Summary

- Defining research culture

- Research culture is important for the quality and outcomes of research

- Pan-UKRI work on research culture

- Research England's approach to enhancing research culture

- REF 2029 and research culture

Summary

- Defining research culture

- Research culture is important for the quality and outcomes of research

- Pan-UKRI work on research culture

- Research England's approach to enhancing research culture

- REF 2029 and research culture

Defining research culture

"Research culture encompasses the behaviours, values, expectations, attitudes and norms of our research communities. It influences researchers' career paths and determines the way that research is conducted and communicated. "

Royal Society

- People: Redefining what it means to work in R&D in the 21st Century
  - Attracting enough people with the right skills, across all roles
  - Dynamic, varied and sustainable career paths
  - Great leadership skills at all levels
- Culture: Co-creating a vision of the culture we want to see in the sector
  - A positive, inclusive and respectful culture
  - Recognition and reward of all the people and activities that lead to excellent research and innovation
  - Bullying and harassment is no longer an issue in the sector
  - People feel confident to engage with and contribute to research and innovation
  - Frameworks, assessment and incentives at an institutional level that encourage positive behaviours and support an inclusive culture
- Talent: Renewing the UK's position as a global leader in R&D by attracting, retaining and developing talented people
  - People from all backgrounds are inspired into careers in research and innovation by the UK's talent offer
  - The UK will be the most exciting place in the world for top research and innovation talent

Department for
Business, Energy
& Industrial Strategy

R&D People and Culture Strategy

People at the heart of R&D

July 2021

UKRI Research England

https://www.gov.uk/government/publications/research-and-development-rd-people-and-culture-strategy

Research England Development Fund

Proposals that seek to improve research culture, aligned with the aims of the government's research and development people and culture strategy. Potential areas of activity include, but are not limited to:

- improving access to and participation in research, including postgraduate research study, for people from currently underrepresented groups
- furthering open research practices
- improving research conduct and reproducibility
- tackling bullying and harassment
- improving research leadership skills across all career stages
- creating routes for collaboration and exchange with businesses, third sector organisations and government
- securing and supporting the careers of researchers and associated professions
- diversifying recruitment, reward and recognition approaches at all career stages
- delivering new approaches to public dialogue and community-led research.

Research culture:
The behaviours and values that enhance research culture

How research is managed and undertaken

- **Effective research governance and management**
  The standards, structures and policies to ensure good research practice, integrity and equity
- **Achieving the highest levels of research integrity**
  Undertaking research with integrity, honesty and rigour to ensure confidence in the methods and results
- **Actively promoting sustainability**
  Minimising the impact of research on environmental, social and economic resources

How people are supported

- **Employment and conditions**
  The recruitment, employment and progression of a diverse research workforce
- **Recognition and assessment**
  Broadening what is recognised and valued as contributing to the research endeavour
- **Embedding professional and career development**
  Integrating professional and career development into all career stages
- **Ensuring inclusive and healthy working environments**
  Environments where all individuals are free to be themselves, included feel well supported and confident to express their views

How research ensures value

- **Taking an open approach to research**
  Undertaking research that is openly accessible, collaborative and increases research integrity bringing public value and innovation
- **Communicating research**
  Making research and knowledge available and accessible to all
- **Realising impact**
  The translation of research into value for communities, society, culture and economy

How individuals engage with others

- **Providing effective leadership and management**
  The performance and line management of individuals
- **Empowering individuals**
  Individuals having ownership and responsibility for their own careers
- **Building collegiality**
  The creation of healthy, inclusive, supportive communities

https://www.ukri.org/publications/research-initiatives-in-the-uk-report/

Summary

- Defining research culture

- Research culture is important for the quality and outcomes of research

- Pan-UKRI work on research culture

- Research England's approach to enhancing research culture

- REF 2029 and research culture

Research culture is a determinant of research quality and outcomes

- Four examples
  - Gender diversity and research performance
  - Open research and research quality
  - Psychological Safety and research performance
  - Characteristics of high-performing research units

Gender-diverse teams produce more novel and higher-impact scientific ideas

Yang Yang, Tanya Y. Tian, Teresa K. Woodruff, +1, and Brian Uzzi ✉ Authors Info & Affiliations

Analysis of 6.6 million articles published across the medical sciences since 2000

Research England

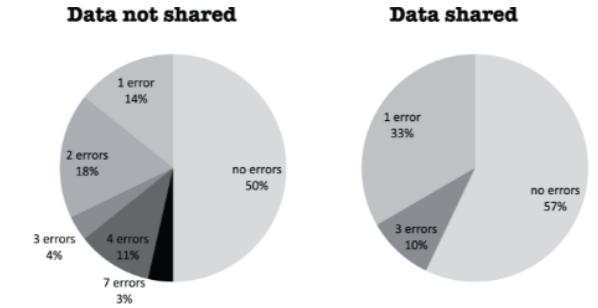https://www.pnas.org/doi/full/10.1073/pnas.2200841119

