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Research integrity:
a landscape study

Annex C:
Qualitative workshop summary

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Research integrity: a landscape study

Vitae in partnership with the UK Research Integrity Office (UKRIO) and the UK Reproducibility Network (UKRN)

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The interpretations and opinions in this report are those of the authors and may not reflect the policy positions of UKRI.

Contents

This summary of the qualitative workshop outcomes provides further background to the 'Research Integrity: a landscape study' report, as one of the data-gathering activities that informed the development of the survey and contributed to the results presented in the report.

Notable findings from the workshops can be found within the main report, where relevant. However, this annex provides a fuller exploration of the salient themes from the discussions which may be useful for those wishing to build on the study or place the results in a more detailed context.

1 The aim of this annex

To support a deeper understanding of research behaviour and perceptions in relation to incentives working for and against research integrity, four stakeholder engagement workshops were conducted with researchers from a range of disciplines, career stages and institutions. Two workshops took place during the initial exploratory phase of the study and the other two took place towards the end of the data collection phase.

The two early workshops were conducted in parallel with the literature review. The focus was on identifying 'known unknowns' that might be addressed through further data collection, and on understanding the converging and diverging evidence regarding the impact of incentives in the research ecosystem on the research integrity behaviour of researchers. The outcomes of these workshops were used to inform the literature review and survey development.

The two later workshops were conducted in parallel with the large-scale survey to support the synthesis of the emerging findings of the study, including testing emerging models of research integrity behaviour and incentives. The outcomes of these workshops were used to inform the survey analysis and the overall conclusions of the study.

2 Methodology used

Half-day workshops were hosted by King's College London, the University of Manchester, the Scottish Funding Council (Edinburgh) and the Francis Crick Institute (London). The workshops were publicised through Vitae, UKRIO and UKRN email and social media networks, and the Research England and Vitae websites.

All participants gave informed consent and participation was on a voluntary basis. Workshops were not audio- or video-recorded and participants were guaranteed anonymity in the reporting of workshops. An anonymous and voluntary paper-based monitoring form was provided to gather additional equality, diversity and inclusion (EDI) characteristics from participants. This information was not linked to the workshop outputs or used for selection purposes.

One lead facilitator and an additional observer/facilitator attended each workshop. The role of the facilitators was to provide structured activities and input as a framework for group discussions, to provide questions and prompts for deeper exploration of emerging themes, to encourage participants to document their discussions, and to take notes. Workshop outputs for analysis included participant-led notes of group discussions and individual reflections on flip charts and post-its, flip chart records of facilitator-led plenary feedback discussions, facilitators' private observational notes and photographs of activity outputs.

Different discussion questions and activities were used for the two earlier and the two later workshops, while maintaining the overall approach using a combination of small group discussions, individual reflection and whole-group feedback. The activities and outcomes have been combined across all workshops for the purpose of this annex.

During the workshops, participants worked in small groups to:

- discuss their research motivations and experience of research ecosystem drivers
- consider the impacts of these on research integrity
- identify shared and diverging perspectives on the positive and negative nature and strength of incentives.

3 Workshop limitations

It is important to note a number of limitations when considering the outcomes of the workshops, in particular due to the relatively small numbers of individuals and organisations reached in comparison to the survey. Many observations may therefore be limited to the opinions and experiences of a small number of individuals and may not be representative of the research base in general. Workshop participants also self-selected to register and therefore may have specific interests in and/or concerns about research integrity that exceed those of the general researcher population, although the workshops did appear to attract researchers with differing levels and extent of experience of the research integrity debate.

Furthermore, the language of research integrity is currently dominated by particular scientific disciplines. The influence that this had was seen in the high proportion of researchers registering and attending the workshops who came from Research Excellence Framework (REF) Panel A disciplines; this influence was therefore also seen in the conversations that took place during the workshops.

Seeking views through group discussion inherently risks over-representing the views of more vocal participants. However, facilitator observation suggests that junior and senior researchers spoke out in similar measure, and many participants used the opportunity given at the end of the workshops to submit individual written comments, partly mitigating tendencies toward ‘group think’.

