teaching and administrative outcomes. **The most notable subgroup exceptions was that early career researchers seem to be reporting less guidance and less feedback which may benefit them.**⁴⁹

Fig. 32: Percentage reporting management / motivational activities in preparation for REF 2021, also for women, those with caring responsibilities, and self-identified early career researchers.

Do management strategies link with attitudes? To understand correlations between management styles and responses to the REF, we tested links between the use of management strategies examined and (1) attitudes, and (2) perceived influence of the REF on one's own beneficial research activities. These analyses represented a large number of tests which should be considered in sum, rather than each interpreted individually. We considered which management styles linked more *robustly and consistently* to positive responses to the REF in terms of attitudes and perceived influences of the REF on research activities.

Findings are summarised in Fig. 33 below, and suggested that the following experiences linked *robustly* to positive experiences of the REF:

- Effectively communicating the importance of research quality, environment and impact beyond their importance in terms of assessment in REF;
- Perceived support in research activities;
- Having one's views listened to in terms of how to approach the REF.

Results further supported a *moderate* set of relations between positive experiences of the REF and:

- Providing initial guidance on how academics could personally contribute to REF 2021;
- Aligning workloads to delivery of outputs and impact for REF 2021;

⁴⁹ chi-squared analysis predicting for guidance, $\chi^2 = 17.72$, $p < .001$, and feedback, $\chi^2 = 21.22$, $p < .001$.

- *Lower* indication that the current role would be affected if individuals do not produce eligible outputs for REF 2021.

Fig. 33: Summary of relations linking management strategies (rows), with both attitudes and influences of the REF on one's own positive research activities (columns). Positive influence of the REF is defined in terms of viewing the REF as having a positive impact on quality and novelty of one's own research, its relevance for the community, and one's creativity and authenticity. Green shading suggests strong relations, $t > 5.00$; orange denotes moderate relations $t_s = 3.00-5.00$; Yellow suggests weak correlations $t_s = 2.00-2.99$.

	Attitudes		Positive Influences of REF on Own Research Activities				
	Positive	Negative	Quality	Novelty	Relevance	Creative	Authentic
Guidance	2.06	-2.42	3.00	2.82	0.61	1.83	1.68
Feedback	0.77	-0.57	0.82	0.30	0.99	0.80	0.55
Compared to others	-0.59	0.92	-0.53	-0.38	-0.11	-0.39	-0.79
Promise of promotion	2.17	-1.88	0.64	1.69	0.26	0.82	1.49
Contract change	-0.58	2.27	-0.31	-0.23	-0.60	-1.06	-0.46
Role affected	-2.11	3.81	-1.26	-1.85	-1.91	-2.66	-2.12
Important beyond REF	5.27	-4.69	3.98	4.80	3.23	3.89	4.63
Perceived support	8.17	-6.97	4.89	5.22	3.27	4.92	3.90
Instructions to change	-0.22	1.03	-0.85	-0.75	-0.56	-1.67	-0.96
Listened to own views	7.86	-6.23	5.53	5.51	4.05	4.64	4.84
Outlined performance goals	4.35	-1.81	0.36	0.61	0.52	0.93	1.86
Aligned workload to REF	4.19	2.19	2.69	3.16	0.40	1.86	1.32

Are expectations of the REF exercise and the employing institution perceived to be the same?

Individuals who reported their departments used supportive motivational strategies, based around guidance and structure, saw more similarity between the expectations of their organisations and the REF. Viewing the two as having the same expectations was linked to more positive attitudes.

Participants reported diverging views on the extent to which the expectations of the REF exercise and their employing institution were the same (scale 0-6; $M = 3.18$; $SD = 1.75$; distributions summarised in Fig. 34). **Those who received guidance on contributing to the REF, who reported communications regarding the importance of research beyond the importance of the REF, who had their views listened to, and who had their workload aligned to REF expectations experienced more of this overlap.** Perceived similarity was further linked with more positive and less negative attitudes⁵⁰.

⁵⁰ Results from t-tests with significance levels at $p < .05$.

Fig. 34: Distribution of views seeing expectations of the REF exercise as being “the same” as expectations placed one’s institution.

3.13 Supportive experiences

Participants experienced their departments as doing a better job supporting their relatedness and autonomy than their competence. Women experienced less support at work than men. Those with formal REF responsibilities reported more support for their autonomy, or voice, at work.

How do departments shape supportive experiences?

Participants responded on a scale from 0 (*not at all agree*) to 6 (*strongly agree*) to items reflecting the experience of being supported, and the extent to which they felt their schools or departments supported them feeling competent, autonomous, and related in their work - basic psychological needs which are essential for workplace and overall well-being.⁵¹ The distributions of responses are summarised in Fig. 35.

Participants reported a moderate amount of agreement, $M = 3.37$ ($SD = 1.87$) to the item: “*I feel that, overall, my school/department thinks more about what I can do for them than how they can support me*”.

Further, evaluating psychological need satisfaction:

A moderate average response, $M = 2.79$ ($SD = 1.75$), was provided to the item: “*I feel that, overall, my school/department helps me to feel capable and effective in my work*” (competence).

More, but still moderate agreement of $M = 3.84$ ($SD = 1.85$) was provided to the item: “*I feel that, overall, my school/department encourages me to have a voice in what happens, and to feel free to be who I am*” (autonomy).

And finally, similar to autonomy, the average response was $M = 3.86$ ($SD = 1.82$), to the item: “*I feel that, overall, my school/department encourages closeness and trust with others at work*” (relatedness). **Overall, participants experienced their departments as doing a better job supporting their relatedness and autonomy than their competence in the workplace.**⁵²

⁵¹ Ryan, R. M., & Deci, E. L. (2000). The darker and brighter sides of human existence: Basic psychological needs as a unifying concept. *Psychological inquiry*, 11(4), 319-338.

⁵² Repeated measures ANOVA omnibus $F(1.97, 1073.75) = 285.93, p < .001$.

Fig. 35: Means and distributions summarising the psychological experiences of being supported by one's department, and feeling departments support feeling competent or capable, autonomous or choiceful and listened to, and related or connected.

Do individuals report different levels of supportive experiences? Fig. 36 summarises average experiences of being supported for women, individuals with caring responsibilities, those who self-identify as early career, and those with formal responsibilities for managing the REF. *Women* reported more of the view that their department prioritises researcher contribution over support, but no other differences were apparent for gender. Those with *caring responsibilities* did not differ from their counterparts on supportive experiences, nor did individuals in the four categories of academic positions. These results showed no clear differences among groups on supportive experiences. In general, participants reported moderate levels of psychological need supports within the workplace.

The notable exception was that those who had formal responsibilities for managing the REF exercise were less likely to feel that their departments prioritised their contribution over providing them support, and they reported more autonomy – that is, they had more voice – in their work.⁵³

Fig. 36: Mean agreement that departments support each of three psychological needs and perceptions that one's contributions are more important than how they can be supported (the latter represents an absence of support).

⁵³ *t*-tests exploring these differences showed $ps < .01$ in support of significant differences amongst groups.

How do supportive experiences shape attitudes toward the REF? Participants responded in terms of how they experienced these within their departments, more broadly. We further modelled whether they would have implications on academics' attitudes toward the REF.⁵⁴

Predicting *positive attitudes*⁵⁵, individuals' early career status, panel, REF management responsibilities, and gender accounted for only 7% of the ways in which respondents responded in terms of their positive attitudes. In other words, a small but discernible proportion of people's attitudes toward the REF was explained by their career and personal standing. On the other hand, the four supportive experiences together accounted for an additional 13.7%, $p < .001$, of variance, suggesting that together, these experiences are also important in understanding positive attitudes toward the REF.

Further attempting to understand which experience is most crucial for attitudes toward the REF, **relatedness** emerged as the most important correlate of positive attitudes; participants who felt their departments encourage closeness and trust with others at work felt more positively toward the REF exercise.⁵⁶

Considering *negative attitudes*, individuals' standing on career factors and gender accounted for 4% of the variance in attitude, that is, those factors, while supportive experiences contributed to 12.4% percent at Step 2, $p < .001$. Examining the ways in which individuals felt supported by their departments, those who **felt less support on balance with their expected contribution** also reported more negative attitudes towards the REF, while those who felt **supported in autonomy or self-expression** reported less negative attitudes.⁵⁷

⁵⁴ In conservative regression models controlling for early career status, dummy coded panel, management responsibilities for the REF, and gender (total 7 items) in Step 1, and perceived support as well as each of the three psychological needs (total 4 items) Step 2.

⁵⁵ Positive attitude was assessed ("please evaluate how POSITIVE the beneficial qualities of the REF are for you."), while negative attitude was assessed (i.e., please evaluate how NEGATIVE the detrimental qualities of the REF are for you"). We modeled positive and negative attitudes in two separate models. Correlation between the two variables was high, $r = -.61$, $p < .001$.

⁵⁶ $\beta = .23$, $t(463) = 3.13$, $p = .002$; as a reminder this correlational analysis may reflect respondents' other positive experiences or overall positive attitude at work which cannot be fully accounted for by the controls defined in the model.

⁵⁷ $\beta = .23$, $t(463) = 3.13$, $p = .002$

3.14 Purposes of the REF

Participants were asked: “The REF has several official purposes. To what extent do you think it achieves these purposes?”, and responded using a scale from 0 (does not achieve them at all) to 6 (achieves them very well) to each of six purposes:

1. To provide accountability for public investment in research
2. To inform the selective allocation of funding for research
3. To provide a rich evidence base to inform strategic national priorities
4. To create a strong performance incentive for individuals and HEIs
5. To provide benchmarking information
6. To be used by universities and other bodies to inform decisions on resource allocation

Participants disagreed in terms of how they saw the REF achieving its various official purposes.⁵⁸ Distributions are summarised in Fig. 37. On average, they were least likely to agree that the REF achieves the purpose: “To provide a rich evidence base to inform strategic national priorities.” To a lesser extent, individuals also believed the REF does not achieve its stated purpose of *accountability* as compared to benchmarking and resource allocation. These effects did not differ by stage of career or gender.⁵⁹

⁵⁸ Within-subject difference in responses regarding the extent to which the REF exercise achieves its purposes, $F(4.78, 2212.10) = 29.95, p < .001$

⁵⁹ $ps > .10$

Fig. 37: Means and distributions reflecting the perceptions that is as achieving each of its stated purposes.

On further examination of how the four panels of the REF understood this⁶⁰, the most notable difference between panels concerned those submitting to Panels C and D, who reported that the REF does not “provide a rich evidence base to inform strategic national priorities”, relative to how these panels felt the REF is achieving other purposes. Furthermore, those expecting to submit to Panel D, in general, felt the REF was less successful in achieving its purposes. Broadly speaking, those expecting to submit in Panel B reported most consistently the REF is achieving its purposes.⁶¹

Fig. 38: Means agreement the REF is achieving its purposes split by the four panels of the REF.

⁶⁰ Interaction by panel for the within-subjects effect, $F(13.50, 1835.91) = 1.84, p = .03$.

⁶¹ These simple effects for Panel A and B were different at $ps < .01$.

Participants were then asked “Regardless of how effective you think the REF is in achieving them, please rate whether the REF *should* hold these purposes?”, which was paired with a scale ranging from 0 (*absolutely should not*) to 6 (*absolutely should*). Considering the extent respondents saw the REF *should* hold these official purposes, participants reported the REF should be pursued for the purposes of greater accountability more so for any other of its stated purposes.⁶² This effect did not differ by panel, stage of career, caring responsibilities, or gender.⁶³

Fig. 39: Means and distributions reflecting the extent that respondents see the REF should be achieving each of its stated purposes.

⁶² Omnibus within-subject effect, $F(4.78, 2368.42) = 10.94, p < .001$.

⁶³ ps for moderation effects $ps > .10$.

4. INTERVIEW FINDINGS

4.1 Reporting participant data

In order to protect the anonymity of our participants, their names, roles, and university affiliation have been removed. Where comments are used, they are identified by a unique number, with their university labelled A, B, C or D. We do this in order to preserve anonymity, while enabling some comparison by university affiliation.

4.2 Context and challenges in UK higher education

Attitudes to the REF are shaped by the wider climate and pressures faced by the university system. The exercise is regarded by many as a bureaucratic imposition, but is also viewed pragmatically.

As mentioned in the methods section, this research took place soon after a high-profile period of industrial action over the future of the USS pension scheme. While the REF was not formally an issue in this dispute, a climate of heightened concern over HE funding and marketisation was mentioned by just over a quarter of respondents during the collection of qualitative data, particularly when participants were asked for their perceptions of broader academic attitudes. Just under half of our interviewees placed the REF in the context of managerial challenges facing HE:

Well it depends on what else is going on, because if that feeling is concurrent with disputes over pensions, hours, those kinds of zero contracts and casual labour and so on, then it becomes part of a cumulative corrosion of morale (Participant 7, University B).

These kinds of concerns broadly correlated with interviewees' perceptions that the academic community would see the REF negatively when it gets "caught in the crossfire of all that" (Participant 1, University A). REF is described by our participants as a "very visible thing" (Participant 5, University B) that "like death and taxes, will always be there" (Participant 4, University C). Consequently, some had a sense that academic attitudes toward REF may worsen unless it could be decoupled from other pressures on HE.

Clearly, some of the opposition to REF as a process that has always been there, I think has been magnified by the recent industrial actions...so I think there is a broader concern about REF which is seen to be an exemplar of what some people believe to be everything that's wrong with higher education... (Participant 5, University B)

Acknowledging that "REF started to come up as an issue in those strikes, despite the ostensible topic being around pensions" (Participant 15, University D), several interviewees noted that negative associations, which were prominent during REF 2014, might be diminishing. The reasons given for this included a greater focus on E&D in REF 2021, albeit with a continued need for "proactive leadership" in order to "reduce anxiety" and to "reassure people".

Over half of the interviewees posited that being asked about academic attitudes towards the REF would inevitably lead them to frame their responses within the context of broader negative challenges in HE. When asked what interviewee perceptions were of

the wider academic community’s attitude towards the REF, the majority felt that these attitudes would be mixed. When asked to describe both the negative and the positive effects of the REF on the academic community, several interviewees led with a caveat that inevitably, the REF is seen by academics as symptomatic of marketisation and managerialism in universities. There was often a clear expression of empathy towards such reasons for resistance to the REF, given the climate in which research operates.

It’s always going to be seen as being a neo-liberal approach to managing something which should actually be deeply intellectual - and there will always be a kick back against an approach which says, there are expectations in something that is as intangible as research. (Participant 1, University B)

Against this backdrop, several interviewees felt that the academic community could legitimately view the REF as a bureaucratic exercise. There were multiple references to the REF as emblematic of an “audit culture” and “bean counting”, reflecting managers’ understanding that REF may be a focal point for disquiet because of the pressures it places on academics with respect to their workload, time, culture and authenticity.

Most managers leavened these responses with a pragmatic recognition that REF was understood by the community as “a necessary evil” and that disquiet about REF may be easing over time as other, “more worrying” developments took precedent. Here, interviewees regularly cited systemic and localised pressures, such as those detailed in Table 1, which might exacerbate negative feelings towards the REF. Although the REF was seen by many as less of a problem than other issues on this list:

Goodness me, if you put REF alongside TEF, I think one of the changes that we’ve seen actually as TEF has come in, with all the changes associated with that, people look at REF and think, actually this doesn’t look quite so bad [laughing] (Participant 1, University B)

Table 3: Systemic and localised pressures

Systemic pressures	Localised pressures
Student recruitment and experience	Workload
Impact Agenda	Time
KEF and TEF	Contractual precarity
Nature of funding e.g. interdisciplinarity, industrial strategy	Equality and diversity

The following sections detail interviewee perceptions of academic attitudes towards the REF *outside* of this immediate context.

4.3 Perceived impacts on the research community

There is a gap between managerial and researcher perceptions of the positives and negatives associated with the REF, with the latter more likely to regard it as challenging. The post-Stern Review changes to REF 2021 are generally viewed positively, and likely to improve the exercise, or at least not worsen its effects.

We asked participants to give their thoughts on what the most positive and challenging aspects of the REF might be for academics. The majority felt that attitudes would be

largely positive and pragmatic towards REF 2021 and the post-Stern changes, for a range of reasons listed in Table 4.:

No one's banging their fist on the table saying, "This is outrageous!" Everyone's, I guess, broadly indifferent to it, which I think is generally a good thing, they'd normally complain if they felt something was unfair, so I think it's fairly universal acceptance. (Participant 5, University A)

Table 4: Perceptions about the positive impacts on the academic community

Positive impacts on the community

External reputation and demonstration of quality

Internal visibility and communications

Focus on quality not quantity

Improved productivity, collegiality and team work

Impact agenda – recognition and reputation

Stern Review – all staff submission, equality & diversity, open access, interdisciplinarity

Those in senior management roles tended toward a more positive view of how the academic community responds overall to the REF. For those who held hybrid academic and managerial roles, these positive associations were often tempered with mixed emotions about the more challenging aspects. The following section firstly explores the positive aspects of the REF as perceived by participants, before considering more challenging aspects.

Interviewees on the whole perceived slightly fewer positive aspects for the academic community than challenges. However, the range of themes here is less an issue than the content. The positive aspects detailed in Table 4 tended to relate more towards practical improvements in modes of working and currency of reputation through the REF, whereas perceived challenges tended to be less about practical considerations and weighted more towards the personal or philosophical.

I think it's an interesting question actually because what certain academics with a particular philosophical approach would see as negative is not what a pragmatic academic would see as negative. (Participant 2, University A)

Managers tended to offer insights into what they had heard from academics, which may not necessarily reflect the breadth of views across the board.

I've only heard positive, I've not heard anyone complaining about it, some of the Heads of [redacted] at conferences...but I've certainly had no mutterings of discontent with the REF processes. (Participant 5, University A)

Interviewees suggested that it provided the academic community with an opportunity to demonstrate the quality of their research in a way that is widely recognised. Several interviewees suggested that this time around, more academics seem to be aware of the reputational importance of the REF.