PLOS ONE
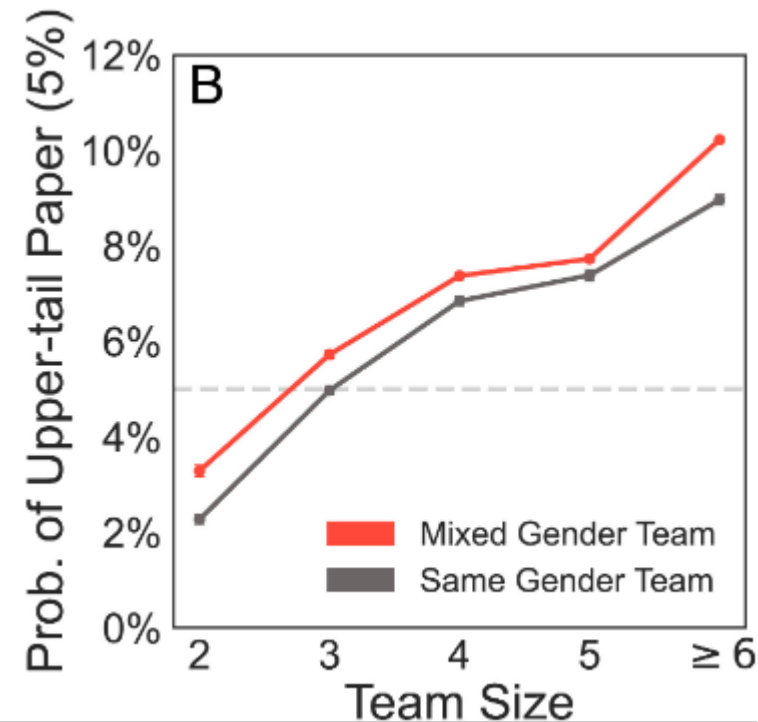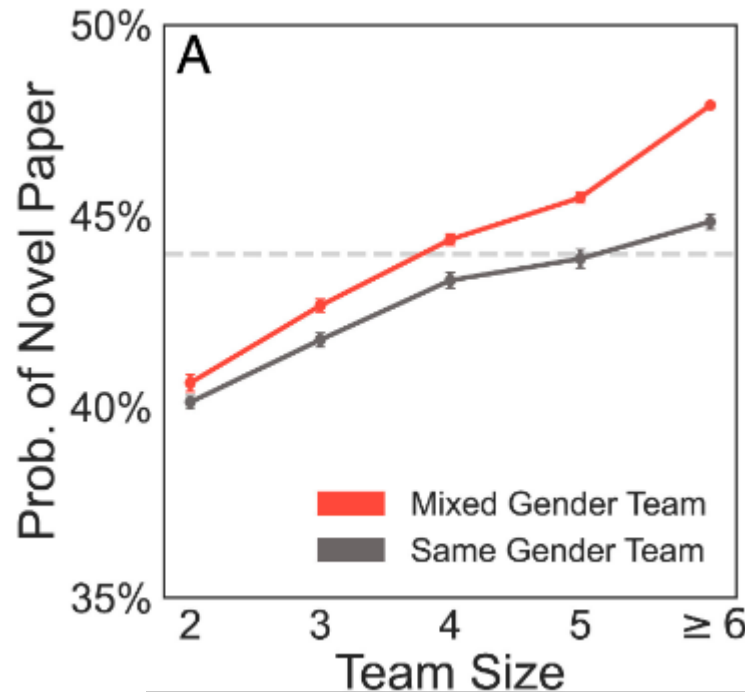
Willingness to Share Research Data Is Related to the Strength of the Evidence and the Quality of Reporting of Statistical Results
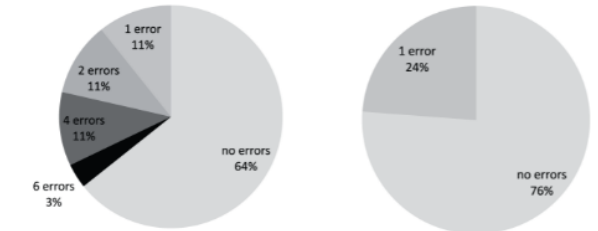
Jelte M. Wicherts, Marjan Bakker, Dylan Molenaar

Data not shared   **Data shared**

All reporting errors:

Data not shared: no errors 50%, 1 error 14%, 2 errors 18%, 3 errors 4%, 4 errors 11%, 7 errors 3%