There was also comparatively little discussion in the workshops of how incentives might impact in relation to gender, ethnicity and other characteristics related to EDI. Issues raised by participants included mental health, neurodiversity and social capital.

3.1 Participants

81 participants attended across the four workshops, from 47 research organisations in England and Scotland (44 universities and 3 research institutes). The majority were researchers; others worked in management roles, research services and technical support roles. Table 3.1 summarises further characteristics.

Table 3.1

Workshop participants

Participant characteristics (N=81)	No.	%
Type of role		
Research role	66	81
Non-research role	15	19
Type of institution		
Russell Group university	33	41
Pre-1992 university	23	28
Post-1992 university	20	25
Research institute	4	5
Other organisation	1	1
Discipline by REF 2021 panel[1]		
Panel A	32	40
Panel B	16	20
Panel C	16	20
Panel D	7	9
No discipline stated	10	12
Researcher career stage (N=66)		
R4 Leading	11	17
R3 Independent	17	26
R2 Established	19	29
R1 First-stage	19	29

4 Summary of outcomes

The outputs of the workshops have been synthesised and are described below across the layers of the research ecosystem (see main report, Figure 1.2); however, only the second pair of workshops were explicitly given this structure. Incentives are noted as either positive or negative drivers of research integrity behaviours where a clear consensus emerged from the outputs.

4.1 Individual researcher level

Workshop participants spoke eloquently about their motivations to become researchers, to engage in high-quality research and to “do it right”. Positive motivations included developing the next generation of researchers and public engagement, particularly in validating the ultimate purpose of research and use of public money, as well as basic curiosity, benefitting society and problem-solving. They posited that motivations such as public engagement and

[1] Most represented disciplines were: Psychology, Psychiatry and Neuroscience (10 researchers); Biological Sciences (10); Engineering (6); Clinical Medicine (5); Business and Management (4); Public Health, Health Sciences and Primary Care (4).

industrial collaboration could directly benefit research integrity as “the integrity associated with clear and transparent explanation is positive”. They were concerned that too much ambition (within the current reward system) can erode self-integrity and responsible use of reputation, having an overall negative effect.

Among early career researchers, individual responses to pressures of workload, uncertain career prospects and negative behaviours of research leaders and managers (e.g. reduced mental health, personal drive and resilience) may affect research integrity. Researchers may be deterred from speaking out when something is wrong for a number of reasons, such as desire for approval, concern for career progression or prospects, or lack of alternative perspectives (e.g. working in a culture where “little lies/fudges’’ are accepted). Others noted challenges such as maintaining integrity in article and grant writing when success is linked to novelty and a compelling story – the temptation being to “oversell”.

Suggested incentives at the individual researcher level that could positively impact on research integrity included having mandatory research integrity training, having clear recognition of financial interests (e.g. private practice, consultancy), and reducing unconscious bias.

In the later workshops, participants also described researcher behaviours in relation to five ‘virtues’ of research integrity (open, honest, rigorous, original, and caring and respectful); Table 4.1 summarises the outputs.

Table 4.1

Behaviours suggested by participants as relevant to ‘virtues’ of research integrity

Positive behaviours	Neutral statements or mixed behaviours	Negative behaviours
	OPEN	
+	+/-	-
Open access publishing Sharing data Having transparent research process Declaring conflicts of interest Declaring constraints (e.g. non-disclosure agreements) Pre-registration Open peer review Open communication about research integrity Facilitating global access to research Open travel for researchers Openness of culture		