I have heard a lot of people say that reputationally it's good that the REF exists and there is a lot of good that comes out, including the impact. (Participant 4, University C)

Interviewees argued that reputation and taking “pride in their performance” was a positive, and that REF provided a sense of accomplishment for those who had done well previously. There was a sense that colleagues who do well “get some kind of acknowledgement”. This boost comes not only through external benchmarking, some argued, but also internally, where colleagues’ work becomes more visible than it might otherwise have been.

A lot comes to light about who is working on what in what area, and general comms around REF mean that academics are much more aware of what’s going on in their own institutions. (Participant 7, University D)

All but one of the interviewees felt that REF impacted the quality of research following REF 2014 in a positive manner, reducing the quantity, but increasing the focus on quality.

I think, people are much less negative about the REF this time round than they have been in the past, so I do think that people recognise the fact that a much more flexible and non-selective REF is a good thing. And, I think people do recognise the fact that REF is a good thing in terms of overall research quality...in terms of generating resource for the university, and in terms of reputation. (Participant 1, University B)

In addition, most felt that academics would probably take a pragmatic stance towards the design of the REF, following the Stern Review, and that it was the ways in which it is implemented by institutions that might be the source of any discontent.

I think most academics would probably agree that it tries to do the right things, even though it doesn’t quite necessarily do them to everybody’s liking. (Participant 4, University A)

A second positive was that it boosted academic productivity, “concentrated minds”, and made people more open to working across boundaries. Several interviewees described how REF had increased collegiality and team working among researchers and across academic and professional boundaries:

Dare I say it, there’s a bit of a camaraderie about it as well to be honest, I’d dare say that we’re all a bit closer than we were before, in a weird kind of way because you can’t be the academic hiding in his or her office any more who’s never seen, because that doesn’t fit within the system anymore. (Participant 2, University C)

We had some research groups who never met at all and worked completely in isolation and now we’ve got weekly meetings, at least they’re all in the same room talking to each other. Other groups have got more of a social aspect to their interactions, so they will meet up outside of work as well as inside, which again we didn’t really have before. (Participant 5, University A)

Several interviewees described how REF was a “team sport” or “team effort” which was improving the ways in which academics collaborate strategically and personally.

I think there is more of a shared, almost bunker mentality! I think secretly most academics considered themselves an island before and the schools and the processes around them were

largely just annoying things that got in the way, whereas we have to, and again I think probably for the best, think strategically now which is something that did not used to be in the academic skillset at all. (Participant 2, University C)

REF is repeatedly linked to increased visibility, internally and externally. This aspect is deemed positive by managers.

I think quite a few people, you might need to dig down to get at this as it were, but I do think that a lot of people are far happier that they can now see what their colleagues are doing and that they don't feel that they're working really hard while other colleagues appear to have the same job but be doing very little. So, I actually think it's been a bit of an equaliser. (Participant 4, University C)

A third reason that interviewees felt the academic community might view REF positively was that the impact agenda was good for reputation and recognition – here, there was clear acknowledgement that the impact agenda, although resisted at first, had gained momentum since REF 2014, and was now more accepted across research culture. Almost all interviewees had mixed views on whether the impact agenda was wholly positive, but it was regularly referred to as something which helped to boost reputation, giving credit to work which otherwise would not be seen as valuable.

It gives them a reason to do and a way of recognising some of the work that they think is actually really important. So in that sense some of those changes have been really beneficial and very warmly received. (Participant 2, University A)

Interviewees described how impact in the REF improved visibility of the research that was being conducted and that it forced academics to be more outward facing and “look beyond our walls”. Additionally, managers suggested that academics who engaged with impact welcomed REF because of a recognition of the need for accountability of public research funding.

I think there was certainly a sea-change in the way academia and research works, as a result of REF which is the idea that partly because we're publicly funded; we need to be showing that we're using that public funding in a way that is beneficial to the public. (Participant 2, University C)

A fourth reason why interviewees felt that academics might be positive about the REF was because of the Stern reforms, specifically the move to return all staff, greater consideration of E&D requirements, the focus on impact and the change in the number of outputs.

I've certainly seen from those I've spoken to less negativity towards REF itself as we went through the Stern review process. (Participant 2, University A)

With respect to interviewees' perceptions of the more positive aspects of REF for the academic community, the move to return all staff, an increased focus on E&D, the reduction in outputs per FTE staff member, and the increased weighting towards impact, were all described in positive terms. Though some changes brought new challenges, overall, managers felt that these developments were perceived by academics as broadly positive.

I think on the whole there is a sense that actually, this is slightly less pressured than it could have been, basically just because of the greater flexibility about numbers of outputs, less people will be looking round saying, "well, look, Professor X is definitely going to have six four star and I'm in a pool where that means I could probably get away with one or two." I say they may feel less pressured than it did, but I'm really only guessing at that. (Participant 1, University A)

Our staff are largely more relaxed about the whole process, we're not having any real concerns from staff about the rolling REF process itself and keeping up with it there. (Participant 5, University A)

When Stern did his review and everyone was arguing about deficiencies here, and this isn't working very well, and then they actually started to consider what the alternatives were, and they started saying actually we quite like the REF as it is. It's got its problems but actually it's not the end of the world. (Participant 2, University A)

While interviewees acknowledged these potential positives, most remain concerned about some unintended effects of the Stern reforms, linked for instance, to the shift to return all staff:

It's been a very positive change insofar as it's made it much harder to buy in talent that has a strong research output, and some of the changes around impact cases, for example, and where they originate and where the underlying research was produced, mean that it's harder to poach strong academics just in order for an institution to bolster its REF submission. (Participant 7, University D)

My personal view is that there have been a lot of compromises since the Stern...proposals came out. So, some things are there – submission of all staff - but there's a get-out. So I feel like there are a quite a lot of compromises in the way that it's been developed with the sector since. (Participant 2, University C)

In terms of perceived challenges, interviewees described a range of these for the academic community, detailed in Table 5. Most interviewees suggested that some of the negativity described here has lessened as a result of the changes made to REF 2021, but can still be felt.

Table 5: Perceptions about the negative impacts on the academic community

Negative impacts on the community
- Stress, workload pressures and anxiety arising from performativity and competitive peer review
- Impacts on academic freedom, perceived instrumentality and political resistance
- Resistance to a culture of measurement and metrics
- Unrelenting standards
- Impact agenda
- Management tool and performance management
- Challenges for departments/institutes/ interdisciplinary research
- Career security, prospects and promotion
- Uncertainty, fear of what's next
- Early Career Researchers seen to be disadvantaged
- Game playing, risks to integrity and authenticity
- Misgivings about the cost of the REF
- Perceived as a 'burden'

A number of managers felt that academics were likely to resist and feel challenged by REF because of the *stress or anxiety* it might create, with respect to performance, career management and workload. Just under half of our interviewees felt that the academic community were, or had been during REF 2014, stressed or anxious about REF.

Interviewees however regularly suggested that they perceived a reduction in anxiety and stress as a result of the Stern reforms. Specific references to the returning of all staff, and E&D implications were made, implying that these developments were helpful in reducing stress levels.

Despite this, references to “worry”, “nervousness”, “disgruntlement”, “whinging”, “conflict” and “tension” were found in interviewee responses. Over half referred to the challenges on academics as “pressure” or a “weight”:

I don't think I've ever come across anybody who's said, “Yay, REF!” because there is such a weight of expectation and it plays out so strongly. (Participant 4, University C)

Some referred to the need for academics to survive in a “surveillance” culture of increased performance management, where REF could be “weaponised” against them. Others suggested that academics viewed REF as a “stick to hit people with”.

Lots of people find the idea of performance management of research very challenging...It's used as a stick to hit us with by people at the centre of the university. (Participant 5, University D)

Pressure and stress were discussed with respect to careers, recruitment and hiring. Interviewees agreed overall that REF drives behaviours, in particular around recruitment. Most interviewees commented on how institutional processes should ensure that the pressure on staff could be reduced:

I think when badly implemented...there have been misuses or abuses of REF processes to affect people's careers. (Participant 5, University D)

So one of the downsides is the potential for the results of REF or the preparation of REF, to figure in performance management, so some academics perceive it to be the case that when we're assessing their outputs or the impactful work they've done, there's a perception that the institution is using that data to manage performance and as part of the promotions process for example. And that's false. It's a false perception, because that's not how our institution does things, but it's a perception nevertheless and it's a quite damaging one. (Participant 7, University D)

Worries about the effects on careers were prominent in interviewees' perceptions of why academics might find REF challenging, although there was also a recognition that heightened precarity and job insecurity is the product of wider dynamics within HE:

Whereas these days, you hear about professors losing their titles...demotion is possible now, being asked to leave and being fired is possible, and people are aware of that, of course. (Participant 2, University C)

Almost all interviewees also made reference to the fact that academics were likely to experience workload pressures as a result of REF. Many noted competing demands to deliver on outputs, impact and environment, as affecting academic morale.

There's a limited value in filling in the spreadsheet to show you're REF ready... the challenge is sinking under a sea of Excel spreadsheets and data, it is soul destroying, and it's our souls that keep us going. (Participant 3, University A)

Some interviewees suggested that academics now feel a pressure to be good at everything as a result of the REF, particularly impact.

I think there are some, again individuals that it's been very negative for, in terms of maybe the pressure to do things that they're not very good at...not everyone can generate impact with industry and that sort of thing. And you certainly see some staff who worry about that. (Participant 5, University A)

Another reason why interviewees suspected academics would feel challenged by the REF centred on issues of *uncertainty*. First, there were references to the ways in which REF guidance was "drip-fed" to the community, which was seen to provoke uncertainty;

It's just constant consultation, the fact that they're even consulting on this guidance now and we're not going to find out until next year what the confirmed guidance is... I understand it's a big, complex thing but it creates huge amounts of work for institutions and uncertainty. (Participant 2, University A)

Those interviewed before the guidance was issued suggested that academics would feel that the rules were unclear and forever changing:

There are still areas where it's opaque about what it will actually mean in practice. (Participant 1, University D)

Interviewees suggested that for some academics working in new areas of research, the REF would be viewed as a challenge. Uncertainty appeared to arise particularly with reference to new departments, smaller institutes and those whose work was of an interdisciplinary nature.

The most challenging part comes...when you're at institutes or units of assessments or departments which are still evolving. The REF is not as supportive of those. (Participant 1, University C)

Game-playing was mentioned regularly with respect to academic perceptions of the REF. Some managers felt that academics might resist the REF because they saw it as a tool which could be "misused", or that it affected their freedom to conduct the research that was most authentic to them.

It's all about game playing and finding a way to optimise REF without actually just doing good research. (Participant 1, University C)

Some interviewees suggested that academics might feel that REF "militates against creativity" and that this could be problematic for those who pursue research for its own sake.

It's just part of academic freedom to be able to think about and consider things that are valuable in their own terms, not because they produce any kind of benefit either to other academics or to the world beyond academia. (Participant 2, University A)

A further challenge perceived by managers as problematic was a perception that the academic community did not recognise the financial benefits of the REF and the quality-related (QR) funding distributed as a result. Managers felt that academics generally did not appreciate the contribution of QR to the research system, and suggested that because of this, academics might resist the REF:

REF deemphasises money, so the money equation side of it is largely removed from people's thinking. (Participant 4, University A)

I think more junior staff struggle to understand why that dual support mechanism exists or why it's important. (Participant 1, University B)

In REF, money is very, very rarely mentioned...it's not like grants where money is the focus of everything. (Participant 4, University A)

The unhypothecated funding that the university gets through REF is actually vital to us and I think it's probably under-appreciated...If we were to lose that...it's almost impossible to see how we could make it up through another route, and that would therefore lead to a fundamental restructure of the size, shape and way that the university operates. (Participant 1, University C)

Some interviewees suggested that while academics might associate QR with the REF, in comparison to other funding streams, it was not seen overall as a benefit to them.

They recognise that the amount of money that's available to institutions through QR is significant, it's material for sure, but it's not huge compared to other sources of funding.

So in terms of cost benefit analysis, a lot of academics don't see that it's worth putting effort into REF for the gains, certainly in monetary terms that come out the other end. (Participant 7, University D)

QR and cost-benefits are discussed further in section 4.11. Finally, concerns were unanimously voiced about the ongoing risk of stress and anxiety for early career researchers, or those on fractional contracts.

It's certainly nerve-wracking for early career researchers about whether they're going to be included. (Participant 2, University A)

Just under two thirds of negative comments made by interviewees about challenging aspects of the REF also mentioned early career researchers. At the same time, most interviewees felt that this category of staff might also be the most informed. However, interviewees suggest that ECRs were initially “put out” by non-portability proposals, “thinking that it might stop them from getting jobs.” This issue of non-portability was now seen as less of an issue, although other issues for ECRs persisted.

There was some concern of course initially about early career people and the transferability and stuff, but I think overall, they're okay, the way it's come out, it's fine. (Participant 3, University C)

For example, the idea of “ranking” ECRs’ outputs through REF “stocktake” exercises was seen as creating less attractive academic career pathways:

The sense of devastation from some young scholars who'd had a two back on their REF rating, I thought was cruel, and we're taking people who are early stage career and ranking them, and we're taking people who've had years of experience and possibly some very major research grants, and then we're telling the people who are early career that they're only a two. It's wrong. (Participant 3, University A)

There is a lot of pressure on people, isn't there? Particularly when people are more junior in their career they need to juggle all the different things in order to progress. Probably just keeping up with the rules and what's current and knowing what the benchmark is. (Participant 2, University B)

Some interviewees suggested that pressures on this group might have a detrimental effect on recruitment and the overall attractiveness of academia, albeit with a recognition that these issues extend well beyond the REF itself.

I mean I can't advise anyone to go into academia at the moment, and with my current PhD students, what do I do with that? They came in to do their PhD to have a career in academia often. Can I with integrity encourage them to continue that? (Participant 4, University C)

These concerns demonstrate the breadth of attitudes perceived by our interviewees to be present across the academic community. However, for many the view was that in order to get a richer sense of how academics felt, “you’d have to ask them.”

4.4 Personal attitudes of managers towards the REF

Managers' own attitudes towards the REF are mixed, with senior managers and professional staff more positive than those in hybrid academic-managerial roles. In general, managers are pragmatic about the need and benefits of an assessment framework, while recognising that it does exacerbate some problems in research.

REF is one strand in a healthy department. It can be an evil strand, it can be poison or it can be something we try and work with as a game, or it can be a lever for positive change. But it's a tool, an intervention like any other. (Participant 3, University A)

Given the variety of opinion characterising overall academic attitudes towards the REF, it is perhaps unsurprising that just over half of interviewees described their own personal attitude as "mixed", with the remainder describing their overall view as positive. In terms of the roles inhabited by respondents, those in a purely managerial role tended more toward the positive, while research administration staff and academic lead staff, tended more towards mixed feelings, because of the issues raised in Section 4.3 above.

For some, REF was seen as a "positive force" and the "fairest system we have".

They're not putting any alternative forward, they're thinking in terms of the REF or no REF and I just don't believe that's reality...This sounds like me being really managerial and hard, but I honestly believe that people are in a better situation than they think they are, because they haven't thought through what the alternative is, when they wish for something to go away, and I think the alternative would be worse. (Participant 4, University A)

Analysis shows support for the REF overall by our interviewees in its aims, but not always in the ways in which it is implemented and administered. Views differed relative to the proximity of interviewees to academic staff, or to being employed themselves on academic contracts.

While issues were raised by those who felt conflicted in their response, generally interviewees tended more toward the view that while criticism of any system would inevitably come, the REF had evolved to a point which was pragmatically speaking, the best model they could see for assessing research given the need for accountability in universities and the absence of an alternative.

All of the complaints are kind of valid, but the important question is, "Well, what's the alternative way of assessing this?" because I simply don't believe that any system that hands out money will say, "Okay, well we won't assess you at all then, we'll just give you the money". (Participant 4, University A)

Indeed, REF was supported in terms of a funding model....

If we accept the principle that we are going to be assessed and judged in some way and we're going to have to compete for money in some way, then I think REF is the best possible system, so in that sense, I'm very positive about it, because I'm glad we have a system that counts outputs and not just grant applications. (Participant 4, University B)

For those who had mixed feelings, REF tended to be described in very practical terms as something universities “need to do”; “we “just get on with it the best we can”. There was regular mention of the need for public accountability, with REF generally seen as the best way in which to demonstrate the value of research.

Additionally, REF was seen as valuable for benchmarking and reputation. Many saw the institutional value of the REF, giving universities a chance to get a sense of what research is being conducted and where REF is a “chance to hold a mirror up to our own research environment and really take stock of how we’re doing.” (Participant 7, University D).

Where more mixed views were reported, interviewees cited issues with workload, game-playing, driving behaviours leading to unintended consequences, issues with E&D diversity and disciplinary norms as reasons for potential resistance as negatives:

I think I probably have very unoriginal views on this. I think it is mixed. I think you need to have transparent mechanisms to make sure that we’re doing the things that we say we’re doing with partly publicly funded monies. At the same time, because of the way it’s structured, the rules it has and the conflicting motivations you have between people who are meant to be audited and the institutions who are submitting the audit, it has negative effects, people are demotivated to do impact case studies for example, even though they probably would love the idea of making changes in society, people are demotivated to upload and rate their outputs even though of course they want to have excellent research. So I feel it is a good thing to do for the aims that it has, but the structure of it, perhaps unavoidably, means that there are a lot of conflicts involved. (Participant 3, University D)

These issues are regularly acknowledged by interviewees as not necessarily being just about the REF, but more about the ways in which messages and expectations are managed by institutions themselves.

I’m aware I’m sounding quite negative about REF, I don’t actually have a strong feeling; my issue is not with REF, my issue is with how institutions make REF play out and that’s always the thing, I think we’re missing in this conversation...and it means that there are mixed messages. (Participant 4, University C)

There is a sense therefore that interviewees with mixed views, tended to see REF as a “necessary evil” or at least as a “double-edged sword”:

I invariably call the REF a “double-edged sword” because the REF itself I think is a fairly straightforward process of submitting outputs and impacts and all of those things. It’s opened up the gateway to justify and legitimate impact, but at the same time it’s driving and changing an awful lot of very bad behaviour, so the downside of the whole thing is that it’s shifting people’s thinking as to what’s needed. (Participant 1, University B)

Many participants acknowledged that there was a need for some form of assessment but that it was important to consider its implementation in a supportive way in order to ensure that it fulfilled its aims.