Data shared: no errors 57%, 1 error 33%, 3 errors 10%
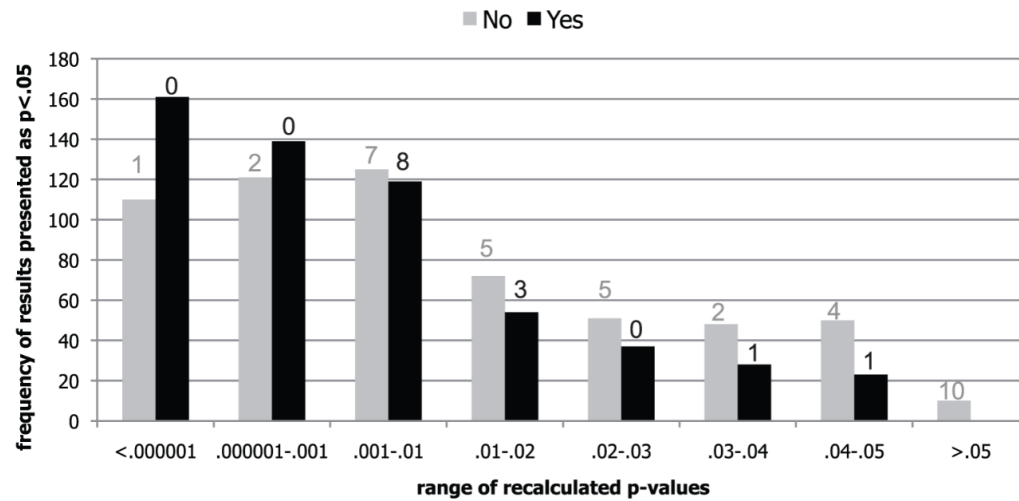
Large reporting errors (2nd decimal):

Data not shared: no errors 64%, 1 error 11%, 2 errors 11%, 4 errors 11%, 6 errors 3%

Data shared: no errors 76%, 1 error 24%

Reporting errors concerned with p < .05:

Data not shared: no errors 75%, 1 error 18%, 2 errors 4%, 3 errors 3%

Data shared: no errors 100%

Legend: ☐ No ■ Yes

Chart — frequency of results presented as $p < .05$ vs range of recalculated p-values:

range of recalculated p-values	No	Yes
<.000001	1	0
.000001–.001	2	0
.001–.01	7	8
.01–.02	5	3
.02–.03	5	0
.03–.04	2	1
.04–.05	4	1
>.05	10	

https://doi.org/10.1371/journal.pone.0026828

Exploring the psychological safety of R&D teams: An empirical analysis in Taiwan

Chi-Cheng Huang and Pin-Chen Jiang

Show author details ⌄

Article   Metrics

Get access   ➔ Share   ❝❝ Cite   Rights & Permissions
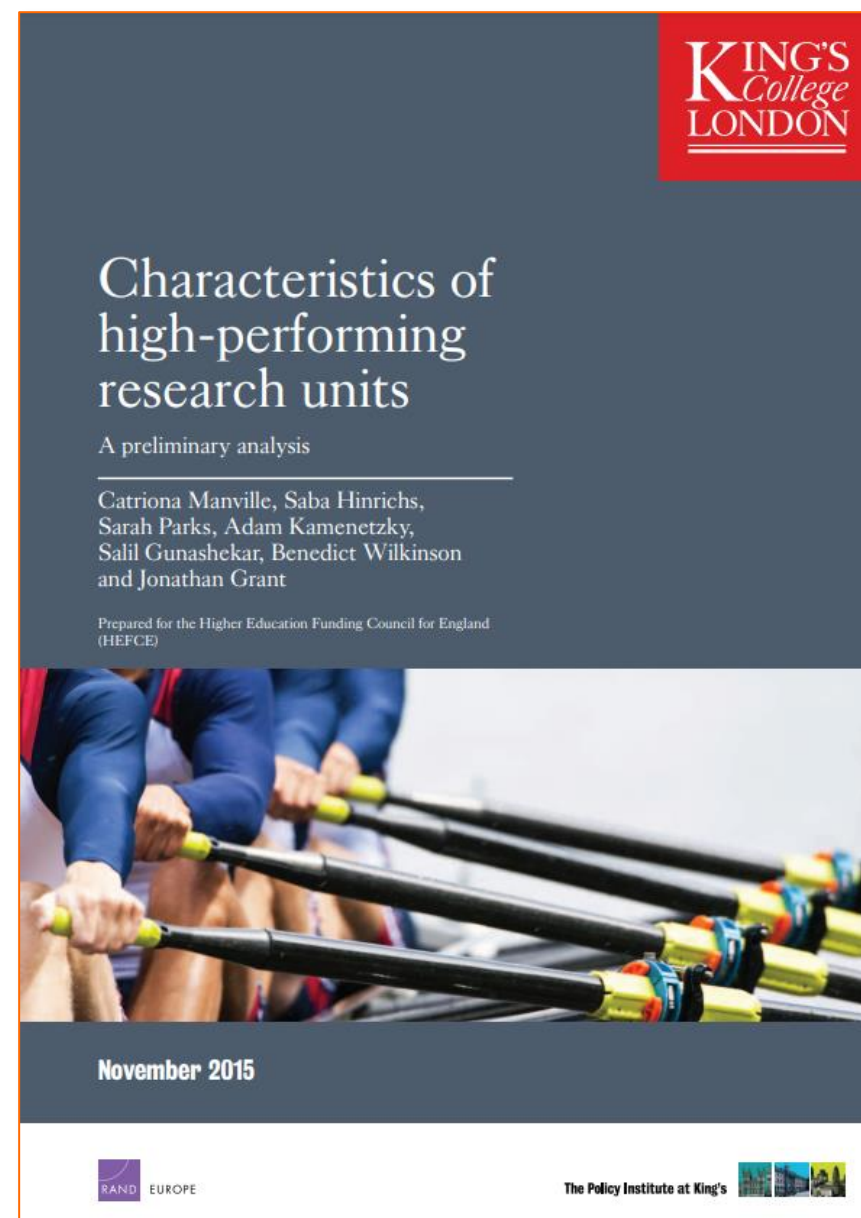
Abstract

