Interpreting integrity: A schema for research

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The subjects of discussion

- Researchers (and scientists)
- Research
- Science
- Research ethics
- Research integrity
- Scientific integrity
- Scientific misconduct
- Research misconduct
- Processes and persons
- Types of misconduct and integrity breaches
Research agents

- Researchers
- Research teams
- Research collaborations
- Research institutions
Research and science

- Research is the production of new knowledge
- Science is a larger body of knowledge and hypotheses
- If research is corrupted, its results will corrupt science
Research integrity and scientific integrity

- This distinction parallels that between research and science
- Breaches of research integrity mean that scientific integrity is threatened
Research ethics and research integrity

- Generally, research ethics systems and processes set the parameters of what is permissible for a given project.
- Research integrity systems concern whether those parameters are respected.
Internal and external rules

- A researcher could obey all rules but be motivated only by fear of getting caught – this does not demonstrate integrity
- Researcher integrity is about self rule, while research integrity lies in consistency with external rules – and this consistency in turn ensures the integrity of science more widely
All cases of misconduct involve intent.

But researchers can make honest mistakes that threaten the scientific integrity of their work.

This does not mean that they have failed to act with integrity.

However, an enduring pattern of errors may indicate a lack of research integrity on the part of that researcher or supervisor.

Also, deliberate misconduct can be camouflaged as error.

Some researchers will feel no qualms in engaging in misconduct because they lack integrity.

Some will know they ought not do wrong but suffer akrasia (or regard caring for family via salary as more important).

Some again will resist complicity in misconduct to avoid being caught breaking rules.

Only very few will act with integrity without considering external rules.
Categorising misconduct

- **Research misconduct** is defined as fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results. – US Federal Policy

- Integrity is frequently used as synonym for “absence of misconduct”, and more specifically “absence of plagiarism, falsification and fraud.”

- But integrity is much more than simply avoiding the “big three”

- And why is plagiarism accorded the same seriousness?
Questionable research practices

- “…actions that violate traditional values of the research enterprise and that may be detrimental to the research process.” - National Academies, 1992
- Unlike QRPs or DRPs, FFP “directly damage the integrity of the research process”
- But in fact, plagiarism doesn’t directly damage the integrity of the process - and other so-called QRPs do
## Categorisation of integrity breaches

<table>
<thead>
<tr>
<th></th>
<th>Breach of RI</th>
<th>Breach of SI</th>
<th>Misconduct</th>
<th>Form of fraud</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image manipulation</td>
<td>Yes</td>
<td>Yes (data integrity)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Guest authorship</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Failure to disclose potential COI</td>
<td>Yes</td>
<td>Possibly</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Plagiarism</td>
<td>Yes</td>
<td>No (only in terms of double-counting in systematic reviews)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Failure to raise concerns</td>
<td>Yes</td>
<td>Often</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Honest error</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Doing irrelevant research</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
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