I think the efforts to improve the processes for REF 2021 are very welcome, I’m sure they’ll have a positive effect, but there really is a systemic issue here, which goes well beyond REF and it’s kind of embedded in the way the institutions work. Until that

changes, until there's real reform of the way in which universities work fundamentally, possibly even research works and the acquisition of knowledge works, it's going to be difficult to get real change, I think. So I think it's positive although I am not sure the mechanism is perfect, but there will never be a perfect mechanism. (Participant 3, University C)

In terms of positive associations, interviewees cited the following aspects of REF 2021:

Table 6: Positive aspects of REF 2021 from the personal perspective of interviewees

- REF informs the distribution of vital QR funds to universities - The improvements made to REF 2021, overall are deemed as positive - REF provides a structure for understanding university research - Provides the ability to demonstrate internationally the quality of research - REF provides visibility which is linked to reputation, profile and standing - REF is seen as open and more transparent - REF provides public accountability - The sector consultation works and is supportive - The impact agenda provides currency to work which used to have less value - REF improves the public understanding of research conducted in universities - REF 2021 accounts for and 'protects' personal circumstances more than it used to - REF 2021 code of practices for E&D are inclusive and diverse - It drives behaviour in positive ways - REF is the best option - Provides strategic focus on quality not quantity - REF broadens academic skillsets - REF 'stimulates' productivity - REF 2021 reduces overall pressure on staff compared to REF 2014

When asked about their personal views of the REF, participants tended toward mixed responses. Where negative views were provided, these referred most commonly to:

- Impact on blue skies research and creativity;
- Stern Review reforms increasing workload and administrative burden;
- The implementation of the REF as potentially damaging to personal morale.

Additionally, some participants referred to the following concerns:

- Lack of clear methodology i.e. star ratings/ judgments;
- Reduction in productivity and quality;
- Concerns over the details of open access requirements, interdisciplinarity and impact;
- The potential, despite the Stern reforms, for REF to be misused and gamed.

The most common concerns were that REF might impact negatively on the creativity and authenticity of curiosity-led research:

It can militate against genuine, well it does...it does militate against genuine curiosity driven research. (Participant 1, University A)

Many referred to the potential for REF to distract from more authentic research practices; “it distracts from research that is not hard-hitting enough”, and that this would in ways compromise the authenticity of academics’ ideas to research what it was that they felt was important for its own sake:

I don’t like the suggestion that we are doing things for the REF. We ought to be doing things for the right reasons. (Participant 5, University B)

Environmentally a danger with the REF is that too much of our environment and culture becomes REF focused and not about the wider agenda of building our research community and our research. (Participant 2, University D)

Interviewees who were also on academic contracts, more commonly described these issues than those in solely managerial roles. At times, senior managers were critical of poor management practices:

I don’t think that senior management, telling people to produce more four-star work or making veiled threats is actually a good way of producing more work. (Participant 5, University D)

More often, such comments came from academic interviewees who also held REF lead roles, who appeared to feel more detached from senior managers:

I guess it’s the faceless bureaucrats isn’t it and maybe they’re really nice people but I don’t know them and I don’t feel they’re listening. (Participant 3, University A)

Despite the aims of the Stern Review to reduce burden, the second most common reason for a mixed response came down to the perceived burden of the exercise, at all levels of the institution:

REF is a hugely administratively burdensome exercise (Participant 7, University D)

Is it going to cause us less work? No. Probably more. (Participant 4, University D)

Despite these misgivings, a few participants remained completely ambivalent towards REF.

“I am kind of indifferent, it’s certainly not caused me any stress but I wasn’t precious about whether I was returned or not.” (Participant 5, University A)

4.5 Purposes of the REF

The more established purposes of the REF – allocation, accountability and benchmarking – were regularly referred to in the interviews, but with an acknowledgement that REF now also has broader purposes than these.

Interviewees were asked what they felt was the main purpose or purposes of the REF, this yielded a range of responses. In rank order, with the most commonly identified purpose listed first, the following purposes were cited:

- Allocation

- Accountability
- Benchmarking
- Quality assurance / audit process
- Performance incentive
- Improve research culture
- Provide evidence to government

The more established purposes of the REF – allocation, accountability and benchmarking – were regularly referred to during the interviews, albeit with an acknowledgement that REF had broader purposes than just these. Most interviewees talked about how REF impacts and influences activity at HEIs in the UK and globally in instrumental ways while attempting to maintain some level of “quality assurance”, though there was scepticism as to whether it achieves the latter aim:

I mean, it started out as quality assurance, didn't it? I think that's still there although one does wonder. (Participant 2, University B)

Many acknowledged the evolution of the REF over time, with those who had been in academia for some time describing the ways in which it had moved to having broader purposes than simply allocation and accountability. When asked this question, the majority of respondents either commented that it was a good question, and took time to respond, or suggested that it was not a straightforward question to answer:

I think it is very telling that I am a little floored by that question actually. I am not sure I can draw a main purpose of it. (Participant 1, University D)

Most if not all interviewees, led with the view that REF allocated funding. Those in senior management roles tended to prioritise this, followed by the view that it provides greater accountability for the use of public funds. This was considered helpful in benchmarking for the use of boosting institutional, departmental and even individual reputation.

I do think it's as much or more about reputation as actually distributing money. (Participant 1, University C)

Reputation was linked to quality and often the main purpose of the REF was thereby discussed in terms of ensuring quality assurance:

There is clearly the stated objective to get a sense of the quality of research and its impacts and influences that come across the HE sector in the UK. (Participant 6, University D)

Its stated purpose is obviously to assess the quality of research and act as a fairly objective, hopefully measure of research. (Participant 4, University C)

4.6 Knowledge of the REF and significant changes to REF 2021

There was generally good awareness and understanding of the rule changes for REF 2021, with a few areas still requiring greater clarification.

This section discusses how interviewees described their level of knowledge of the REF and the recent changes for REF 2021. It will detail what interviewees felt were the most significant changes to the REF and describe the challenges to implementation.

First, we asked interviewees what they felt were the most significant changes to the REF. Here, we outline the frequency with which interviewees described the most significant changes as they perceived them (in rank order beginning with most regularly described):

- The returning of all staff;
- The change to the number of expected outputs;
- E&D provisions;
- The increase of impact from 20%-25%;
- Open access requirements;
- Interdisciplinary research.

When asked about their knowledge of the REF, analysis revealed that the majority of interviewees felt mostly familiar with the rules of the REF they had received at the time of interviewing, over half felt they were 'mostly', 'partly' or 'too' familiar and that they 'understood the main changes' and the 'basics':

I wouldn't say I have a complete handle on everything, I certainly wouldn't presume I do. I have a knowledge of the basics and a knowledge of some of the questions that arise from those basics although I don't have the answers for some of those. (Participant 3, University C)

Several interviewees described that how the guidance was very detailed and it was referred to as a 'pretty dense document'. Importantly, most interviewees felt that REF 2021 rules were not radically different to REF 2014; as such most interviewees appeared confident that they knew what was most important for implementation:

I think the biggest thing the new rules have done is they've maintained consistency with the last REF which means we do feel like we know what we're doing, broadly speaking. (Participant 4, University C)

Indeed, most interviewees pointed out that the consultation had been thorough with the sector and that the guidance was mostly clear:

I've read them and I think they are pretty clear actually; they've answered quite a lot of questions that the community had, so in broad terms I think they're, for the point that we are in the REF cycle I think they're enormously useful. (Participant 5, University D)

However, several interviewees felt that there were still areas in need of clarification. Some interviewees expressed, for example, that they were just getting to grips with the new guidance. Many participants had not yet read it all at the time of interviewing (August – September 2018). A minority had not yet received the guidance because it was

either (in one case) released on the day of the interview, or because they were just returning from summer vacation and had not had time to read it yet.

Further clarification tended to be sought on the rules about:

- staff inclusion and the definition of “significant responsibility for research”;
- continuing impact case studies;
- dealing with exceptional circumstances and E&D.

There are some very detailed bits of guidance in the new documents which I'm slowly learning, things like we can't include former members of staff if they were made redundant but we can if they left for any other reason. Those little details where it's not just a blanket we can include former members of staff outputs but actually you've got to work out what happened when they left. (Participant 2, University A)

Most acknowledged that the REF guidance was generally clear and that its implementation would be largely down to the institutions themselves.

The guidelines are probably relatively clear but could be interpreted or could be implemented in various ways, depending on the institution's view. (Participant 5, University A)

4.7 Perceived knowledge of the community of REF 2021

There was less confidence about levels of detailed awareness of the REF 2021 rule changes across the wider community. But this is changing as the next REF approaches, with information spreading by formal and informal means.

By contrast, when we asked interviewees what level of knowledge they felt the wider academic community possessed with respect to the recent changes; many interviewees felt that in general academics might be engaged with what is expected of them, but not because they had engaged with the guidance documents personally. Some said that they did not know whether academics were engaged with the changes at all and that there were bound to be some relying on knowledge of the previous exercise:

What I will say is it's varied, so some academics will have read and digested the new guidelines very quickly and will know all the rules and so on. Others will still be working on the 2014 rules and because there's so much in those documents for people to digest, people tend to shorthand. Whether they shorthand correctly is a different thing entirely, but people tend to work on heuristics passed down from one academic to another about what counts. So, the extent of engagement is so varied, it's incredibly difficult to know how much somebody understands and how much they don't. (Participant 4, University C)

Several responses indicated an expectation that they would not necessarily expect academics to read through the rules:

We're not expecting people to know all the rules, we're expecting people to know what they need to do. (Participant 4, University B)

This was a source of some frustration for some interviewees who listed the range of activities which they organised to disseminate the information:

So occasionally, you do come across people who have engaged in that way and you kind of think, "Oh my God, how did that slip through the net? We've sent out so many emails and got up in front and given so many training courses and talked to people," and so on. (Participant 4, University A)

Interviewees suggested that areas they would expect academics to be confident with were those such as:

- Having a general understanding of REF timeframes – what needed to be done and when;
- Understanding what 'counts' as impact and the importance of impact

One theme raised on several occasions was that the academic community's awareness and literacy about impact had increased following REF 2014:

It's rare nowadays that somebody asks, "Well, what's impact?" and doesn't really seem to know what it is and how it's measured and what counts and what doesn't count. There was a lot of confusion at the beginning about public engagement type activities, but I think nowadays, in our department, everybody has got savvy, they've engaged, they know the difference between something that is impact or is not, and so they're engaged in that way. (Participant 4, University A)

However, with respect to recent developments following the Stern Review, there was a sense that knowledge of these changes might be thinner on the ground:

Rules about open access

It took a while, but it's here now and I still sometimes visit other departments where I'm surprised. And occasionally, within our own department, somebody asks the question where you think, "What? You don't know the answer to that very important question?... "Oh, did I have to make it open access?" "Yes." (Participant 4, University A)

Outputs: what makes a four-star paper

People have been a little bit slow to engage, even though we've been banging on about it for a while, that four-star papers, however you define them, are going to be even more important this time than they were last time. (Participant 5, University A)

Equality and diversity

I really don't know much about special circumstances and how they are going to be reflected in our codes of practice, so I think it's been a bit difficult on that front (Participant 4, University C)

Internal structures, like internal mock REFs, information sessions and training were regularly cited by interviewees as vital to improving academic understanding about the changes to REF 2021. Many implied that there was a lot more to do to manage expectations on the ground, without necessarily requiring people to have read all the rules personally. This implies a level of translation is required by managers in order to ensure the academic community is not only doing what "has to be done" and instead doing what is important and rewarded (described by one as 'less stick, more carrot').

4.8 Activities to embed the REF

Despite diverse and fairly creative institutional strategies to embed the REF, some misunderstandings of the new rules, and barriers to implementation, persist.

Table 7 ranks the main barriers to implementation of the REF at an institutional level, by the frequency with which these were mentioned.

Table 7: Challenges embedding REF

Metrics – danger of citation use as proxy for quality
Lateness of information
Lack of clarity / uncertainty / need to interpret rules
Paperwork and workload
Time
Research culture
Lack of feedback
Resources and systems

That’s the main challenge of REF, officially the journal doesn’t matter but people use it and people are completely confused by this, because they hear the people who sit on the panels, and so on, telling them, “look, it’s not about the journal, it’s about the content of the paper,” and yet, really, people (e.g. panel members) have no other means of assessing somebody outside their field, they can’t read the paper and really form an assessment because they don’t know how good it is, and so they fall back on the journal. (Participant 2, University A)

Over half the number of interviewees described concerns over metrics, as one of the main issues when embedding the REF. Many described how colleagues were in ‘constant arguments’ and ‘uncertainty’ about what a four-star paper is and what the borderline between a four and three-star paper is. This translated to managers as a need to “crystallise some of the metrics from a university perspective”. Metrics were seen as a particular challenge for arts and social sciences disciplines.

Conversely, interviewees who had a science background, or who worked more closely with those departments tended more toward positively viewing the use of these measures as a proxy, leading to a lack of coherence for implementation of non-metric approaches.

I think that in medicine and life sciences the impact factor is still the best indicator. Unfortunately, this is not good and doesn’t cover epidemiology, primary care, and medical ethics, how do you, that is the problem. But I would use proper metrics like citations, the impact factor, or if there is any better way of looking at that for some of the fields. Of course you cannot do it for the humanities. (Participant 6, University D)

While many interviewees were alert to disciplinary concerns over the use of metrics, the overarching concern in responses was that without some reliance on citations or journal title, most academics (whether for internal purposes or on REF panels) would be uncertain about making judgments about what made a 3 or 4 start paper leading to uncertainty, doubt and “guesswork”:

The main challenge of the REF is basically constant arguments and uncertainty about what a four-star paper is and what the borderline between a three- and two-star paper is. (Participant 4, University A)

Activities such as those detailed later in this section under outputs, impacts and environment, including talks from REF “champions” and others, were deemed by interviewees as good ways of disseminating good practice as to how to make such judgments. For instance, one interviewee describes how an invited speaker spoke of being on a panel:

His take on what was two, three, four-star quality, the reviewer process that they went through, the kind of information that they used in terms of additional metrics and so on. And that was really useful actually – very, very insightful. (Participant 3, University B)

The challenge of metrics and the need to guide academics who make judgments for the REF, emerged as a persistent concern.

Lateness of information

A second challenge for embedding REF was identified as the perceived lateness in which information on the rules was received from the UK funding bodies. While most interviewees spoke in positive terms about the level of consultation between the UK funding bodies and the sector, many also described frustration over the effects of lengthy consultations:

That’s a real challenge actually, having the number of changes that we are having late in the day I think is really super unhelpful and I just wish we could have a Stern Review now that is implemented from 2021 and that we all know that this is what we’re doing for the next period. Constant consultation, the fact that they’re even consulting on this guidance now and we’re not going to find out until next year what the confirmed guidance is... I understand it’s a big, complex thing but it creates huge amounts of work for institutions and uncertainty. Academics don’t know what we’re doing because we haven’t processed exactly how this will be implicated in the work that we’re doing as an institution and HEFCE don’t know what they’re doing because they need to wait for everyone to tell them what they think about particular issues. (Participant 5, University D)

Others described having to deal with “very last minute changes...very late in the day” and that this meant it was difficult to know exactly what the rules are which distracts from the ability of academics to get on with what they need to be doing:

They keep evolving over the REF cycle and so there are a lot of dead ends that we go down in terms of planning to think “well, this might be the way forward.” I think that takes away time from people actually doing the research. So, if they made decisions earlier I think potentially it would help but whenever you have rules people will always keep game playing to fit those rules. (Participant 1, University C)

Over half of the interviewees described a preference for receiving information earlier in the cycle:

The other problem is the lateness with which rules are clarified. So the rules for 2021 have only pretty recently been entirely clarified, three years out, 2018, it's too short notice for anybody to change in any way. You need the rules earlier than that. (Participant 4, University A)

For those who were interviewed after the publication of further REF guidance in summer 2018, there was repeated reference to a commitment to transparency in disseminating knowledge of the current rules to the wider community:

Obviously it's a bit difficult because we, until today, didn't have the rules...But we're trying to, even if we cannot give you all the information; we give you all the information we have. (Participant 3, University D)

Those in academic roles with REF responsibilities tended to rely on central management and administration to digest and disseminate the rules, which might account for some of the delay:

This is slightly irritating in the sense that what, we now seem to be settling in to a pattern where HEFCE release a load of stuff just when you think you can relax in August...At the moment, I'm waiting for that to be digested centrally and for the next round of edicts to come out from that and so far, we haven't had much on that. (Participant 5, University D)

Looking positively at this issue, with reference to authenticity, one interviewee suggested that lateness helped to ease the burden of preparation, allowing staff to focus less on gearing their work solely toward REF and more towards work that they felt had intrinsic value:

I quite like the rules coming out as late as possible. I mean on one hand it's really irritating [laughs], but on the other hand at least it stops an obsession with preparation, because you don't know what the rules are yet, so just ignore them and get on with what you believe in and what you know is good. (Participant 3, University A)

There was a sense that institutional approaches learnt from REF 2014 about the importance of early implementation of good practice, such as conducting REF stocktakes and "galvanising the troops" early, even in the absence of complete clarity from the UK funding bodies.

I was recently put in charge at college level of galvanising the troops within the college to write an early draft of their environment statement which actually has been a bit weird because, and I don't know if it's in today's document, but we didn't actually have much guidance as to what it was going to look like and I'm not sure if they've given us more clue now, but so we've been writing those and generally building... (Participant 2, University C)

What these accounts reflect is a sense that institutions are making clear attempts to disseminate knowledge that they have as early as possible and with as much transparency as they can.