R&D is uncertain work that involves the knowledge, skills, or perspectives of team members. When R&D teams develop new products or technologies, the need for psychological safety within the teams is increasingly emphasized. If R&D team members perceive that team psychological safety exists, they may be willing to offer knowledge or perspectives during the development process because they are not afraid of being rejected or embarrassed for speaking up. However, the application of the theory of team psychological safety to R&D teams is considerably limited. This study explores the antecedents and consequences of team psychological safety in R&D teams. Our research model is assessed using data from a sample of 245 team members from sixty technology R&D teams at a leading R&D institute and is analyzed using the partial least squares (PLS) method. The results of this study suggest that: (1) social capital exerts a positive and significant effect on team psychological safety; (2) team psychological safety has a positive and significant impact on team performance; (3) knowledge sharing and team learning positively and significantly mediate the relationship between team psychological safety and team performance; and (4) knowledge sharing exhibits a positive and significant effect on team learning. This study also discusses the implications of team psychological safety for R&D teams.

https://doi.org/10.5172/jmo.2012.18.2.175

Top 1.5% of submissions to REF 2014

Box H: Observations about characteristics of units with high research performance

A. In high-performing research units more of the staff have PhDs, professorial positions, international experience and externally funded salaries

B. High-performing research units prioritise recruiting the best and retaining them

C. High-performing research units provide training and mentorship programmes to develop staff, while offering rewards for strong performance

D. Staff within high-performing research units display a distinct ethos of social and ethical values

E. The leaders of high-performing research units have earned 'accountable autonomy' within their higher education institution

F. High-performing research units have strategies that are real, living and owned, and more than merely a written document

G. High-performing research units receive more income per researcher than the average research unit

H. High-performing research units enable and encourage researchers to initiate collaborations organically as opposed to using a top down approach

KING'S College LONDON

Characteristics of high-performing research units

A preliminary analysis

Catriona Manville, Saba Hinrichs, Sarah Parks, Adam Kamenetzky, Salil Gunashekar, Benedict Wilkinson and Jonathan Grant

Prepared for the Higher Education Funding Council for England (HEFCE)

November 2015

RAND EUROPE   The Policy Institute at King's

UKRI Research England

https://www.rand.org/pubs/external_publications/EP67130.html

Summary

- Defining research culture

- Research culture is important for the quality and outcomes of research

- Pan-UKRI work on research culture

- Research England's approach to enhancing research culture

- REF 2029 and research culture

UKRI and research culture

- Résumé for Research and Innovation – R4RI (Narrative CV)
- 'Good practice exchange'

Résumé for Research & Innovation

Prompts researchers to frame their contributions…

…to the generation and flow of new ideas, hypotheses, tools or knowledge

e.g. skills acquired from past research projects, key outputs such as data sets, software, and research and policy publications.

…to the research community

e.g. across disciplines, institutions, and / or countries, commitments such as editing, reviewing and committee work, positions of responsibility, aiding improvement of research integrity or culture, or strategic leadership in influencing a research agenda.

…to the development of others and maintenance of effective working relationships

e.g. management, supervision, or mentoring critical to the success of a team or its members, or strategic leadership in shaping the direction of a team, organisation, company or institution.

…to broader research/innovation-users and audiences towards wider societal benefit

e.g. engagement across the public and/ or private sectors or with the wider public, research which has contributed to policy development or public understanding, other impacts across research, policy, practice and business, and other research users.