HONEST		
+	+/-	-
Pre-registration Open metadata/code Good knowledge of methods (avoiding 'accidental' dishonesty) Admitting there is a problem with research culture	Author contributions Professional ethics	Selective outcome reporting
RIGOROUS		
+	+/-	-
Proactively seeking information Being systematic/thorough Rigour of thought Having a research plan and following it Knowing what we are asking and why	Rigour is a feature of experimental design Rigour is not the same as openness	Statistically incompetent Selectivity Shame rather than pride in reanalysis (republication /retraction/replication) Unchallenging research advisory committees
ORIGINAL		
+	+/-	-
Credit for contribution Reproducibility	Originality should not be a criterion (e.g. for publication) Novelty is overrated	'Fetishising the new' Equating innovation with virtue Too much trust in opinion leaders Hype (e.g. IVF industry) Publish or perish
CARING AND RESPECTFUL		
+	+/-	-
Respect for colleagues Respecting copyright Guarding public trust Cultivating diversity Promotion on merit	Culture Towards research participants/subjects Professional and positional power	

4.2 Department level

It was at the department or research group level where participants were most passionate about the impact of behaviours on research integrity. Concentration of power in the hands of a small number of individuals was seen as potentially facilitating personal research agendas, misuse of ego and reputation-building, bullying and harassment, favouritism and questionable research practices. Role models could also be weak where research leaders' time was consumed elsewhere, notably in grant writing. In contrast, a positive research environment was open to learning, positive values and continuous improvement, and made researchers feel safe to admit mistakes. Training and mentoring in research methods and research integrity, especially close to the research environment, were seen as strong positives.

Participants suggested that management training, improvements to work-life balance through a reduction of long hours, and building diversity into collaborations could all have a positive impact on research integrity behaviours at the level of departmental or local culture. However, participants did not always make a clear distinction between incentives operating at the individual, local or institutional level.

4.3 Discipline level

Multidisciplinary research was seen as a strong positive incentive for research integrity and a counterweight to methodological inertia and bias. Most groups deemed reproducibility to be a strong positive. Participants exchanged information on disciplinary approaches to collaboration and (formal and informal) peer review (e.g. computer science 'hackathons') and publishing practices (e.g. registered reports). It was recognised that disciplinary language barriers, cultural and other factors can impede transferability of practices.

Peer review was seen as a potent force in need of reform, too often being a rushed and low-quality process because it is not recognised in workload models. Suggestions for improvement included: making the process more open and transparent; having more or better training; including reward and recognition for peer review within evaluation processes; and changes to the terms and conditions of grants.

Further potential incentives for positively influencing research integrity at the discipline level included measuring what are deemed to be the important things as a discipline, having domain-specific checklists for reporting, recognising domain-specific challenges for research integrity (e.g. protecting anonymity of qualitative research participants), having discipline-based codes of conduct, and withdrawing support for questionable research.

4.4 Institution level

It was thought that mentors, EDI policies, and research integrity training were important drivers of positive behaviours. However, it was felt that the interplay between institutional forces and departmental bonds determines how institutional policy impacts on practice. Strong departmental cultures could amplify or resist institutional influences, particularly the implementation of policies. There was concern that 'negative cultures' (overly prestige-seeking or competitive) could be aligned at institutional and departmental level, leading to lower levels of research integrity.

There was substantial agreement that research integrity could be impacted negatively by: fixed-term contracts; the use of metrics or key performance indicators (KPIs) for researcher assessment based narrowly on publication record; and institutional reputation or league tables. Some groups also felt that research intensity and workload models were strong negative drivers, particularly financial targets for generating research funding. The pursuit of

industry funding could lead to conflicts of interest, while prioritising 'hot' areas to attract large grants could lead, for example, to lack of sufficient resource allocation, such as for computing, technical support and training in non-prioritised areas. Institutional funding issues were thus seen as having a direct impact on research quality and integrity, as were access to the workforce and expertise.

It was noted that incentives and priorities at the institutional level heavily influence the research environment and it is therefore important to get these right. Some participants also discussed inconsistencies in policy and practice across institutions (e.g. human resource policies, recruitment, research ethics committees) despite diffuse good practice, and the complexities of funding at an institutional level.

On suggested incentives for increased research integrity, there were further mentions of training, including leadership and management, ethics, open communication and having conversations about research integrity. The importance of university management following research integrity principles and being properly resourced to deliver on the research integrity concordat were also noted.