I think we are making an effort to make it as transparent as possible and that's why I think that push for communication and for presentations is coming. (Participant 3, University C)

Lack of clarity and uncertainty

On a related note, just under half of interviewees made repeated reference to there being a perceived lack of clarity leading to uncertainty for schools and departments:

Part of the expense is the lack of clarity so that people have to model things in all sorts of different ways and think of all the different contingencies and all that kind of stuff. (Participant 4, University A)

I'd say what annoys me slightly again about it is that these decisions are made based on what I would say is a guess about a guess. I think given that we have struggled to have clarity... there is also a lot of uncertainty out there. (Participant 2, University C)

Some interviewees repeatedly referred to a perceived lack of clarity around areas such as environment and open access:

There are still areas where it's opaque about what it will actually mean in practice. So I have to put a lot of caveats around any of my assertions to confident knowledge. There are a few areas where that applies. One of them that is not new to the recent guidance but has been around for a while is the open access rules for outputs and just how you deal with that level of complexity. I find that quite a nightmare, to be honest. (Participant 1, University D)

More positively, those interviewed following publication of the summer 2018 guidance, suggested that things were becoming clearer as consultation developed and evolved.

The REF rules themselves are not particularly clear. They're clearer now than they were a few months ago, or even a few weeks ago, now that we've had more recent guidance from REF, which came out last week. (Participant 7, University D)

However, the challenge for many remained in the application and interpretation of the guidance within the institutions themselves:

So the guidance that came out last week actually I think raised as many questions as it potentially answered, and I found that before with the previous versions of guidance. So the guidance itself is in enough English so that we can understand it. It's not too jargon heavy for example, not too convoluted, but the difficulties come when trying to apply that guidance to the idiosyncrasies of an individual university. So there's a lot that's still unclear in terms of how exactly how we interpret the REF rules... I'm not alone in struggling to interpret the guidance and struggling to see how it applies exactly to my own situation in my own school, my own university. (Participant 7, University D)

Paperwork and workload

A third theme which emerged from the interviews was the perceived increase in burden that the REF created. Just under half of interviewees felt this was a real challenge in implementing the REF, in terms of the extra workload pressures it creates for academics and the central administrative burden.

With respect to the former, interviewees commented that the REF inevitably created a large amount of work for academics, despite workload allocation models being implemented to combat this:

You start thinking, oh for god's sake, they want their spreadsheet filled in; we'll fill it in. Oh let's just give everyone a three. Make them go away. (Participant 3, University A)

Several interviewees bemoaned having to fill in “endless forms” and documentation and “that heart-sinking feeling every time another email comes through”. Workload acknowledgement was deemed important for interviewees who held both management and academic roles, particularly when attempting to satisfy the impact criteria or take part in REF stock-takes.

It is very heavily admin-focused at the moment. For my role obviously it's a heavy admin load and because the rules change every time we have a REF we kind of have to change the processes to go along with it. (Participant 3, University C)

REF was referred to negatively by one interviewee as another “massive deadline for massive processes that everyone just gets so fed up with” (Participant 1, University B).

One interviewee compared their experience to having worked abroad where less administrative burden was placed, in their eyes, on academics:

I take the brunt of the administration so REF has had a lot of administration burden. I was a little naïve to what that was going to be because I came back to this country, I'd spent 10 years in (redacted) in various research jobs and industry and academia. Even though there was a lot of administration there, the academics don't really do it, so you don't see it. It's funded a lot better centrally in those...well, the experiences I had, and the academics did a lot more research. Whereas here I'm finding that the academics have been doing a lot more administrative work and it pulls you away from actually doing the research. (Participant 1, University B)

With respect to interviewees in senior management or research management roles, REF was seen as incredibly burdensome in terms of the administration, despite Stern's attempts to reduce it. In particular, the shift to return all staff was repeatedly seen as resource-intensive, potentially increasing burden:

And there's scepticism now about whether, so one of the aims of REF 2021 is to reduce burden and simplify from an administrative point of view, and actually a lot of academics feel that that's just not the case. If anything we've stepped up the activity that we're putting into supporting REF, and with these issues around researcher independence, for example, a lot of academics still see it as a complicated bureaucratic process, just as they did with REF 2014. (Participant 7, University D)

REF therefore continued to be characterised as a ‘huge administrative burden on institutions’ by several interviewees, difficult to manage because of the ongoing nature of the exercise.

It's very challenging. It poses a lot of system type problems, administrative type problems on universities, because the kind of information we need to gather and the kind of organisation that's required, for example to assess the quality of our outputs, it requires an infrastructure that we here at X barely have. (Participant 7, University D)

Time

A fourth theme was that time pressures present a challenge when embedding REF. This of course relates closely to issues of workload, and many interviewees described how their institutions had implemented a workload allocation model to address some of these concerns. However, interviewees also described how many people simply “did not have time” to carry out duties necessary to be “REF ready”. Indeed, several interviewees felt that not only did they lack the time to carry out REF-related activities, such as impact or administration, but that REF also took time away from actually doing research.

More often these types of concerns came from interviewees who held REF lead roles or equivalent responsibilities. Some referred to REF as “expensive” in terms of time, time which some felt barely “counted” Here, time away from research was worrying for interviewees who felt that time spent on REF activity might in some ways take away from the potential to do leading research.

I think it is noticeable though, if I was to go through, without naming names, some of the really seminal pieces of scholarship in the last 30 or 40 years, they were produced by people who effectively had time to do that scholarship. They were essentially 100% researchers and scholars whose institution went, “You will produce genuinely world-leading, paradigm shifting pieces of research, go away and do that”. I think it’s very hard to say to somebody, “You can have two days a week on research” and all these other pressures and still expect that level of outcome. (Participant 4, University B)

REF was seen regularly as “hugely burdensome in terms of time and resource” often at the expense of creativity and excellence, which accounted for some further concerns for research culture and morale.

Research culture

Issues concerning research culture were raised several times. Specifically, interviewees commented about a possible ambivalence to carrying out activities if they were solely related to REF.

I think one of the challenges is that some people think what does this have to do with me? Why do I have to do it? Why do I have to worry? (Participant 3, University A)

Some interviewees expressed concerns over cajoling staff into being convinced of the value of certain activities above and beyond REF. Many felt that in doing so, REF could be used as a powerful and positive tool “for improving and mentoring new academics” and for supporting and developing newer, smaller departments. Many responded to this by suggesting that REF should be seen as less of an individual or departmental activity, and more as an institutional or “team exercise”:

REF is important but something which is outside... this is an institutional priority rather than an individual priority. (Participant 3, University D)

The issue here became more about having the processes in place to help people as opposed to undermining them in order to engage fully with the REF process as something they have to do and which provides value. (Participant 3, University A)

One interviewee describes how researchers and research culture is characterised by “REF fatigue” and that in order to avoid that, institutions needed to take a holistic

approach to REF as opposed to an individualised one. Several interviewees referred to the need therefore, to support researchers for a healthier research culture and attitude towards the REF.

Lack of feedback

This theme relates to the perceived challenge of feedback from the REF process:

Well the main challenge for REF has always been that we get no feedback. So we are constantly plagued with the issue of, "What is a two-star paper, what is a three-star paper and what is a four-star paper?" Sometimes it's clear and obvious, but for a lot of papers it's not, and people's opinions differ. (Participant 4, University A)

This was deemed frustrating by several interviewees, who felt that such information would be very useful in order to improve the process and the quality of the feedback they provide themselves in review:

The other thing we learnt is that we were systematically pessimistic about our outputs and that we did better than all of our internal and external assessments of our outputs. But, of course, the frustrating thing is that we never got the feedback, so we don't know where we did better, we don't know which papers it was that counted as four stars in the real thing that we had counted as three star. It would be really useful to know that but we're never going to find out. (Participant 3, University D)

This theme relates to the issue of metrics as described in the early part of this section but is suggestive of the need for greater feedback mechanism:

You know, we'd never assess undergraduates without telling them their marks individually from papers...rather than just giving them an overall degree classification and saying, "You got some high marks or some low marks or some middle marks, but we won't tell you which papers or which questions they were"...A principle of assessment is you have to feedback to people. And REF doesn't do it, so that's the principle challenge and every other challenge pretty much flows from that. (Participant 4, University D)

Resources and systems

A final theme which emerged from the interviews was that interviewees from certain institutions suggested that a lack of resources and systems remained an issue for embedding the REF. Here, interviewees described how they still did not have sufficient research information systems or trackers in order to harness and manage all the information they needed for REF. So too, some expressed concern over the development of systems while ensuring they were fit for purpose:

I'm really cautious that we develop a system just for the sake of it, that doesn't help. So, it's constantly a balancing of, "Where do we need to be? What's going to help?" and actually, "What is too much for us at the moment?" (Participant 4, University C)

Here, this also required a certain level of technical resource that for some interviewees was seen as difficult to argue for. In addition, some interviewees suggested that getting agreement across the institution for the need of certain systems was difficult "we have to put together systems and processes to do this. We can't just do this at the push of a button". The burden of resource was mentioned by at least two institutions. For others, systems were more advanced and in place, perhaps reflective of the size of institution or better access to resource. However, some of these accounts reflect a need to appreciate

that some institutions are in an earlier or more fledgling position than others, when it comes to systems and resources to support implementation of the REF.

Interviewees were also asked to describe the range of activities taking place in their institution or department to support and embed REF 2021. The following three tables summarise the activities described by interviewees for outputs, impacts and environment.

Outputs:

READINESS ACTIVITIES	TARGETED INTERVENTIONS	STRUCTURED INTERVENTIONS
REF reading and ranking groups	Research mentoring	Performance Development Review (PDR)
Rolling REF/ REF stocktake	Training on star ratings	Reporting and monitoring dashboards/ systems
Implementation of system for open access database of papers	Meetings with research leads about star ratings	Internal code of practice for research assessment
Annual REF reading exercises	Regular communications and bulletins, information events, Open Access week	Shift to teaching contracts
Internal peer review group		
Appointment of External Research Advisors		

Impact:

READINESS ACTIVITIES	TARGETED INTERVENTIONS	STRUCTURED INTERVENTIONS
Impact peer review and stock take	A targeted network in all schools for regular discussion	Impact pathway promotions criteria
Impact database	Appointment of Impact leads and champions to mentor staff	Annual review processes of impact case studies
Funding streams to boost impact	Training programmes workshops, one to one meetings	Promotions criteria
Support and funding for evidencing and tracking impact	Best practice for a including talks from champions	Impact Officer appointments and Impact Units/ Directors of impact
External Reviewers and dragon's den	Awards and celebration dinners	Workload model and allocation
Impact advisory panels at school level	Impact away days	Performance Development Review scheme
	Interdisciplinary discussions	
	Mentoring	
	Talks from external partners	

Environment:

READINESS ACTIVITIES	TARGETED INTERVENTIONS	STRUCTURED INTERVENTIONS
ED&I group	Sessions on developing environment	Code of Practice

PhD, grant systems, open access and open data management	Workshops on impact and environment	University KPIs
	Sessions on grant writing and funding	Strategic plan on research environment
		Recruitment of staff and creation of centres and cross faculty, interdisciplinary groupings
		Internationalisation agenda

On the whole, support for environment tended to be less configured and interviewees suggested they had less formalised plans to help develop and support the environment aspect, compared to outputs and impacts, as the following excerpts show:

We should start talking about research environments. (Participant 5, University D)

On the environment side, that is again a bit up the air, it's slow in starting on that. So it seems like the lion's share of the actual work in trying to embed it is on the impact side because that is the most unfamiliar. (Participant 3, University D)

4.9 Equality and diversity

Respondents generally regard the provisions and emphasis on equality and diversity in REF 2021 as positive and progressive, albeit with some areas where further clarity from the funders and institutional effort is required.

Interviewees were asked for their opinions on the extent to which REF 2021 took account of E&D issues. Overall, the focus on E&D in REF 2021 was received positively with over half the total number of interviewees describing the reduction in outputs as progressive:

I think another classic example of the REF pushing institutions in a good way, is the focus on diversity. So it's really making universities think about not just the individual specifics of the REF submission but what they do to achieve equality and diversity and what they do for early career researchers etc. (Participant 4, University B)

While the majority were positive about E&D adjustments in REF 2021, there were others who either expressed that they were not engaged with this aspect of the REF; or for whom E&D provoked a more mixed response:

On the whole I guess I still have mixed views around equality and diversity in REF 2021. So on the one hand there's a question of how individual academics perceive the REF process, and whether they perceive it to be fair and equal and representative of a diverse research community.... And to an extent I think that the general feeling in my institution is that this iteration of REF is more fair and diverse and equal than it was last time, but there's still plenty of scope within the REF rules to ignore equality and diversity, or at least there's no explicit requirement, for example, that a percentage of academics submitted are female or of an ethnic minority, or have disabilities or whatever, kind of relative to the overall makeup of the staff population...So there's nothing particularly explicit in the REF rules that go towards addressing equality and diversity issues, even

though some of the changes that have been made do go part of the way. (Participant 7, University D)

It was when interviewees reflected on 2014, that a shift in perceptions of E&D within REF 2021 was most apparent. When asked about E&D implications, interviewees regularly described the following groups that could have been disadvantaged in universities:

- Women – maternity and caring responsibilities;
- Men with caring responsibilities;
- People who had taken career breaks;
- Minorities; gender, ethnicity;
- People with disabilities;
- Early career researchers.

Some went further to describe a range of circumstances:

There are disability issues that make interruptions, as can parenthood or caring responsibilities, and the everyday burdens of facing racism, discrimination, antisemitism, being spat on, on the march you went on last week, whatever it was. (Participant 3, University A)

Many interviewees described how even though institutions had put in a lot of effort to account for individual circumstances, after looking at REF 2014 data, people nevertheless appeared to have been disadvantaged in 2014:

The negative things are that it can be very unfair, so we talked about equality, diversity and inclusion earlier on, it can tend very much to reinforce pre-existing states that can allow people to exert power in certain ways that reinforce existing hierarchical differences. (Participant 1, University A)

Perceived as an emotive issue, many interviewees usually prefaced their views on E&D by describing broader issues of inequality in universities:

In terms of the great problem with the gender inequality that we have in academia...I don't think the systems last time did enough to rectify, to try and correct that, I think that's important. So I think the new rules about outputs can only probably help that although perhaps I'm a white middle class male, so perhaps I'm not the one to give you the best perspective on it and so on. (Participant 2, University C)

Indeed, gender issues were raised regularly when considering E&D implications of processes like the REF and in broader research culture:

In some ways the accountability and the close monitoring has exposed the not dead white men who are the dead wood within the organisation, because you just don't go, oh yes he's a great academic and he gives keynotes. You actually start scrutinising the work and go, excuse me, is he on gardening leave? ...And in that sense it exposes some of the inequality while you get the huge amount of hard work coming from people in more minority positions. (Participant 3, University A)

Many suggested that such issues could be addressed through initiatives such as Athena Swan and through the development of a strong environment statement:

We do of course have the usual problem of we have male chairs, a lot of male chairs, and come to think of it, our research directors are definitely mainly male and so on...we need to address all of this of course in our environment statements this time to a much greater degree than I think we did last time. (Participant 2, University C)

With respect to REF, some interviewees suggested that E&D issues were now of less concern because of the move to reduce the number of outputs. This was seen overall as a positive thing:

I think I'm struggling a little bit, I'm sure there are problems, it's not come up a huge amount. I think that's, and maybe that's a finding for you in particular, it's not something we've talked about a huge amount I would say. Perhaps there's wrongly an assumption that there's not as much problem as last time, largely down to the output thing because there's no need to actually argue the case for people to be in these special categories anymore and in that sense, it's being simplified. But, I'd be very surprised if there's not problems somewhere in the system because there almost always is, isn't there? But, those are almost wider academic issues which we know quite well, rather than REF specific issues, I would say, but I could be wrong. (Participant 2, University C)

Interviewees suggested there was a greater awareness and recognition of E&D in REF for 2021.

I think there is far better recognition of equality and diversity in this REF round, I think there is far better recognition across the sector but there are these hidden ways in which it keeps playing out where people with extra pressures in their life, don't get to deliver the work to the same level and end up being the ones who are taken off the research contract because their work just isn't big enough or good enough. That really bothers me and I'm not sure how we get through that but I've seen it too many times. (Participant 2, University C)

Overall, interviewees noted that REF 2021 took better account of E&D than the previous cycle and generally felt that the Stern reforms had been an improvement.

I don't think the process last time round was particularly satisfactory, because I think it introduced jeopardy for universities, but I do think that it's better. (Participant 1, University B)

Reflecting on REF 2014, several interviewees noted that issues relating to E&D had come to the fore and that REF 2021 was attempting to address them:

There's been a recognition after 2014 REF, you just have to look at the outcomes and the analysis that was done, which really showed that there were people being seriously disadvantaged and there really didn't seem to be a level playing field, even for people who'd taken career breaks, that sort of thing. (Participant 4, University B)

All but one of the interviewees agreed that a reduction to an average of 2.5 outputs per FTE research staff member was positive in terms of E&D:

The E&D and inclusion thing is probably better handled by just the flexibility between the number of papers rather than having some kind of official committee that condones it. (Participant 3, University A)

I think having it so that people now only need the one paper has actually helped with the equality aspect. (Participant 1, University D)

I think the one output policy, more than that everyone has to go in, should address some of the equality and diversity tensions that existed before. (Participant 5, University D)

This was seen to potentially reduce worry for academics and for those having to make decisions about peoples' individual circumstances:

People lived in this worry land of basically not knowing whether they were going to be allowed to have this condoned, until it's too late to actually produce another paper... So that was an unsatisfactory system which was not helpful I think to E&D. (Participant 3, University A)

As such, interviewees tended to be positive about E&D in REF 2021. The approach to reduce the number of outputs was described as more "flexible" and many described how complicated and deeply personal individual circumstances could be:

You cannot legislate for everything and there are all sorts of personal circumstances which most people are not aware of that colleagues may be going through. (Participant 5, University A)

The decision to reduce outputs was seen as better than having to apply for special circumstances as most interviewees commented that this was at times, awkward, upsetting and highly personal. One interviewee described how this had "singled people out" and that "these things need to be better handled in a more sensitive and low-key way." This expression of empathy for colleagues was common across all interviewee responses. Interviewees regularly suggested they wanted to "up their game" to ensure fairness, and that genuine attempts to improve E&D continued to be made:

We've got a lot more diversity now, in terms of how things are done, which I think is pretty positive. (Participant 5, University A)

Words such as "fairer", "better" and "more transparent" were repeatedly used in interviewee responses to recognition of E&D considerations in REF 2021. For instance, many suggested they had done a lot of work within internal exercises to ensure certain groups are not disadvantaged e.g. female staff for instance who have been on maternity leave. Several suggested that there was a need to focus on a micro and macro scale in order to think seriously about the implications of REF for certain groups. Many interviewees described how they were working to implement a number of initiatives to support E&D which would feed into their environment statements. These included, but were not limited to a commitment towards:

- Athena Swan
- The development of a Code of Practice
- The creation of an Equality and Diversity group

The development of codes of practice for E&D were generally reported as being in the early stages of development by interviewees, with working groups set up to look at the REF guidance and develop these through consultation across the institutions:

With the code of practice, that's a huge opportunity to say that this is part of a stepping stone to universities being more inclusive and diverse and we probably haven't done enough again to, rather than just saying that this is a management issue and it's difficult in REF terms and saying, "Well this is incredibly positive". (Participant 4, University B)

This was not without its challenges, as some interviewees expressed concerns over the methodology of dealing with exceptional circumstances:

I'm not clear about how we are going to deal with exceptional circumstances this time around and I think there have been some changes on the REF side within that, so that's all I know. So I'll have to look into that as we go forward. (Participant 3, University C)

Many acknowledged then that despite the positive aspects of E&D considerations such as reducing the number of outputs, there would still be challenges with:

- The introduction of potential bias in reviewing exercises such as a mock REF;
- Managing the process in which units have a lot of people with special circumstances;
- Consideration of how to ensure that Pool B allows for people across a range of equality categories to be fairly treated;
- Institutions' reluctance to change output selection to make the equality profile better.