UK Research and Innovation

https://www.ukri.org/apply-for-funding/how-to-apply/resume-for-research-and-innovation-r4ri-guidance/

Review of UK Research Culture initiatives

- Evidence to inform development of 'good practice exchange'

- Catalogues and analyses 347 initiative across the HE sector

- Key findings:
  - HE focus
  - Collaboration
  - Passive sharing
  - Lack of evaluation

Research Culture Initiatives in the UK

vitae • UK RN • SHIFT INSIGHT • UKRI UK Research and Innovation

UKRI Research England

https://www.ukri.org/publications/research-initiatives-in-the-uk-report/

Developing a 'good practice exchange'

- Build on initiatives report

- Options to consider:
  - Network of networks
  - Funding for evaluation activities
  - Forum(s) for sharing practice

UKRI Research England

Summary

- Defining research culture

- Research culture is important for the quality and outcomes of research

- Pan-UKRI work on research culture

- Research England's approach to enhancing research culture

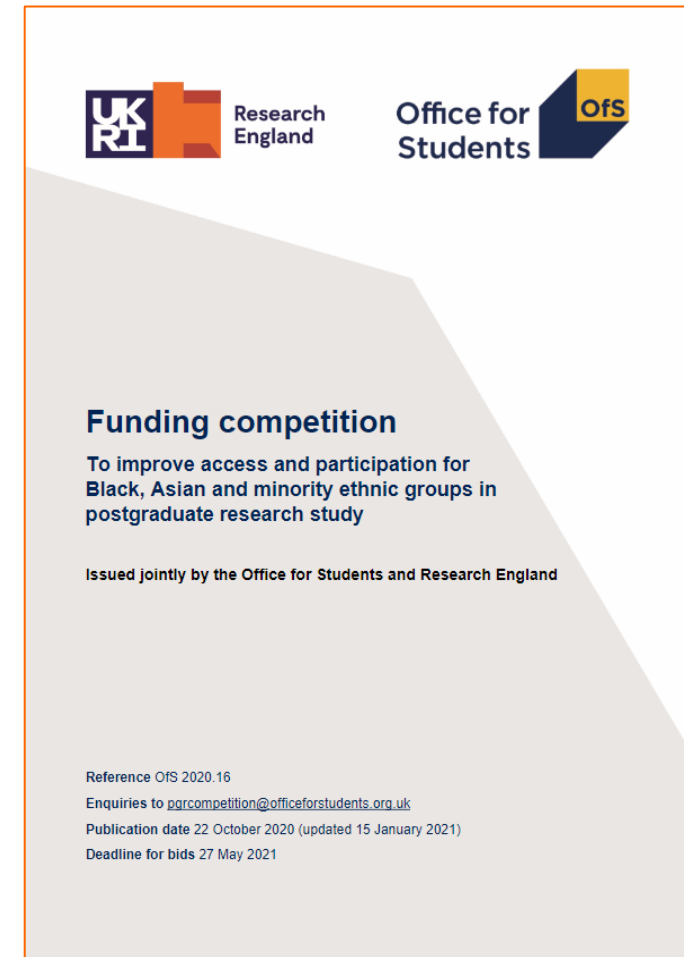- REF 2029 and research culture

Research England approach to enhancing research culture

- Funding for research culture initiatives (Enhancing Research Culture Fund)

- Support for innovative approaches with sector-wide impact (including via Research England Development (RED) Fund)

- Alignment of incentives in REF 2029

Enhancing research culture fund

- £30M ring-fenced from block grant funding from academic year 2021/2022

- Allocation based on broad staff volume measure

- Initiating or scaling up activity

UKRI Research England

Improving access and participation for Black, Asian and minority ethnic groups in PGR study

- £8M fund
- Joint with Office for Students
- Trialling new or scaling up existing approaches
- Sharing learning and effective practice
- Programme level evaluation
- 13 projects funded (including the Shine Scholars programme at the University of Surrey)

Funding competition

To improve access and participation for Black, Asian and minority ethnic groups in postgraduate research study

Issued jointly by the Office for Students and Research England

Reference OfS 2020.16
Enquiries to pgrcompetition@officeforstudents.org.uk
Publication date 22 October 2020 (updated 15 January 2021)
Deadline for bids 27 May 2021

https://www.ukri.org/what-we-do/browse-our-areas-of-investment-and-support/widening-participation-in-postgraduate-research/

Research England Development Fund

Proposals that seek to improve research culture, aligned with the aims of the government's research and development people and culture strategy. Potential areas of activity include, but are not limited to:

- improving access to and participation in research, including postgraduate research study, for people from currently underrepresented groups

- furthering open research practices

- improving research conduct and reproducibility

- tackling bullying and harassment

- improving research leadership skills across all career stages

- creating routes for collaboration and exchange with businesses, third sector organisations and government

- securing and supporting the careers of researchers and associated professions

- diversifying recruitment, reward and recognition approaches at all career stages

- delivering new approaches to public dialogue and community-led research.