4.5 UK level

Incentives for positive research integrity behaviours on which there was much agreement among workshop participants were funding for longer projects (promoting more rigorous research) and funding for multidisciplinary projects (such as on the developmental effects of exposure to new perspectives), although challenges in finding journal publishers suitable for ensuring the integrity of multidisciplinary outputs were reported.

Funding was seen as having negative impacts on research rigour and honesty where grants were short term or where funding priorities drove researchers to "venture outside their area of experience". Lack of funding for replication studies, techniques and methods was highlighted. The concordats on research integrity, open data and researcher development were seen as positive drivers but currently having weak impact on researcher behaviour, and may need further resource at a UK level. Views on the REF's impact on research integrity were split between negative and positive, depending on whether participants were judging by REF 2014 or looking forward to REF 2021, which was seen as less likely to incentivise negative research behaviours.

Embedding incentives in support of research integrity at the UK level was seen to need collective action across a range of stakeholder groups, including government belief in the importance of research integrity, actions by funders to increase core funding and decrease competition for grant funding, aligning metrics to research integrity, emphasising quality or peer review and a diverse range of metrics in the REF and other assessments, and improving public trust through public engagement and the media.

4.6 Global and cross-cutting themes

There was little consensus around positive global drivers, apart from the European Commission's initiative on responsible research and innovation (RRI) which was viewed positively overall. While some saw open science as a positive driver, others thought its effects were uncertain. Perceived negatives in publishing practices focused on journals wanting 'novelty/sexiness/story'. Some participants felt that new ideas and methods received little attention and that negative results were insufficiently published. While publishing practices varied by discipline, it was felt that too often journal publishing exacerbated the tension between what was 'good for research' (accurate scientific record) and 'good for researchers' (regular publishing for career progression).

In improving the global research environment for research integrity, participants reiterated the need for collective responsibility and action through all levels of the research ecosystem. Participants felt that incentives should not only be focused on driving individual behaviour, but also on changing the environment and support around them. Finding ways to facilitate publication of null or negative results was perceived as having a potentially positive impact. Some participants also mentioned the need to aim for 'better' rather than 'perfect'.

5 Conclusions from the workshops

A more positive environment for research integrity was described as celebrating and valuing integrity, sharing good practice, assessing research quality, rewarding open research practices, detecting lapses early and having a supportive and proportionate response, and promoting a positive culture.

Individual researchers, particularly earlier in their career, may have limited insight into how global and UK-level drivers are translated into policy and practice. Table 5.1 shows the overall themes that workshop participants perceived as important for research integrity.

Table 5.1

Participants' perceptions of key factors affecting research integrity

Theme	Description
Employment pressures	Workload pressure, insecurity of employment and short grants and contracts, restricted success criteria and how these are associated with questionable research practices and honest error.
Training and guidance	Insufficient knowledge of what constitutes high levels of research integrity may be a significant factor in poor research practice.
Scope for targeting positive incentives	There was support for strengthening positive incentives and recognition associated with peer review, leadership and management, and outputs beyond prevailing publishing models. These would align with positive individual researcher motivations to produce high-quality research that researchers report is threatened by negative drivers.
Locus and nature of strong forces	Department and research group leaders have a strong impact on research undertaken and researcher behaviour. Incentives at more distant levels may not feed through.
Academic discipline	Disciplinary norms that incentivise (or disincentivise) positive research integrity behaviours are little disseminated or understood beyond the discipline. It was suggested that research into research integrity should include a focus on disciplinary differences and impacts.

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The UK Reproducibility Network (UKRN) is a peer-led consortium that aims to ensure the UK retains its place as a centre for world-leading research. This will be done by investigating the actors that contribute to robust research, promoting training activities, and disseminating best practice, and working with stakeholders to ensure coordination of efforts across the sector. UKRN works across disciplines, ranging from the arts and humanities to the physical sciences, with a particular focus on the biomedical sciences.

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