Overall, the overriding tone of responses was that this was still a work in progress, that understanding was still evolving in this area and that significant work was required in order to ensure a fair, transparent yet robust methodology:

It has to be transparent that this is what's going on and that, as a consequence, people are being considered properly. It's going to be difficult though, it's a big job and I'm not sure how we're going to quite organise it, I'll have to get my head around it. (Participant 4, University D)

Finally, from a logistical perspective several interviewees suggested that while the move to a minimum of one output was fairer from an E&D perspective, the changes would still be very "burdensome" for universities:

Having read the guidance that came out a couple of weeks ago, it seems like we're going to be required to have a very full individual circumstances process that while it has some differences of outcome, looks to me equally as burdensome as what we had in 2014. So that is a great shame I think that we've introduced flexibility in the number of outputs that can be submitted but lost one of the main benefits that we could've had from doing that change. (Participant 5, University D)

Despite attempts then to address E&D issues in REF 2021, several interviewees felt that such issues were broader than REF itself:

It's exposed some injustice but I don't think it's solved the injustice, and it may have been weaponised. REF can be weaponised to reinforce injustice, and all the auditing and the Athena Swan in the world doesn't stop that. (Participant 3, University A)

I guess the main point I'd make, is that it's not something that is unique to REF, universities generally have, and probably society does too, but certainly universities, are not particularly good, in my view, at dealing with issues of E&D, inclusion generally, equality generally, diversity generally, it's got a pretty miserable record. (Participant 1, University A)

That REF attempts to address these issues, was seen by most interviewees as a positive move but REF is perhaps not the whole picture, in improving support and inclusion:

E&D is not perfect but it's better than it ever has been in the past. I don't think that's directly connected to REF, it's more actually probably driven by the Athena SWAN linkage to grant funding and then having a badge and there being something that you can apply for and get a badge for. (Participant 4, University A)

I think it's a bit of a shame that a higher emphasis wasn't given to it earlier on. (Participant 4, University B)

4.10 Game playing and the REF

The game-playing aspects of the REF are still widely recognised, and seen by many as inevitable, even if the Stern Review rule changes to REF 2021 have reduced the likelihood of such tactics in some areas (e.g. staff selection).

References to “game-playing” emerged in over half of interviewee responses. Overall, this was seen as reduced by the Stern reforms, though concerns persisted with respect to particular aspects such as the use of metrics and the need to promote impact. Overall, attitudes to game-playing correlated generally with positive attitudes towards the REF:

I think overall it's positive and I think it avoids any game playing, which I think will be reassuring to staff. I think it'd be a lot more reassuring had they decided this in 2014 and had it from the start, rather than making the rules up as you go along, I think staff would have found a bit unsettling. (Participant 5, University A)

Most interviewees suggested that game-playing was less of an issue for REF 2021 than in 2014, namely because of the inclusion of all staff:

I don't think they'll be the same level of game playing across the sector that there was last time, which I think is a positive. (Participant 5, University A)

A comprehensive REF - so there is no strategic game, actually it takes a lot of those difficulties away. (Participant 5, University D)

REF 2014 was referred to as having introduced a lot of ‘gamesmanship’ because of the ability to promote and recruit staff for the exercise:

...there was so much game playing, moving people... (Participant 6, University D)

As such, one interviewee described how in REF 2014 “there was a quota game going on” whereas for REF 2021, it was far less likely that staff would be “poached”:

It's harder to poach strong academics just in order for an institution to bolster its REF submission. (Participant 4, University D)

The characterisation of REF as a game by most participants, revealed that the expectation to “game” may persist:

Whenever you have rules, people will always keep game playing to fit those rules. (Participant 1, University C)

Some interviewees suggested that the REF distracted academics from doing good research, and as such research became more about optimisation of the rules, at the expense of quality:

It's all about game playing and finding a way to optimise REF without actually just doing good research. (Participant 4, University D)

Several expressed a hope “playing the REF game” would ideally have positive, rather than negative, outcomes:

I think within my school they trust the management group to mainly just play it as a game, to try and maximise our ability to flourish as a school and not to weaponise it. (Participant 3, University A)

4.11 REF as a driver of behaviours

There is a widespread recognition that the REF strongly influences institutional and individual behaviours, but many see this as a positive feature of the exercise.

Interviewees were asked to what extent they felt the REF drives behaviours in universities. The vast majority of participants responded that REF drives a great deal of behaviour with a minority of participants stating that it did not. Mostly, this correlated with positive attitudes towards REF:

It definitely drives behaviour and it drives it largely in positive ways. (Participant 4, University A)

From those who felt that REF drove behaviour, several provided a caveat that it did not detract from standard activities, and instead acted as a further incentivisation for activity they would normally be doing anyway. Only a few interviewees felt that it had the capacity to “skew things” and that it might shape the scope of research being conducted:

I think it drives almost every aspect of the research we do now, to be perfectly honest with you. Funding applications, impact absolutely, always, we are required to think about impact, we're required to find work that has impact in order to get any money, as it were, and that's ultimately tying back to the REF. (Participant 2, University C)

I think as long as REF is the key determinant of league table success and perceived prestige and quality of universities, I think REF will continue to feature quite heavily as a driver. (Participant 7, University D)

Importantly, the majority of interviewees felt unsure, or felt that what REF did not do was drive research direction. Rather, it was seen to drive academic behaviour in a number of ways, most of those reasons were seen as positive, however some had unintended negative consequences as described in previous sections.

Interviewees cited some of the following ways REF drives behaviour:

- REF focuses minds on the quality of research
- driving publication practices
- encouraging academics to pursue “large meaty outputs, not lots of unimportant things”
- encouraging self-citation
- driving down quantity
- driving impact activity
- expanding research practices in terms of scope
- increasing interdisciplinarity
- driving recruitment behaviour
- changing research culture and environment
- driving managerial appointments
- driving the recruitment of central appointments in research policy roles

With respect to authenticity, some interviewees expressed concern that REF had the capacity to distract academics from conducting research for non-instrumental reasons:

Most of our research meetings are not about research, they're about REF. (Participant 4, University A)

It's driving structural behaviour, undoubtedly, but it's also driving on the ground behaviour in terms of what people are pursuing. (Participant 4, University C)

But many interviewees were adamant that the messaging to academics was that things should not be all about the REF:

I think the short answer is yes; I think the longer answer I gave you before is that we try very hard, we have a research strategy and pay a lot of attention to making that strategy work which is quite explicitly says, “This strategy is not just about the REF”; there is a lot that is bigger than that and wider than that, but inevitably it, a lot gets skewed towards the REF. (Participant 2, University D)

REF was therefore seen as “a stimulant to driving up quality.” Most interviewees noted that REF 2021 had focused minds more towards producing fewer, better outputs instead of focusing on quantity and location of publication:

In terms of academic behaviour, there's a definite shift towards producing, rather than producing a high quantity of outputs, which used to be seen as quite an indicator of

prestige, you know, somebody had 50 publications under their belt in this area; there's now been a kind of marked focus on not so much quantity but quality, and particularly the venue of publication...Even though that's not supposed to figure at all in the assessment of an output in terms of its quality, academics are focusing much more on producing fewer very high quality outputs in what are seen to be very prestigious journals, than perhaps they were previously. (Participant 7, University D)

The shift in perceptions from 2014 to REF 2021 reveals that attempts to focus on quality instead of volume appear to be filtering through from managers to academics.

5: DISCUSSION OF KEY FINDINGS

In this chapter, we reflect on the findings of both the survey and interview elements and highlight areas of convergence and divergence. The pilot nature of the study, and its sample size, means that some caution is needed before its results can be confidently generalised across the wider academic population. Further research studying more universities and using a longitudinal approach would enable a more nuanced understanding across a diversity of institutional and disciplinary settings.

5.1 Knowledge and awareness of REF 2021 rule changes

Based on the views of our respondents, further thought needs to be given to how information about the REF is shared and assimilated within universities. Communications are taking place regularly and universities are being creative (and diverse) in the ways that they try to prepare academics for the REF.

- Direct information – e.g. from the REF 2021 website – was rarely cited as a source of knowledge about the REF. Instead, information is mostly processed through universities, to departments and then to individuals. Survey responses suggested most information came indirectly from colleagues, heads of departments and the universities involved.
- Further analysis from interviews showed that universities receive information in part through REF readiness activities, including the sharing of best practices. In addition, managers reported reliance upon activities that were independent of the REF but supported it in other ways (e.g. grant writing), and they prepared academics for meeting expectations of the REF exercise through regular research communications and bulletins.
- There are advantages in each university identifying its own practices for REF preparation, but also inefficiencies in doing this. It may be helpful to organise and distribute common and best practices through organisations such as ARMA (Association of Research Managers and Administrators) and other networks.
- In our survey questions about REF 2021, there was not one source of information that stood out as predicting participants having more knowledge about the changes to REF 2021. This would suggest that trickle down processes do not result in a significant loss of information. (However, there may be loss of information which was not identified in this study because survey questions did not require respondents to demonstrate a very detailed understanding of the REF rule changes.)
- For early career researchers, a disproportionate amount of information about the REF may come from mentors, so there is likely to be a higher variability in the accuracy of this information and how these researchers build their own portfolio to meet expectations of the REF.

5.2 REF design and planning cycles

REF 2021 was, on the whole, seen to have improved on REF 2014.

- Those interviewed talked positively about how the REF 2021 exercise has improved since REF 2014, but with regards to the specific details of the changed exercise, views are mixed. One important theme that emerged in both surveys and interviews was the view that REF 2021 offers greater flexibility, which was seen as positive.
- Further, in both components of the study, participants felt that REF 2021 increases the focus on research quality, as opposed to research quantity. This was seen as a second important strength, compared to REF 2014. However, not all interviewees had been involved in REF 2014; and as such, spoke about the differences through second-hand experience.
- A further theme of well-being emerged in the interviews. Our interviewees perceived that overall, REF 2021 lessened the anxiety and stress associated with deciding who is going to be returned, and the stigma associated with not being returned. On the other hand, interview respondents still reported a fairly high level of pressure related to the current REF exercise and in particular, its effects on early career researchers.

A second headline finding of the study is the need, where possible, to outline the structure and expectations of future REF exercise as early in the cycle as possible.

- Where the interviews suggested a lack of clarity and perceived uncertainty around what the REF expects of researchers, much of this came from a perceived lag in receiving information. In some ways, this was seen as a positive because of the evolving, consultative nature of the REF. However, participants regularly referred to the lateness of information as generating a heightened sense of uncertainty.
- The primary source of continued pressure was reported to be feelings of uncertainty and the experience of gradual change. This was felt in terms of permanently preparing and attempting to develop specific knowledge (e.g., “what makes a 4* paper?”).
- On the other hand, there is evidence that knowledge trickled down fairly quickly. In survey responses, those who completed surveys after the new REF guidance came out on 23 July 2018 showed more knowledge of the REF exercise despite data collection taking place for only two weeks after this date. As such, when universities are made aware of major changes, this information is disseminated efficiently and in a supportive manner.

5.3 Attitudes towards the REF

Views are not as polarised as commonly believed, or reflected in coverage of the REF in the media. Extremely negative views were in the minority, while a majority of respondents had neutral or moderately negative attitudes about the REF.

- Attitudes were, on the whole, mixed. Interviewees generally felt that the current REF framework is fit for purpose, and many would prefer to see it remain in a similar form to its current structure. Overall, survey respondents expressed moderate though disparate views rather than clearly polarised views. This suggests that there is room for improvement in terms of how the REF is characterised and understood. For instance, several interviewees queried whether there was a sufficiently widespread understanding among colleagues of the benefits of the REF and QR funding in monetary terms.
- When survey respondents thought broadly about the REF exercise views were negative, but moderate. For managers who were interviewed, broad views were moderate and tending toward positive, while acknowledging the challenges for both managers and researchers. Additionally, negative views were more readily expressed by interviewees who held hybrid management roles, for instance those on academic contracts who also held responsibilities as “REF leads”.
- Of survey respondents who had extreme attitudes, more of those tended toward being extremely negative rather than extremely positive, and that is where most of the negativity in attitudes was found.
- Although we did not have the scope to do this in the current project, the current data and future studies can begin to identify the characteristics and experiences of those who held strongly negative views which might have shaped their views. This would help to identify potential issues within the REF that are not representative of the overall population of academics, but might be important to a sizeable minority.

5.4 Perceptions of REF’s influence on the academic community

The most negative attitudes concerning the REF could be broadly classified as relating to issues of research culture and behaviour. Importantly, the most positive attitude also related to culture, in the form of open research practices.

- Within interviews, these issues were seen to arise often in terms of overselling the claims of research findings for impact, and in broader terms this related to perceptions of REF as a “game” which marketises research. It was seen as somewhat inevitable that where there are rules, institutions and even individuals seek to game them.
- On the other hand, an important insight that emerged from survey data was that the focus on *open access and open research practices* was the most consistently positive and impactful influence of the REF on both researchers’ own work and UK academic culture.

5.5 Impacts and qualities of research

Findings concerning research impact suggested that a focus on changing the culture outside of academia is broadly valued by both interview and survey respondents, but that impact may not warrant additional emphasis in future overall REF weightings.

- Changing the culture outside of academia was one of the most commonly identified influences of the REF on UK academic culture. Interviewees identified that it gave more weight and currency to applied areas of research. It was viewed by interviewees that many researchers want to be doing impact-related work, and the REF gives them a reason to do so. However, interviewees also suggested that the REF's requirement to extensively evidence impact remains a source of tension for researchers.
- Further, interviewees felt that academics had relatively good understanding of what impact means in practice and what counts as impact, perhaps more so relative to the evaluation of research outputs.
- On the other hand, in survey responses, the increased weighting of impact from 20% to 25% was seen as the least positive and most polarising change to REF 2021. This suggests that while impact is now more accepted and appreciated, it may be felt that it should not receive greater emphasis.

There seems to be a move to the REF promoting higher quality, versus quantity, of research, but this is often defined in terms of the prestige of the output (e.g., the journal in which research is published). It may be helpful for funders and universities to provide clearer guidelines on the balance of discovery-led and more applied research that is optimal within a given department, UoA or field, so that academics can look to different proxies and measures of prestige for determining the value of their work.

- Survey respondents reported that, overall, the REF encourages less discovery-led research and more incremental or applied research that yields predictable outcomes. However, interviewed managers did not feel they had enough evidence to support that REF was driving specific research agendas in either direction.
- Survey researchers also reported that one of the most important influences of the REF on *their own research* was in shaping the choice and perceived prestige of journals to which they submitted research outputs. Importantly, they viewed both the influence of the REF on their quality of research and on their choice of journals for submission of outputs as *positive* (even though the REF does not assess research based on journal title, location or impact factor).
- Considering again the shift from REF 2014 to REF 2021, both survey and interview responses suggest that the exercise is moving toward a focus in the quality of research rather than focusing on the quantity of outputs. This is seen in a positive light.

5.6 Interdisciplinary research

Survey and interview responses both converged on seeing support for interdisciplinary research in a positive light, but at the same time respondents saw little clear guidance on how to support the academic community in this regard.

- In survey responses, seeing support for interdisciplinary research as positive was closely linked to having more positive attitudes towards the REF.
- Yet both survey respondents and interviewees were unclear about what greater support for interdisciplinary research would mean in practice for REF 2021.
- Alongside this belief, surveyed researchers were least aware that REF 2021 further supports interdisciplinary research (as compared to other changes to REF 2021), and they did not feel this change would affect expectations placed on them, suggesting lack of clear communications around support provided to interdisciplinary work.
- As a result, interviewees characterised conducting interdisciplinary research as a risk, particularly for early career researchers.

5.7 Authenticity

An additional theme considered in this study is how the REF influences the authenticity of researchers' work, that is, how closely it reflects and rewards their core academic interests and values. There may be small negative impacts on respondents' authenticity. Future research should examine where negative impacts on authenticity may be occurring. There may be a small subset of respondents who feel negative impacts on authenticity and could be supported in more substantive ways.

- Interviewed managers acknowledged some potential conflicts with academic freedom, but there was a lack of consensus about this, and no-one expressed confidence that the REF was driving people to conduct different research. Instead, managers suggested that REF might 'focus minds' to particular projects. This may come at the expense of more creative projects.
- Similarly, the REF exercise was not seen by surveyed respondents to influence their authenticity, relative to other potential influences of the REF, although the small influence was seen in a slightly negative light.
- A potential risk to authenticity is reflected in a survey finding that 15% of respondents reported that they were asked to change the focus of the research to accommodate the REF. While this is a relatively small proportion of respondents (85% of respondents did not report this risk), it still indicates that a sizeable portion of research *content* within the UK may be *directly* influenced to meet REF expectations. The fact that interviewed managers did not feel they could comment on this influence, suggests some level of divorce from strategic aspirations and the realities on the ground for those conducting the research.