TALENT project

- Enhancing the role and value of technicians and other skilled professionals that enable research

- 4-year programme led by Nottingham University for Midlands Innovation

    - Build understanding

    - Raise the profile of technical careers

    - Training and development opportunities

    - Advocate for and support technical careers

The TALENT Commission
Technical skills, roles and careers in UK higher education and research

https://www.mitalent.ac.uk/
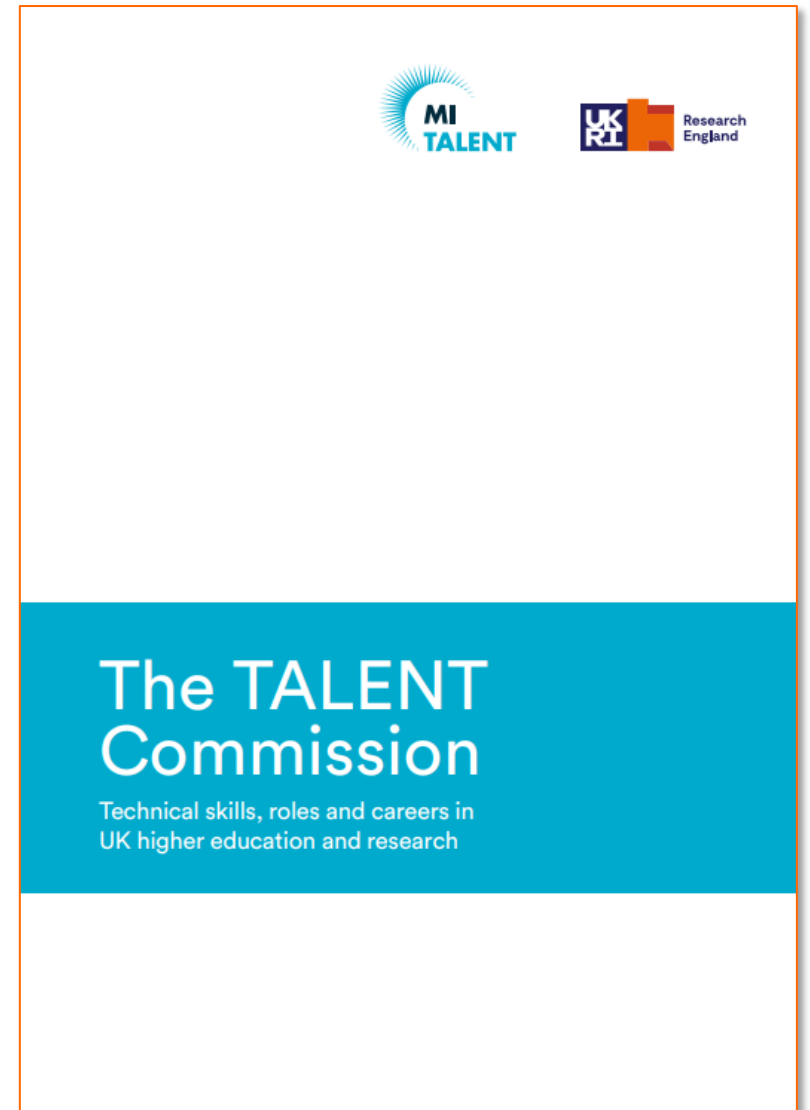
Prosper

- Supporting the career development of postdocs (University of Liverpool with Manchester and Lancaster)

- The 3 pillars of prosper
  - Co-creation with employers
  - Democratisation of access
  - Recognising the role of principal investigators

https://www.liverpool.ac.uk/researcher/prosper/prosper-portal/

UK Reproducibility Network – Open Research Programme

Action Research on Research Culture

- Narrative CVs in recruitment
- Approaches to researcher development
- Understanding precarity

https://www.arrc.group.cam.ac.uk/
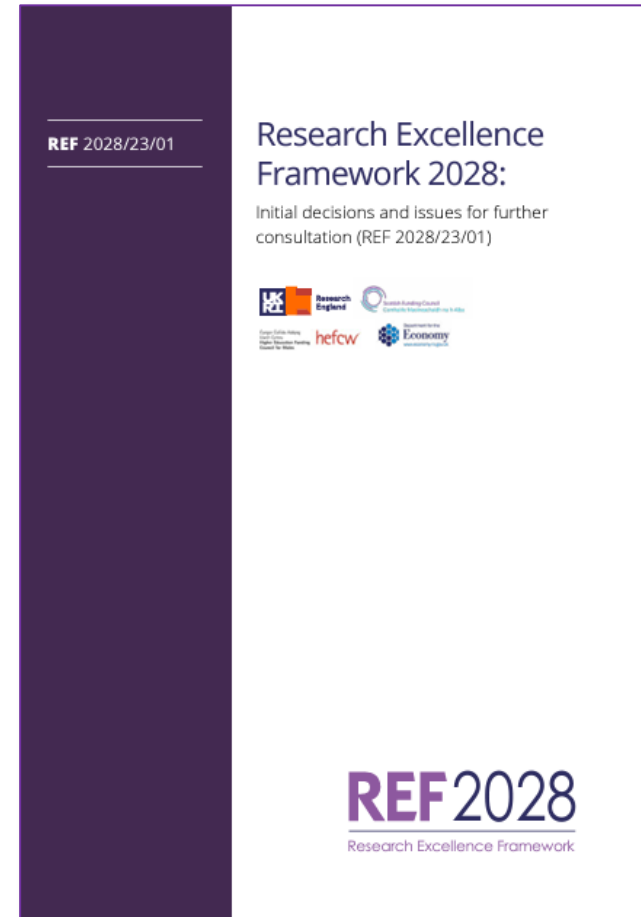
Summary