5.8 Purposes of the REF

Academic accountability and quality assurance were common themes in interviews, and similarly, for survey respondents, accountability was the purpose of the REF that emerged as the purpose people felt the REF *should* have. These findings suggest that the academic community perceived a common sense of responsibility.

- REF managers reported that funding allocation was a clear oft-stated purpose. REF started out as funding allocation and for managers it is still very much seen in monetary terms, there was not a sense that academics perceived the same monetary function of the REF.
- The often stated purposes of the REF (namely accountability, funding allocation, and benchmarking) were the most widely agreed purposes. This was closely followed by a sense that REF should act as a performance incentive and influence research culture.
- That REF informed national priorities and provided evidence to government was seen as the least important purpose of the REF. This was the case in both the surveys and interviews.
- The REF is clearly seen to have moved further away from merely a funding allocation model – these broader, evolving purposes have deeper implications for research community.

5.9 Contrasts between different REF panels

In most analyses we did not observe consistent and noticeable differences between those who identified as submitting to different REF panels. However, notable findings are that:

- Those who identified as submitting to Panel B – the ‘hard’ sciences - reported the most beneficial influences on research activities in academic culture, and those from Panel D – humanities - reported the least beneficial influence of the REF on research activities. Reflecting these differences, individuals expecting to submit to Panel D also perceived the REF as being less successful in achieving its stated purposes, and particularly to influence the national agenda, while Panel B perceived that the REF was most successful in achieving what it sets out to do.
- Further, those who identified as submitting to Panel C, the social sciences, talked more about metrics and their complexities than Panel A, who had a tendency to have confidence in and rely on metrics such as citation and journal impact factors. Further, in survey data, Panel C participants reported more of an influence of the REF on quantity, quality, scope, and prestige of outputs they produced. This panel may be struggling more to meet the demands of the REF, particularly as interdisciplinary research is often located within this group of cognate disciplines.

5.10 Managing the REF

Both interviewees and survey respondents identified the importance of departments using supportive approaches to motivate and inspire academics.

- Interviewees highlighted the idea that REF is a 'team sport' or collective endeavour rather than an individual activity and this was reflected indirectly in these survey responses.
- Interviewees also described a broad set of approaches taken by universities and departments/schools to prepare academics for the expectations of the REF through enhancing communication and skills-building. Overall, these approaches were varied and often resource/system intensive, and little was described in terms of their reception by academics.
- While some of these approaches are tailored to the climates of specific institutions and departments, others may be more or less adaptive across institutions. It may be fruitful for institutions to share best practices in REF readiness rather than attempting to 'reinvent the wheel' as the REF process approaches the stage of submissions and as new rules are set out (e.g., a greater focus on impact requiring more action around impact).
- Interviewees highlighted an emphasis on supporting researchers rather than pressuring them through the REF process. For example, some interviewees discussed moving to external reviewers for assessing academics' papers (rather than relying on internal assessors), as it was felt that internal assessments may leave some academics feeling exposed or vulnerable.
 - In survey data, receiving guidance and feedback were the most commonly reported motivational techniques used; interviews suggested that these forms of support are delivered in away days, via champions who take a supportive role around some activities, internal and external reviews, and REF reading groups. Although receiving guidance was related to positive attitudes in survey responses, feedback was not robustly linked to a positive view of the REF.
 - These and other motivational activities may be delivered in more supportive or less supportive ways.
- Interviews said that they sought to support staff by understanding time pressures, recognising that managing the REF process creates administrative tasks for (some) researchers which must be recognised. Yet the issue of additional workload might not be sufficiently understood, as survey findings suggested the task of aligning workloads with expectations the REF places (presumably, this would involve research outputs, impact activity, grant income) was successfully achieved for less than 1/4 respondents.

Departments (presumably, individuals within them) were seen as using constructive, supportive motivational approaches more frequently than they did potentially pressuring motivational strategies.

- Although less frequent than constructive strategies, the use of potentially pressuring motivational strategies was still noteworthy - in that just under 1 out of 6 respondents reported the use of such techniques. The most common such strategy was the expectation of a role change if academics failed to perform in accord with the REF.
- Both of these approaches, and especially the expectation of role change if failure to perform in accord with the REF, is problematic because it likely drives what managers want to avoid, that researchers are motivated only by the REF and place less emphasis on other driving reasons for research pursuits.
- Importantly, the use of rewards and more punitive measures such as expectation of promotions or change of contract if failing to perform were reported at low rates, suggesting that within these institutions and departments, such approaches are implemented under specific circumstances.

Academics felt the REF should not be a primary motivating factor in the conduct of their activities.

- This was reported by both interviewee managers and surveyed researchers across the four institutions. In interviews, a common theme was that academics should not be primarily motivated by the REF in their research endeavours.
- At the same time, this view was in tension with another common view, that REF drives both recruitment behaviour and performance criteria. Interviewees saw early career researchers as being more disadvantaged, and driven, by the REF for these reasons.
- The ideal of pursuing academic work for its own end (or other ends) exists alongside the reality that the REF is a powerful motivator. The REF continues to be commonly perceived as a tool of marketisation, often 'caught up' in the noise around other pressures on higher education.
- This idea should be considered alongside the finding that participants disagreed about whether the expectations of universities were aligned with those of the REF.
 - When expectations placed by both universities and the REF are felt to be well-aligned, academics can simultaneously seek to achieve the goals set out by both; they have a single set of goals to pursue. On the other hand, those who saw little overlap may feel pulled in different directions.
 - When expectations are not aligned, this may increase actual or perceived workload.

Many academics reported a perception that they could be better supported by their departments, particularly in feeling competent or effective at work.

- An interesting finding was that that interviewees perceived that departments were more successful in helping academics to feel related to colleagues though a collective 'bunker mentality' towards the REF. Many interviewees suggested that, because of REF, there was a better sense of community. Survey data supported this, suggesting researchers experience more autonomy - that is, they have a

voice, and relatedness to others at work, than they do competence in their work. All three of these support experiences are shown to be immensely important for well-being and productivity at work.⁶⁴ Indeed, one might think that the focus on increasing researchers' actual competence within academic contexts would correspond to academics feeling especially effective in their daily work. Instead, it appears that more energy could be invested in helping academics to feel effective in their work.

- Those who felt they could express their voice (who felt autonomy) and who felt more supported, in general, were more likely to feel positively about the REF, and close relationships with colleagues were linked to reduced negative attitudes toward the REF.
- For all experiences of support and wellness, responses were moderate and varied, suggesting that academics see a somewhat positive work environment, but also perceive that there is room for improvement in terms of academics' work life.

It may be beneficial to consider ways in which academics, on the whole, can have a say in how their department/school might respond to REF expectations.

- An interesting finding was that those who had formal responsibilities for managing the REF exercise were less likely to feel their departments prioritised their contribution over providing them support, and they reported more autonomy – that is, they had more voice – in their work. As such, there may be additional benefits associated with having an active role in the department and its response to REF.
- Although it may not be feasible or desired to give that responsibility to all academics, it may be beneficial to consider ways in which academics on the whole can have a say in how the department/school might respond to REF expectations.

5.11 Equality and diversity issues

The analyses from this pilot study considered differences as a function of gender, caring responsibilities, and those who self-identified as early career or held more junior positions (e.g., lecturers). On the whole, there were few differences between male and female respondents' views, and those who had caring responsibilities or did not. There were several notable exceptions, but these merit future study given the large number of analyses overall, and relatively small sample sizes in some groups, may have yielded some findings by chance. In other words, any differences between these demographic groups may be statistical artefacts which should be replicated for greater confidence they reflect actual discrepant experiences.

- Notably, women and independent early and mid-level position researchers reported that changes made to REF 2021 were more likely to influence the expectations placed on them, although it was not clear whether these changing expectations would be positive or negative ones.

⁶⁴ Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational behavior*, 26(4), 331-362.

- The finding that early career researchers report being subject to more influence is consistent with interviews, in which managers highlighted a disproportionate influence of the REF on early-career academics. The difference across genders is also noteworthy and merits future consideration. The findings regarding gender should also be considered alongside an additional finding, that women reported less support at work than did men, on balance with their contributions.
- Considering these findings for gender, women may be experiencing more responsibility on the whole, proportional with less support, than men. However, these experiences do not seem to feed back into their attitudes regarding their REF exercise or their perception of how the REF influences research life.
- Future research is required to better understand the experiences of women in academia, and the impact of the REF on this group.

On a related note, analysis of the interviews conducted with university managers revealed some negative impacts upon the health and well-being of the research community with respect to the REF.

- With respect to the changes to REF 2021 where E&D considerations are taken more plainly into account, most managers felt that this would have a positive impact upon the well-being of academics for whom E&D issues were faced in the previous REF 2014.
- Analysis suggests that the new approaches to E&D and reduction in outputs may lessen anxiety and stress caused by the rules of the previous REF cycle. More broadly, several managers noted concerns over academic well-being arising from increased performativity, workload pressures and hyper-competition, associated with, but not limited to arising directly from, the REF.
- Instead, stress and well-being issues were often raised by participants as symptomatic of broader challenges facing Higher Education, and further research would need to focus more specifically to ascertain the extent to which there exists a causal relationship between concerns about academic well-being and the REF.
- Notwithstanding, it is notable that while stress and well-being concerns were voiced by participants, most if not all participants suggested that they felt stress was likely to reduce as a result of the changes made, post-REF 2014 as the sector further adapts to the demands of the REF process. Despite this, REF continued to be characterised as burdensome, and as such, more research into the localised and systemic effects specifically with respect to REF would need to be conducted in order to untangle these concerns from pressures coming from elsewhere within the Higher Education system.

A final important note that emerged is that interviewees reported that they were mostly in the early stages of developing a code of practice for supporting E&D.

- This may reflect the timing of the study. At this stage of preparation for REF 2021 institutions are not expected to have fully developed codes of practice specific to the REF.

- Institutions may still be implementing policies and approaches that support E&D in line with their wider policies.
- However, future work should consider the formalisation of support for E&D, or additional guidance that can be provided to universities to help support individuals and vulnerable groups who may experience the REF as more intense or disruptive.

6. BEYOND THE PILOT: LESSONS FOR FUTURE WORK

The current project was a pilot study to lay the foundation for understanding experiences of academics and managers concerning the REF and to test the feasibility of conducting large-scale research in this area.

Over the long-term, it will be important to understand if and how attitudes broadly related to the REF are changing; there is reason to believe that attitudes and beliefs about the REF will change with new REF structures and as we draw nearer to deadlines (Albarracin et al., 2014; Maio, Haddock, & Verplanken, 2018; Ryan & Deci, 2017). A full-scale longitudinal study would track how individuals' views change as a function of time (as we near REF 2021 submission deadlines), so as to (a) better understand their relation to the salience and implementation of changes, and (b) predict changing attitudes from current baseline measures at individual (e.g., current academic performance) and institutional (e.g., research excellence of the university) levels. It is especially important to consider how attitudes and beliefs change in reference to the draft (and ultimately final) panel criteria and working methods.

The research suggests that the loudest voices in the REF debate, are not necessarily the most representative, however the brevity and scale of the pilot study only allowed for a surface understanding of attitudes toward changes being implemented for REF 2021. A full-scale longitudinal study would also seek to understand respondents' attitudes related to the specific reforms being introduced in this cycle of the REF – for example, staff selection, number of outputs, (non) portability of outputs, and the increased weighting of impact case studies. A more detailed study would allow Research England and others to draw conclusions that could inform decisions on how to best to design and implement further reforms to the REF in future assessment cycles. Further, such a study would measure how characteristics are perceived differently over time as a function of baseline individual and institutional measures.

The current study showed substantial differences among academics in terms of how they perceive the REF, with views, on the whole, not as polarised as might be expected. A more substantive longitudinal study would provide a mechanism to understand what drives changes in attitudes across time.

6.1 Methods, limitations, and process lessons

The study comprised a pilot to test 600 respondents using a survey methodology and interviews with 20 managers. The intention was to have representation from a diverse set of academic disciplines and a small but differentiated set of universities (in terms of levels of research activity, and location). While this approach allows us to draw preliminary conclusions that represent the voices of certain groups, it does not permit us to confidentially generalise to the general population of academics across UK universities. Future work would require higher numbers of respondents from more varied academic disciplines and universities, in particular, to understand general responses and dynamics related to the REF exercise. More specifically, while the pilot study involved sufficient statistical power and a reasonably sized qualitative sample, future work sampling from a larger set of universities, in particular, may be more sensitive to cultural and mission differences at various institutions.

For example, given that the four universities agreed to participate in our pilot study, they may be particularly *supportive* or *proactive* places where the research climate is more positive. One way to avoid this limitation is to recruit academics directly rather than working with specific organisations, to understand the experiences of those who work within organisations that might be hesitant to collaborate on a study focused on the REF. Yet this approach has its own limitations, for example, by limiting control over representativeness of the sample in terms of different backgrounds and attitudes.

It is also worth noting that in the survey portion of the pilot study, we intentionally did not control for who was able to respond, except for that they were involved in some research, with a technical cut-off programmed into the study of > 0% time reported. The result was that two types of respondents who we did not plan a focus on took part:

- Non-independent researchers were included in analyses, although not intended. They showed more optimism on the whole but the sample was quite small.
 - Further research, outside the context of REF considerations, is needed of the transition from non-independent to independent roles in UK institutions. This is especially important in relation to understanding the perceived value of academic career pathways among these individuals.
- People who did not know to which panel of the REF they would be submitted, or who were expecting to submit to units of assessment outside those of interest. Those who fell into units of assessments outside the eight which were the focus were included in analyses after being coded into the correct panel for that unit of assessment.
 - In the future, these data should be analysed to understand the variability between and within units of assessments, rather than at the panel level. Future survey data would also be helpful here with much larger sample sizes to allow for more nuanced analyses.

In any study focused on the REF there is the potential for the findings to be biased through a sample with disproportionately extreme views on the topic, particularly the qualitative aspect. One concern in designing the present study was to encourage responses that are representative of the general population of UK independent researchers and managers.

Interview participants were selected to represent varied management activities and REF panels. Notably, with respect to recruitment in interviews, only one respondent who we asked to take part did not do so, and this was due to time constraints rather than a lack of interest in the study. This gave greater confidence in the representativeness of interview respondents. That is, we have more confidence that interviewees did not represent one side – a more positive side – of views on the REF.

On the other hand, given the scope of the pilot study the number of interviews was small (total = 20, 5 within each institution). In the future, more extensive efforts could be made to interview a larger set of REF managers to understand varied academic cultures as well as explore patterns within different types of roles (e.g., more administrative management; those who are embedded within departments or in the larger institution).

Additionally, a number of the interviewee respondents were known to the research group, or had been purposively sampled by research administrators to provide an overall view.

In both interviews and surveys, while we welcomed those with strong views, we sought to understand their experiences in context, alongside the academic community more broadly.

We attempted to reduce bias with several strategies:

- Recruiting both through direct communications with academics and through bottom-down communications from individuals in more senior positions within the institutions.
- Emphasising in written communications the importance of understanding the experiences of academics, more broadly.
- The use of monetary compensation as a driver for participation. In this case, this was a key factor, as it gave individuals reason to take part separately from the desire to voice concerns or approval.
 - We compensated participants in two ways. Initially, we compensated participants £10 in exchange for taking part. In the second half of the project, we offered entry to win raffle prizes of £500.
 - This second approach encouraged additional responses when recruitment had waned, giving us reason to believe that this was an effective motive for taking part in the study.
 - On the whole, the larger raffle prize appeared to be a more effective enticement for this sample, in line with previous research suggesting larger monetary incentives encourage greater participation, as opposed to smaller monetary incentives and promised research findings.⁶⁵
- We cannot definitively know how representative the survey sample is of the wider population, although it appeared broadly representative in terms of demographic characteristics of UK academics, more broadly. That is, individuals of both sexes, different ages, and different career stages were included.

In this pilot study, we did not analyse differences between universities, because of the small number of academics involved in both phases of the project. Yet, we did note that certain institutions may have different systems, different turnover of support staff, infrastructure, funding, and other resources, which influence the challenges different institutions face responding to the REF. This will be an important future area of study. In particular, it will be important to understand the practical impacts of such differences, the implications for researchers within those institutions, and ways that Research England can better support less research-intensive institutions.

⁶⁵ Göritz, A. S., & Luthe, S. C. (2013). Lotteries and study results in market research online panels. *International Journal of Market Research*, 55(5), 611-626.

A final noteworthy challenge to the pilot study was the impact that context had on recruitment and participation. The study was undertaken soon after strike action related to proposed staff pension changes, and responses to the two phases of the study, - particularly Phase 1 - may have been influenced by these developments. First, in some cases, we were unsure of the extent to which tensions felt by academics affected their intentions to participate in the study, particularly when communications about the study were coming from central university sources. Second, *timing of* recruitment seemed important for survey responses. For example, very few researchers responded during busy marking periods, and the balance of survey participation alongside other demands felt by participants must be taken into consideration in future research.

APPENDIX I: SURVEY

This first section asks about your career. Our goal is to understand how the REF is experienced differently or similarly by individuals in different circumstances.

Which best describes your role (tick one or more)?

- ☐ Upper management role within the school or university
- ☐ Professor
- ☐ Emeritus Professor
- ☐ Reader
- ☐ Emeritus Reader
- ☐ Associate Professor
- ☐ Senior Lecturer/Principal Lecturer
- ☐ Lecturer
- ☐ Assistant Professor
- ☐ Senior Research Fellow
- ☐ Research Fellow
- ☐ Senior Teaching Fellow
- ☐ Teaching Fellow
- ☐ Postdoc
- ☐ Research Associate
- ☐ PhD Candidate
- ☐ Research Assistant
- ☐ Other academic position _____

What year did you receive your highest degree (e.g., PhD)?

2018 ... Before 1989 (30 years or more ago)

What year did you take up your first independent research post at a higher education institution?

2018 ... Before 1989 (30 years or more ago)

In the past six years, how many years in total (*not necessarily continuously*) have you spent based within a UK university?

6 years ... Less than 1 year

Do you have any formal responsibility for REF activities within your school (e.g. reviewing outputs for submission, making submission decisions, management responsibility for REF activities)?

☐ Yes

☐ No

Your academic position is ...

☐ Full-time

☐ Part-time

Your academic position is...

☐ Open-ended

☐ Fixed-term

Have you been employed on a fixed term for any period since the 1st January 2014?

☐ Yes

☐ No

What percentage of your time do you spend on research?

0 10 20 30 40 50 60 70 80 90 100

% time

In which of these schools are you primarily based?
[content varies by university]

The Research Excellence Framework (REF) assessment panels' remits are grouped into research areas, these panels also have mechanisms to support the assessment of interdisciplinary research. Which of these best describes your area of research?

- ☐ Health, Dentistry, Nursing or Pharmacy
- ☐ Psychology, Psychiatry or Neuroscience
- ☐ Computer Science and Informatics
- ☐ Engineering
- ☐ Business or Management Studies
- ☐ Education
- ☐ History
- ☐ Communication, Cultural and Media Studies, Library or Information Management
- ☐ Other _____
- ☐ Don't know

Do you identify yourself as an Early Career Researcher?

- ☐ Yes
- ☐ No

The following section asks about your attitudes towards the Research Excellence Framework (REF). There are no right or wrong answers; we are interested in your perspective. Please answer based on your experience.

Please provide your views in terms of how the REF has impacted the RESEARCH COMMUNITY within the U.K.

Please leave item blank if you do not know the answer.

In your view, has the REF changed the extent to which researchers, in general...

	(-3) greatly decreased this	-2	-1	(0) no change	1	2	(3) greatly increased this
engage with potential users of their research findings (in policy, business, civil society etc)	☐	☐	☐	☐	☐	☐	☐
seek to change the number of highly rated outputs they produce	☐	☐	☐	☐	☐	☐	☐
pursue risky 'blue sky' research that may not yield predictable outcomes	☐	☐	☐	☐	☐	☐	☐
pursue incremental research that is more likely to yield predictable short-term outcomes	☐	☐	☐	☐	☐	☐	☐
engage in interdisciplinary research	☐	☐	☐	☐	☐	☐	☐
engage in open research practices (e.g. open access, open data)	☐	☐	☐	☐	☐	☐	☐
undertake research with integrity	☐	☐	☐	☐	☐	☐	☐
engage in "game-playing" (e.g., staff	☐	☐	☐	☐	☐	☐	☐

Overall, in your view, what influence has the REF had on researchers within the UK?

- ☐ (-3) extremely negative
- ☐ -2
- ☐ -1
- ☐ (0) neither negative nor positive
- ☐ 1
- ☐ 2
- ☐ (3) extremely positive

Do you expect your research output(s) to be submitted in REF 2021?

- ☐ Yes
- ☐ No

With respect to REF 2014, were you?

- ☐ Submitted
- ☐ Considered for submission, but not submitted
- ☐ Not considered for submission or involved in the process

To the best of your knowledge, approximately how many 3-4* outputs do you have completed or accepted that will be available for submission to REF 2021? (that is, outputs that are internationally excellent or world leading in originality and significance).

0 ... Unsure

Does your school plan to submit an impact case study based on your research for REF 2021?

- ☐ Definitely
- ☐ Likely
- ☐ Unsure
- ☐ Unlikely
- ☐ No

This section asks questions about your knowledge, awareness and understanding on the initial decisions published about REF 2021.

Where do you receive most of your information about the REF?

Please rank the following sources from most information to least information by dragging the statements below in the order that best reflects this where:

1 or top of list = most information

9 or bottom of list = least information

- _____ Social media sources
- _____ Head of Department or School
- _____ University-wide communications
- _____ Informal discussions with colleagues
- _____ Communications from HEFCE / UKRI / Research England
- _____ Academic mentor
- _____ Professional services within the school
- _____ REF website
- _____ Other

Some of the following statements are true about REF 2021 and some are false.
Which of the following statements are FACTUALLY CORRECT statements regarding initial decisions made about REF 2021?

	Incorrect	Correct
That all staff with significant responsibility for research will be returned to the REF (all in), provided they are independent researchers.	☐	☐
A minimum of one output will be required for each staff member with significant responsibility for research employed in the submitting unit on the census date.	☐	☐
All full time researchers with a significant responsibility for research will be required to submit 4 outputs.	☐	☐
The weightings for REF 2021 will be consistent with REF 2014.	☐	☐
All staff with significant responsibility for research are to be submitted, with a minimum of one output each, a maximum of five, and an average of 2.5 outputs.	☐	☐

Below are a list of recent confirmed decisions regarding REF 2021. ***Were you aware*** of the following developments?

	Not aware	Aware
<p>ELIGIBILITY FOR SUBMISSION: All staff with significant responsibility for research to be submitted, with a minimum of one output each, a maximum of five, and an average of 2.5 outputs (compared to 4 each in 2014)</p>	☐	☐
<p>APPROACH TO IMPACT: An increase in the weighting for impact from 20% to 25% of the overall exercise, with one impact case study per 20 full-time equivalent (FTE) staff</p>	☐	☐
<p>SELECTION OF OUTPUTS: Outputs may be submitted by both the institution employing the staff member on the census date and the originating institution</p>	☐	☐
<p>OPEN ACCESS: Certain outputs should be made open access to be eligible for submission to REF 2021</p>	☐	☐
<p>SUBMISSION OF INTERDISCIPLINARY OUTPUTS: Provisions within the REF panels to further support the assessment of interdisciplinary research outputs</p>	☐	☐

In your view, will these recent developments be **positive or negative** for the research community within the UK?

Please leave item blank if you do not know the answer.

In responding to this question, please refer back to the question above for reference as needed.

	(-3) extremely negative	-2	-1	(0) neither negative nor positive	1	2	(3) extremely positive
ELIGIBILITY FOR SUBMISSION	☐	☐	☐	☐	☐	☐	☐
APPROACH TO IMPACT	☐	☐	☐	☐	☐	☐	☐
SELECTION OF OUTPUTS	☐	☐	☐	☐	☐	☐	☐
OPEN ACCESS	☐	☐	☐	☐	☐	☐	☐
SUBMISSION OF INTERDISCIPLINARY OUTPUTS	☐	☐	☐	☐	☐	☐	☐

Do you feel that the expectations placed on you as a researcher by your school ***have changed in response to these recent developments in the*** following areas?

In responding to this question, please refer back to the question at the top of this page for reference as needed.

	No change	Change	I do not know
ELIGIBILITY FOR SUBMISSION	☐	☐	☐
APPROACH TO IMPACT	☐	☐	☐
SELECTION OF OUTPUTS	☐	☐	☐
OPEN ACCESS	☐	☐	☐
SUBMISSION OF INTERDISCIPLINARY OUTPUTS	☐	☐	☐

In light of these initial decisions regarding REF 2021, do you think that your school's expectations on you as a researcher ***should (may be reasonably expected to)*** change?

In responding to this question, please refer back to the question at the top of this page for reference as needed.

	Should not	Should change	I do not know
ELIGIBILITY FOR SUBMISSION	☐	☐	☐
APPROACH TO IMPACT	☐	☐	☐
SELECTION OF OUTPUTS	☐	☐	☐
OPEN ACCESS	☐	☐	☐
SUBMISSION OF INTERDISCIPLINARY OUTPUTS	☐	☐	☐

Do you feel that the expectations of research assessment nationally, the expectations of your university and the expectations of your school are the same?

☐ (0) not at all

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

☐ (6) the same

Do you feel that the changes to REF 2021 will affect the expectations placed on you as a researcher?

☐ No

☐ Yes

☐ Unknown

Finally, please think back for a moment to the REF 2014 exercise.

Based on your knowledge, the REF 2021 exercise...

	(0) not at all agree	1	2	(3) neither disagree nor agree	4	5	(6) strongly agree
will be more supportive than REF 2014	☐	☐	☐	☐	☐	☐	☐
will offer more flexibility in terms of researchers' outputs than REF 2014	☐	☐	☐	☐	☐	☐	☐
will encourage academics to produce a greater NUMBER of research publications than REF 2014	☐	☐	☐	☐	☐	☐	☐
will encourage academics to produce more QUALITY research than REF 2014	☐	☐	☐	☐	☐	☐	☐

The following section asks about your experiences with the REF and its implementation. Again, there are no right or wrong answers. We are interested in your perspective. Please answer based on your experience.

How much has the REF influenced your research activities OVER THE PAST 4 YEARS in each of the following areas?

	(0) not at all	1	2	3	4	5	(6) very much
QUANTITY of outputs	☐	☐	☐	☐	☐	☐	☐
QUALITY of outputs	☐	☐	☐	☐	☐	☐	☐
SCOPE (in terms of number of studies, number of participants)	☐	☐	☐	☐	☐	☐	☐
NOVELTY (in terms of research question)	☐	☐	☐	☐	☐	☐	☐
PRESTIGE OF OUTPUT (in terms of the journal, publisher, etc.)	☐	☐	☐	☐	☐	☐	☐
PUBLIC RELEVANCE (for culture / society / economic)	☐	☐	☐	☐	☐	☐	☐
CREATIVITY	☐	☐	☐	☐	☐	☐	☐
OPEN SCIENCE PRACTICES	☐	☐	☐	☐	☐	☐	☐
AUTHENTICITY (in terms of how the work is an authentic expression of your intellectual interests and agenda)	☐	☐	☐	☐	☐	☐	☐

Has this influence in each of the following areas been positive or negative?

	(-3) extremely negative	2	1	(0) neither negative nor positive	1	2	(3) extremely positive
QUANTITY of outputs	☐	☐	☐	☐	☐	☐	☐
QUALITY of outputs	☐	☐	☐	☐	☐	☐	☐
SCOPE (in terms of number of studies, number of participants)	☐	☐	☐	☐	☐	☐	☐
NOVELTY (in terms of research question)	☐	☐	☐	☐	☐	☐	☐
PRESTIGE OF OUTPUT (in terms of the journal, publisher, etc.)	☐	☐	☐	☐	☐	☐	☐
PUBLIC RELEVANCE (for culture / society / economic)	☐	☐	☐	☐	☐	☐	☐
CREATIVITY	☐	☐	☐	☐	☐	☐	☐
OPEN SCIENCE PRACTICES	☐	☐	☐	☐	☐	☐	☐
AUTHENTICITY (in terms of how the work is an authentic expression of your intellectual interests and agenda)	☐	☐	☐	☐	☐	☐	☐

I feel that, overall, my school...

	(0) not at all agree	1	2	3	4	5	(6) strongly agree
Thinks more about what I can do for them than how they can support me.	☐	☐	☐	☐	☐	☐	☐
Finds me important to the extent that it helps them to accomplish their goals.	☐	☐	☐	☐	☐	☐	☐
Would find someone else with the same skillset equally important.	☐	☐	☐	☐	☐	☐	☐
Helps me to feel capable and effective in my work.	☐	☐	☐	☐	☐	☐	☐
Encourages me to have a voice in what happens, and to feel free to be who I am.	☐	☐	☐	☐	☐	☐	☐
Encourages closeness and trust with others at work.	☐	☐	☐	☐	☐	☐	☐

Has your school undertaken these activities in preparation for REF 2021?

	No	Yes
Provided initial guidance on how you could personally contribute to REF 2021	☐	☐
Given you feedback about your current or expected contribution to REF 2021	☐	☐
Compared your potential contributions to REF 2021 with those of colleagues	☐	☐
Offered you promotions or other rewards for current or potential contributions to REF 2021	☐	☐
Indicated that you may expect a change of contract in advance of REF 2021	☐	☐
Indicated that your current role would be affected if you do not produce eligible outputs for REF 2021	☐	☐
Communicated the importance of research quality, environment and impact beyond their assessment in REF	☐	☐
Made you feel supported in your research activities	☐	☐
Provided instructions to change your research agenda	☐	☐
Listened to your views on how to approach REF 2021	☐	☐
Outlined concrete performance goals for your research	☐	☐
Aligned your workload to delivery of outputs and impact for REF 2021	☐	☐

Thinking more broadly, please evaluate how POSITIVE the beneficial qualities of the REF are for you.

Please leave item blank if you do not know the answer.

- ☐ (0) Not at all positive
- ☐ 1
- ☐ 2
- ☐ (3) neutral
- ☐ 4
- ☐ 5
- ☐ (6) extremely positive

Thinking more broadly, please evaluate how NEGATIVE the detrimental qualities of the REF are for you.

Please leave item blank if you do not know the answer.

- ☐ (0) Not at all negative
- ☐ 1
- ☐ 2
- ☐ (3) neutral
- ☐ 4
- ☐ 5
- ☐ (6) extremely negative

In a final section concerned with the REF, please consider the overarching purposes of the REF.

The REF has several official purposes. To what extent do you think it achieves these purposes?

Please leave item blank if you are not sure of the answer.

	(0) Does not achieve them at all	1	2	3	4	5	(6) Achieves them very well
To provide accountability for public investment in research	☐	☐	☐	☐	☐	☐	☐
To inform the selective allocation of funding for research	☐	☐	☐	☐	☐	☐	☐
To provide a rich evidence base to inform strategic national priorities	☐	☐	☐	☐	☐	☐	☐
To create a strong performance incentive for individuals and HEIs	☐	☐	☐	☐	☐	☐	☐
To provide benchmarking information	☐	☐	☐	☐	☐	☐	☐
To be used by universities and other bodies to inform decisions on resource allocation	☐	☐	☐	☐	☐	☐	☐

Regardless of how effective you think the REF is in achieving them, please rate whether the REF *should* hold these purposes?

Please leave item blank if you do not know the answer.

	(0) Absolutely should not	1	2	3	4	5	(6) Absolutely should
To provide accountability for public investment in research	☐	☐	☐	☐	☐	☐	☐
To inform the selective allocation of funding for research	☐	☐	☐	☐	☐	☐	☐
To provide a rich evidence base to inform strategic national priorities	☐	☐	☐	☐	☐	☐	☐
To create a strong performance incentive for individuals and HEIs	☐	☐	☐	☐	☐	☐	☐
To provide benchmarking information	☐	☐	☐	☐	☐	☐	☐
To be used by universities and other bodies to inform decisions on resource allocation	☐	☐	☐	☐	☐	☐	☐

I am

☐ 18-24 ... prefer not to say

How would you describe yourself?

☐ Female ... Prefer not to say

I would describe my ethnic origin as

☐ White - British ... Other

Do you have any caring responsibilities? (tick all that apply)

- ☐ None
- ☐ Primary carer of a child or children (under 18 years)
- ☐ Primary carer of a disabled child or children
- ☐ Primary carer or assistant for a disabled adult (18 years and over)
- ☐ Primary carer or assistant for an older person or people (65 years and over)
- ☐ Secondary carer (another person carries out main caring role)
- ☐ Prefer not to say

Have you taken any of the following types of leave since December 2014?

☐ Maternity leave ... Prefer not to say

The Equality Act 2010 considers a person disabled if:

You have a physical or mental impairment or disability that has lasted or is likely to last at least 12 months, and this condition or disability has a substantial long-term effect on your ability to carry out day to day activities.

Do you consider yourself disabled?

☐ I do not wish to reply ... No

APPENDIX 2: INTERVIEW GUIDANCE SCHEDULE

4 June 2018

We are interested in your perceptions of the REF which took place in 2014 and will again in 2021. We will firstly ask for a bit of background about you, followed by a series of questions about your attitudes towards the REF including your views on the effects of the REF for UK academics and the ways in which processes at your institution are affecting institutional and academic practice.

1. Introduction: demographics and background:

- Please introduce yourself and tell us a bit about your role (i.e. which department / school / service are you based? Reflect on how the structure of your institution works, how many layers, where you report to, how the line management works, etc.)
 - How long have you worked at institution X? Have you transitioned from an academic role? Were you involved in REF 2014, if so in what capacity? (I.e. have you worked in research management outside the UK? If so, what experiences echo the UK experience or challenge it?)
 - What is your involvement in REF?
 - What will be your involvement in REF 2021?
 - What do you feel is the main purpose of the REF?
 -

2. Your role and the REF:

- How would you describe your personal attitude towards the REF? Is it negative, positive or mixed? – (probe as to why)

3. REF 2021:

- What are you doing to embed REF activity at University of X?
- What are the challenges in implementing REF 2021?
- Do the processes used to prepare for and respond to the REF internally support university research management activity? If so in what way? (For example through the provision of research management information)?
- How does the REF relate to other aspects of research management??
- What changes (if any) have you made in your department / service to manage research activities for the REF, when did you make them, and how have they been received? (If necessary, prompt with; REF stock-take, feedback sessions, training, etc.)
- How do you see the impacts of changes made to the REF in terms of their potential benefits or costs?
- What do you see as the most significant changes to the exercise for 2021?

4. Diversity:

- To what extent do you feel that REF 2021 takes account of equality and diversity?
- Do you see E and D implications emerging from the REF or emerging from you institutions response to the REF? Are there any connections between the two?
 - o Prompts
 - Approach to researcher circumstances

- All staff with significant responsibility for research will be submitted to REF 2021
- Minimum of 1 output (REF 2014 minimum of 4)
- Environment statement
- Codes of practice
- Equality and Diversity Advisory Panel

5. Attitudes to the REF and the academic community:

Now I'd like to ask you about your view regarding the impact of REF on the academic community within the UK:

- What do you feel are the most positive aspects of the REF for UK academics, if any?
- What do you feel are the most challenging aspects of the REF for UK academics, if any?
- In your view, to what extent is the REF driving behaviours in universities, and if so, how? (i.e. increasing collaboration, changing practice?)
- How do you think the REF has influenced the quantity, quality and scope of the research submitted within the UK? (if at all)
- To what extent do you think the REF will influence the above?
- To what extent do you feel the academic community is engaged with changes to the REF?
- Do you perceive a shift in attitudes towards REF 2021? Is engagement increasing?