- Defining research culture

- Research culture is important for the quality and outcomes of research

- Pan-UKRI work on research culture

- Research England's approach to enhancing research culture

- REF 2029 and research culture

Aligning incentives for a positive research culture

- Focus on institutions, departments and units
  - Calculation of volume measure
  - Removal of min/max output requirements
  - Broadening output eligibility
- Reducing emphasis on research outputs
- Expanded 'People, Culture and Environment' element
- Encouraging and rewarding a wider range of research outputs
- Broadening range of impacts

REF 2028/23/01

Research Excellence Framework 2028:

Initial decisions and issues for further consultation (REF 2028/23/01)

REF 2028
Research Excellence Framework

REF 2029
Research Excellence Framework

Further decisions announced in December 2023

- The next REF will be REF 2029, with results published in December 2029

- Using HESA Data to determine the Volume Measure. There will be no fundamental changes to the plans outlined in the Initial Decisions document

- Breaking the link between individual staff members and unit submissions, including removing minimum and maximum outputs that can be submitted from specific individuals. The underlying principle outlined in the Initial Decisions will be maintained, however further work is needed to ensure the balance of benefit and the minimisation of unintended consequences.

- Institutions may submit any output where there is a demonstrable and substantive link to the submitting institution within the REF period. Further work is needed to develop our guidance on how institutions provide evidence of demonstrable and substantive links.

- The proposal for co-authored outputs outlined in Initial Decisions is confirmed. Outputs sole-authored by PGR students, including PhD theses, will not be eligible for submission, nor will those produced by individuals employed on contracts with no research-related expectations.

- The overall Unit of Assessment structure will remain unchanged from REF2021.

- There will be no fundamental changes to the proposed measure to account for the impact of the Covid-19 pandemic.

- The minimum number of Impact Case Studies that an institution can submit per disciplinary submission will be reduced to one, and the removal of the 2* quality threshold is confirmed. Proposals related to the revision of the thresholds for the number of Impact Case Studies that are required to be submitted, and the weighting of the structured statement will be considered further.

REF 2029
Research Excellence Framework

REF 2029 will be conducted at the level of whole institutions and disciplinary groupings within institutions

Staff on T&R and R-only contracts with significant responsibility for research

Staff on T&R contracts without significant responsibility for research

All other researchers and research-enabling staff

Conduct research in a UoA
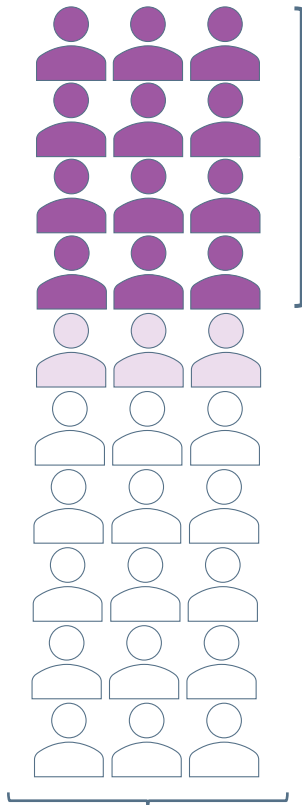
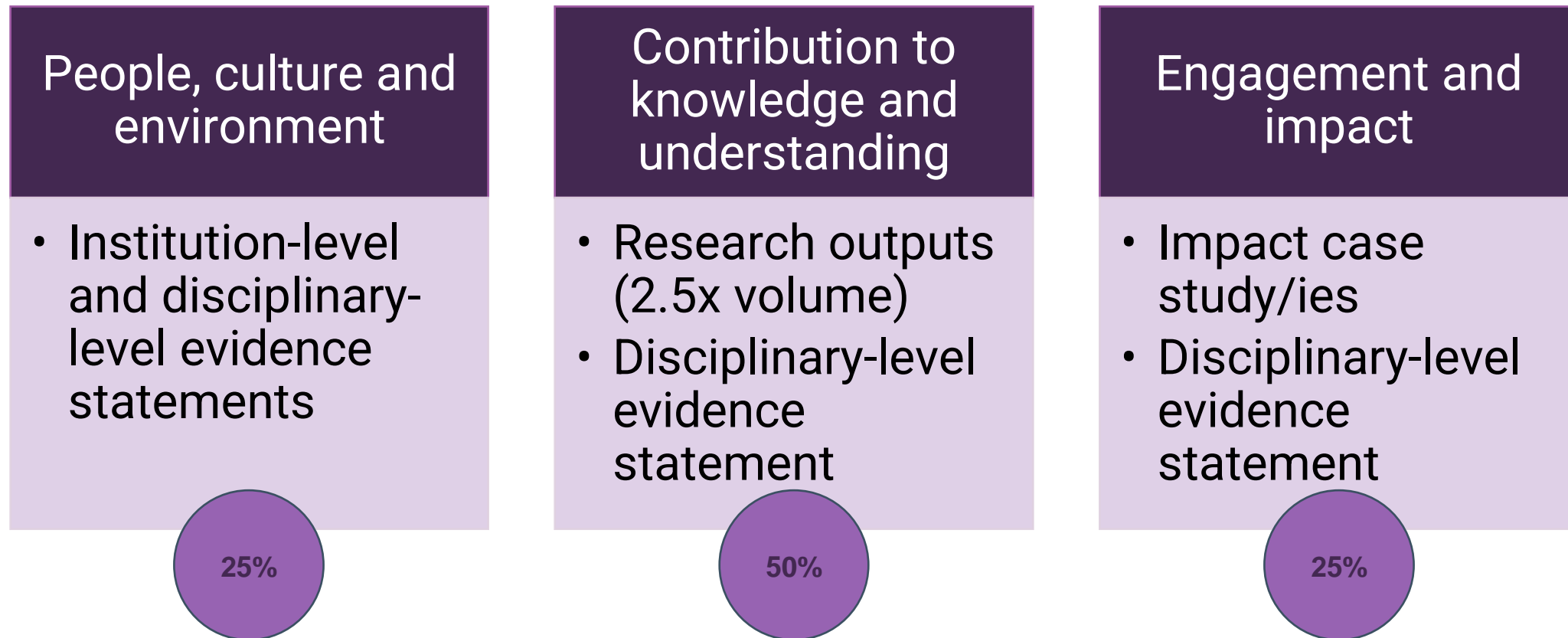- Numbers (FTE) contribute to volume measure
- Data drawn directly from HESA (with some additional fields)
- Volume calculated as a multi-year average
- No list of 'submitted staff'