If necessary: prompt in order to ascertain what influences these effects. i.e. Career stage, gender, discipline, potential for impact.

6. Knowledge:

- How familiar do you feel with the recently published draft REF 2021 guidance? Do you feel that you understand the changes in the context of the on-going process of evaluations/consultations post REF 2014 submission?
- Are issues specific to specific circumstances? career stage / discipline etc.?

7. Reflections of REF 2014:

- If you were involved in REF 2014, has your perspective changed at all since the completion of REF 2014? What has specifically changed in your perspective if at all and at what stage in the REF cycle?
- Similarly, how prepared was your service / department for REF 2014?
- What were the main lessons learned (positive and negative)?
- Were you involved in making a response to the Stern Review? If so, how are post-Stern Review reforms to the REF being implemented?

8. Close:

- Do you have any other comments about how post-Stern reforms to the REF are being received and understood or any further general comments about the REF?

APPENDIX 3: RTRR INFORMATION SHEET

12 July 2018

You are being invited to take part in a research project. Before you decide whether or not to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

Overview

We are interested in your attitude towards the Research Excellence Framework (REF).

The Real-Time REF Review pilot, led by research teams at Cardiff University and the University of Sheffield, aims to test the feasibility of evaluating the perceptions, experiences and understanding of the REF among academics and managers across career stages, and in a range of departments and universities. This formative approach is new to REF evaluation and will be informed by a strong methodological grounding in social psychology and academic and applied research policy.

The REF is the world's largest national assessment exercise. It informs the allocation of approximately £2bn of public investment in research each year, provides accountability for public investment and evidences its benefits, while also informing our understanding and incentivising the quality of research in the UK.

Preparations for REF 2021 are now underway, with panels in place and extensive work being undertaken to inform and develop the criteria for the next exercise. Alongside this preparatory work, we are already giving thought to how we will evaluate REF 2021, taking into account our experience of extensive evaluation in 2014 and the specific changes made to the next exercise in 2021.

The pilot for a real-time REF review involves the collection of data from four universities from across the sector, academics from eight units of assessment, and approximately 5 members of management and professional staff with responsibility for managing the REF process in each institution. The results will be available by early 2019.

Interview details

Interviews should last 60 minutes and will take place at your institution or at a place of the interviewee's choosing. Interviews will be recorded solely for the purpose of analysis. No other use will be made of the recorded data without your written permission. We will conduct approximately 20 interviews in total across the four participating institutions.

Methodology

We would like to understand experiences of research active academics and their perceptions of the REF exercise and its implementation. This research is being conducted across four institutions and eight Units of Assessment. These include:

- Communication, Cultural and Media Studies, Library or Information Management
- Health, Dentistry, Nursing and Pharmacy
- Psychology, Psychiatry and Neuroscience
- Computer Science and Informatics
- Engineering
- Business and Management Studies
- Education
- History

Our approach includes a survey across these UOAs with researchers at the four institutions and a series of qualitative interviews with senior managers in each institution.

Do I have to take part?

Taking part in this project is entirely voluntary. If you do decide to take part you will be given this information sheet to keep (and be asked to sign a consent form) and you can still withdraw within two weeks of completion. You do not have to give a reason. If you wish to withdraw from the research, please contact Netta Weinstein using the information provided below.

Will my taking part in this project be confidential?

All the information that we collect about you during the course of the research will be kept strictly confidential and will only be accessible to members of the research team. You will not be able to be identified in any reports or publications. If you agree to us sharing the information you provide with other researchers (e.g. by making it available in a data archive) then your personal details will not be included unless you explicitly request this. Please refer to the informed consent form for more information.

Interview outcomes

The results of the research project will form the basis for scholarly publications and presentations. National bodies and organisations may also benefit through the publishing of material relating to this research. The outcomes of this study will be reported on to Research England with the aim to inform and influence UK higher education policy.

Data Protection and Confidentiality

Cardiff University, University of Sheffield and UKRI are Data Controllers in common for the information you provide. Your data will be processed in accordance with General Data Protection Regulation 2016 (GDPR) and the use of the data is a task in the public interest. All information collected will be anonymised and kept strictly confidential. Personal data including demographic information such as gender, ethnicity and age inform the research. Ethnicity is not only personal but also sensitive personal data under data protection legislation. We are required by law to ensure that we protect this information. Personal and sensitive personal data will be stored separately to interview data and will not be linked in any way. Your data will be viewed by the researcher/research team. The lead researcher will take responsibility for data destruction and anonymised data will be stored for at least ten years after publication, in line with UKRI Common Principles on Data Policy.

Data Protection Rights

You have the right to access information held about you. Your right of access can be exercised in accordance with the General Data Protection Regulation. You also have other rights including rights of correction, erasure, objection, and data portability. For more details, including the right to lodge a complaint with the Information Commissioner's Office, please visit www.ico.org.uk. Questions, comments and requests about your personal data can also be sent to the relevant Data Protection Officers; for UKRI dataprotection@ukri.org. For Sheffield, you can contact a.cutler@sheffield.ac.uk and for Cardiff, email inforequest@cardiff.ac.uk or write to the data protection officer: Data Protection Officer, Assurance Service, Cardiff University, Friary House, Greyfriars Road, Cardiff, CF10 3AE.

How will my personal information be held securely?

Anonymised transcripts will be securely held in a database and will be retained by the research team and UKRI. We will take every reasonable step to ensure that participant information is protected from loss and unauthorised use. These precautions include appropriate physical security, password controlled access to computer systems, and the use of encryption as appropriate.

Who is conducting the research?

The research is being conducted by researchers Dr. Netta Weinstein and Prof. Geoff Haddock, Cardiff University and Dr. Jennifer Chubb and Prof. James Wilsdon, University of Sheffield.

Who is supporting the research?

The research has been co-funded by the Universities of Sheffield, Cardiff and Research England.

Does the survey have ethical clearance?

The project has been vetted for ethical compliance under the University of Cardiff's ethical clearance procedures for research projects. This includes consideration of Data Protection and Freedom of Information compliance.

Who can I talk to about the project?**Dr. Netta Weinstein**

School of Psychology,
Cardiff University, Cardiff, CF10 3AT
Email: WeinsteinN@cardiff.ac.uk

Prof. James Wilsdon

Faculty of Social Sciences,
University of Sheffield, Sheffield, S10 2TN
Email: j.wilsdon@sheffield.ac.uk

Psychology Ethics Committee Secretary

School of Psychology,
Cardiff University
70 Park Place,
Cardiff, CF10 3AT
Email: psychethics@cf.ac.uk

Thank you for taking part in this project.

APPENDIX 4: RTRR INFORMED CONSENT FORM

Informed consent form

Real-Time REF Review Pilot Study

I have read and understood the study information sheet dated 12 July 2018.

I understand that I am being invited to participate in a pilot to explore a longitudinal, real-time evaluation of the 2021 Research Excellence Framework (REF) conducted by researchers Dr. Netta Weinstein and Prof. Geoff Haddock, Cardiff University and Dr. Jennifer Chubb and Prof. James Wilsdon, University of Sheffield.

I understand that the purpose of this research study is to understand experiences of research active academics and managers about their perceptions of the REF and its implementation. I understand that should I wish to ask questions about the project prior to taking part in the interview, this option is available to me.

I understand that I will be providing information at an interview in which I will be asked questions about my background and role, my involvement in the REF and my personal attitudes towards it. I understand I will be asked to describe my attitudes towards REF 2021 and the processes, structures and changes which may be being implemented by my institution. I understand I will be asked about issues of equality and diversity with respect to the REF, my views on academic attitudes to the REF and resulting behaviours, in addition to being asked about my knowledge of REF and reflections on REF 2014.

I understand that I may decline to answer any questions and that I may withdraw my agreement to participate at any time during the interview, or for up to fourteen days after completion of the interview. If I decide to withdraw my agreement to participate, I understand that I may indicate whether or not the data collected up to that point can be used in the study – in such an instance any information I do not want used, will be destroyed immediately.

I understand that the interview will be audio recorded, and this recording will later be transcribed, possibly by a professional transcription service with a confidentiality agreement in place. I understand that I will have an opportunity for two weeks to comment on the written record once it has been produced for accuracy only. I understand that no other use will be made of the recordings without my written permission and that interviews will be recorded solely for the purpose of analysis. I understand that the data will be handled and stored in a manner in which ensures that only the researcher can identify me as their source. Therefore personal details will be held electronically on a password protected or encrypted area and hard copies will be stored in a locked filing cabinet. I understand that I am being assured confidentiality in any written report or oral presentation that draws upon data from this research study, and that none of my comments, opinions, or responses will be attributed to me, nor will the identity of anyone discussed in the interview be disclosed.

I understand that the data will be held for up to 10 years following publications which emerge from this research and will be used for presentations, reports, and papers. I understand that the information provided by me will be anonymous, in that it does not identify me by name or contact information. I also understand that I may provide information that, if compiled, might be specific to me, such as my school, gender, and age, years since PhD. I understand that if I am worried that providing any piece of information will identify me, I have the option to not report this information.

Data Protection and Confidentiality

Cardiff University, University of Sheffield and UKRI are Data Controllers in common for the information

you provide. Your data will be processed in accordance with General Data Protection Regulation 2016 (GDPR) and the use of the data is a task in the public interest. All information collected will be anonymised and kept strictly confidential. Personal data including demographic information such as gender, ethnicity and age inform the research. Ethnicity is not only personal but also sensitive personal data under data protection legislation. We are required by law to ensure that we protect this information. Personal and sensitive personal data will be stored separately to interview data and will not be linked in any way. Your data will be viewed by the researcher/research team. The lead researcher will take responsibility for data destruction and anonymised data will be stored for at least ten years after publication, in line with UKRI Common Principles on Data Policy.

Data Protection Rights

You have the right to access information held about you. Your right of access can be exercised in accordance with the General Data Protection Regulation. You also have other rights including rights of correction, erasure, objection, and data portability. For more details, including the right to lodge a complaint with the Information Commissioner's Office, please visit www.ico.org.uk. Questions, comments and requests about your personal data can also be sent to the relevant Data Protection Officers; for UKRI dataprotection@ukri.org. For Sheffield, you can contact a.cutler@sheffield.ac.uk and for Cardiff, email inforequest@cardiff.ac.uk or write to the data protection officer: Data Protection Officer, Assurance Service, Cardiff University, Friary House, Greyfriars Road, Cardiff, CF10 3AE.

How will my personal information be held securely?

Anonymised transcripts will be securely held in a database and will be retained by the research team and UKRI. We will take every reasonable step to ensure that participant information is protected from loss and unauthorised use. These precautions include appropriate physical security, password controlled access to computer systems, and the use of encryption as appropriate.

Which organisations are undertaking the research and survey?

Researchers at Cardiff University and the University of Sheffield are administering the survey "The Real-Time REF Review", which is funded in part by Research England and in part by the two academic institutions.

Additional queries

If you have any queries about the project and the survey, please do not hesitate to contact Dr Netta Weinstein (WeinsteinN@cardiff.ac.uk, Cardiff University) or Charlotte Lester (Charlotte.Lester@re.ukri.org, Research England).

What should I do if I am not happy about this research?

If you have a complaint, or you are unhappy about this research, or any conduct related to this study, please contact Dr Netta Weinstein (WeinsteinN@cardiff.ac.uk; Cardiff University) or Charlotte Lester (Charlotte.Lester@re.ukri.org, Research England). If you wish to raise concerns independently of the study team please contact resgov@cardiff.ac.uk.

I understand that this research study has been reviewed and received ethics approval following the procedures of the School of Psychology at Cardiff University.

Do you agree to participate in the study?

Yes ____ No ____

Name of participant: _____

Signature of participant: _____

Date: _____

Name of researcher: _____

Signature of researcher: _____

Date: _____

Please do not hesitate to contact us via the details below if you have any questions or concerns.

Dr. Netta Weinstein

School of Psychology,
Cardiff University, Cardiff, CF10 3AT
Email: WeinsteinN@cardiff.ac.uk

Prof. James Wilsdon

Faculty of Social Sciences,
University of Sheffield, Sheffield, S10 2TN
Email: j.wilsdon@sheffield.ac.uk

Psychology Ethics Committee Secretary

School of Psychology,
Cardiff University
70 Park Place,
Cardiff, CF10 3AT
Email: psychethics@cf.ac.uk

APPENDIX 5: INTERVIEW CODING

Name	Sources	References
AFFECT AND WELLBEING	20	99
AUDIT CULTURE	7	20
AUTHENTICITY	13	28
BEHAVIOURS	1	1
INFLUENCE	19	44
NO INFLUENCE	5	10
BENEFIT OF THE REF	4	5
BURDEN	12	61
CAREER STAGE OF ACADEMICS	2	2
ECRS	14	34
FRACTIONALSTAFF	1	2
LECTURERS	2	2
PROFS	4	5
CHALLENGES FOR EMBEDDING REF	1	4
CULTURE	5	12
LACK OF CLARITY UNCERTAINTY	9	13
LACK OF FEEDBACK	3	5
LATENESS OF INFORMATION	11	17
METRICS	12	34
PAPERWORK WORKLOAD	8	24
RESOURCES	3	4
SYSTEMS	3	5
TIME	8	12
COMPARISONS TO OTHER COUNTRIES	5	8
CONCERNS	2	7
CREATIVITY	2	2
DISCIPLINARY CULTURES	11	24
DIVERSITY	21	88
ATHENA SWAN	3	5
EFFECT ON BLUE SKIES	5	10
EFFECT ON PERFORMANCE AND HIRING	11	18
NEG	4	7
POS	4	6
EVOLUTION OF REF	9	19
GAME-PLAYING	17	53
IMPACT AGENDA	20	108
IMPACT ON QUALITY AND SCOPE	18	39
INSTITUTIONAL APPROACH	18	65
KNOWLEDGE OF ACADEMICS	14	34
KNOWLEDGE OF MANAGERS	16	50
LESSONS	16	43
MARKETISATION	9	15
OPEN ACCESS	2	2
OTHER PRESSURES IN HE	4	7
PEER REVIEW	8	20
PERCEIVED ATTITUDES OF AC COMM TO REF	0	0
DON'T KNOW	2	5
MIXED	12	32

NEGATIVE	20	90
POSITIVE	17	56
PERSONAL ATTITUDE	0	0
AMBIVALENCE	2	3
MIXED	11	22
NEGATIVE	16	63
POSITIVE	20	113
REPUTATION	4	7
QR	10	21
READINESS FOR REF	2	5
REF 2014 INVOLVEMENT	13	18
REF 2021 ROLE	1	2
DIRECTOR OF RESEARCH	6	18
HOD	2	5
IMPACT DIRECTOR	1	5
IMPACT OFFICER	1	3
PRAGMATIC	2	2
PVCR	2	3
REF ENV MANAGER	1	6
REF LEAD	2	6
REF Manager	2	8
RESEARCH DIRECTORATE	2	4
SCHOOLDEPT HEAD	2	5
VC	1	4
REF 2021 TARGETED ACTIVITIES BY AREA	0	0
ENV	10	12
GENERAL	12	47
IMPACT	18	64
OUTPUTS	17	51
REF PURPOSE	0	0
ACCOUNTABILITY	12	19
ALLOCATION	14	17
BENCHMARKING	10	19
EVIDENCE	4	5
OTHER	10	13
PERFORMANCE INCENTIVE	5	5
RESEARCH CULTURE	3	3
REFLECTIONS OF REF 2014	17	43
REFLECTIONS OF STERN	15	43
SIGNIFICANT CHANGES TO REF	1	2
ALL STAFF	14	35
NEG	1	1
OUTPUT NO	1	1
POS	1	1
IMPACT	12	29
INTER	6	9
OPEN ACCESS	7	26
PAPERS	16	32
STRIKE	4	10
SUGGESTED IMPROVEMENTS TO REF	15	48
SUPPORTIVE ENVIRONMENT	15	44
INTEGRITY	5	9
UNINTENDED CONS	7	16

APPENDIX 6: RESEARCH TEAM

Dr Netta Weinstein is a Senior Lecturer in the School of Psychology at Cardiff University. She obtained her PhD in Clinical Psychology from the University of Rochester in New York, U.S.A., in 2010 with a research emphasis of Social and Motivational Psychology. Her first academic post was as a Lecturer and then Senior Lecturer at the University of Essex, in 2011. She has written extensively about human motivation, well-being, and behaviour. Her research has received media coverage nationally and internationally, resulting in popular magazine reviews (e.g., *Scientific American*, *CNBC*; *Telegraph*), radio (e.g., *BBC*, *NPR*), and TV (e.g., *ITV*) interviews.

Professor Geoffrey Haddock is Professor of Social Psychology at Cardiff University. His primary area of interest is the psychology of attitudes and attitude change. His research has appeared in social psychology's most prestigious outlets (e.g., *Journal of Personality and Social Psychology*, *Journal of Experimental Social Psychology*, *Personality and Social Psychology Bulletin*); he has served as Associate Editor for the latter two journals. He is currently a member of the Economic and Social Research Council Grants Assessment Panel. He is a Fellow of the Society of Experimental Social Psychology and the Society of Personality and Social Psychology.

Dr Jenn Chubb is a Postdoctoral Research Associate at the University of Sheffield working on research policy and responsible metrics through a pilot study exploring academic attitudes towards research evaluation and metrics. Jenn's PhD from the University of York explored academic views on the philosophical relationship between 'impact' and epistemic responsibility in the UK and Australia. She has published research papers in *Higher Education Research and Development*, *Studies in Higher Education*, *British Politics* as well as public pieces for the *Conversation* and *Times Higher*.

Professor James Wilsdon is Professor of Research Policy at the University of Sheffield. He is also vice-chair of the International Network for Government Science Advice (INGSA). From 2013-2017, he led the UK's Campaign for Social Science, and from 2014-2015, he chaired an independent government review of the role of metrics in the management of the UK's research system, published as *The Metric Tide*. Previously, he worked as Professor of Science and Democracy at the University of Sussex (2011-2015); Director of Science Policy at the Royal Society (2008-2011); Head of Science and Innovation at the think tank Demos (2001-2008). In 2015, he was elected a Fellow of the Academy of Social Sciences, and he now chairs its Policy Working Group.