- Staff with substantive link to the institution eligible to contribute assessed outputs and impact case studies
- No minimum or maximum requirements
- Exclude outputs sole-authored by PGR students and staff on T-only contracts

REF 2029 has a revised and rebalanced definition of research excellence

People, culture and environment

- Institution-level and disciplinary-level evidence statements

25%

Contribution to knowledge and understanding

- Research outputs (2.5x volume)
- Disciplinary-level evidence statement

50%

Engagement and impact

- Impact case study/ies
- Disciplinary-level evidence statement

25%

REF 2029
Research Excellence Framework

People, Culture and Environment

People, culture and environment

- Institution-level and disciplinary-level evidence statements

25%

Institution-level statement:
- Assessed by separate panel
- Contributes to at least 20% of PCE score
- Quantitative and qualitative evidence on culture and environment at institutional level

Disciplinary-level statement:
- Contributes to up to 80% of PCE score
- Quantitative and qualitative evidence on culture and environment at disciplinary level

Further work:
- Content of evidence statements (especially relating to research culture)
- Content requested at institution and disciplinary levels (no overlap)

REF 2029
Research Excellence Framework

Contribution to Knowledge and Understanding

Contribution to knowledge and understanding

- Research outputs (2.5x volume)
- Disciplinary-level evidence statement

50%

Research outputs:
- 2.5x volume measure
- Co-authored outputs permitted only once within UoA submission
- Contributes to up to 90% of CKU score
- Criteria of originality, significance and rigour
- Open access requirements
- Code of Practice on output selection

Disciplinary-level statement:
- Contributes to at least 10% of CKU score
- Contribution of unit to disciplinary advancement beyond publication of outputs
- Collaboration and interdisciplinary work

Consultation:
- Open access requirements (early 2024)

Consultation with panels:
- Proportion of score from statement
- Detailed content of statement (with disciplinary context)

REF 2029
Research Excellence Framework

Engagement and Impact

Engagement and impact

- Impact case study/ies
- Disciplinary-level evidence statement

25%

Impact case studies:
- Number related to volume measure
- Only one case study required where volume less than 9.99 FTE
- Contributes 80% of EI score
- No quality threshold for underpinning research

Disciplinary-level statement:
- Contributes 20% of EI score
  Contribution of unit to impact not reflected in case studies
- Engagement activity underpinning impact

Further work:
- Thresholds for case study requirements

Consultation with panels:
- Content of disciplinary statement
- Additional criterion of rigour

REF 2029
Research Excellence Framework

Next steps with People, Culture and Environment

- Confirmed partner for PCE indicators development – Technopolis and CRAC-Vitae
    - Build on existing evidence
    - Extensive programme of consultation
    - Candidate indicators will feed into…
- Full pilot of PCE element
    - 8 Units of Assessment (2 for each MP area)
    - Around 30 institutions (representative sample)
    - Pilot panels

REF 2029
Research Excellence Framework

Summary

- Defining research culture

- Research culture is important for the quality and outcomes of research

- Pan-UKRI work on research culture

- Research England's approach to enhancing research culture

- REF 2029 and research culture

Steven Hill
Director of Research

0117 450 1685
steven.hill@re.ukri.org
@stevenhill, @ResEngland
www.ukri.org/re