Lessons from an analysis of 150 real-life cases of research misconduct

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1. Introduction

- Misconduct: not a new phenomenon

- *Before the 1980s*
  - No formal policies on misconduct

- *1980s*
  - First responses
  - Procedures for responding to allegations of misconduct *(Steneck, 1999)*

How is misconduct in research addressed in real-life?
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2. Aim of the study

- *Which criteria are used to qualifying a case as misconduct?*
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3. Methods

- **3.1. Inclusion criteria for selection of countries/cases:**
  - Countries with different systems addressing misconduct
  - Full reports of misconduct
  - English, French, Dutch
  - 2007 – 2017

<table>
<thead>
<tr>
<th>National Commissions based on legislation</th>
<th>National advisory commissions</th>
<th>Local/Institutional level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>Netherlands</td>
<td>Belgium (Flanders)</td>
</tr>
<tr>
<td>Sweden</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **3.2. Data collection**
  - E-mail
  - Internet

- **3.3. Data analysis**
  - Inductive content analysis (Elo & Kyngas, 2008, 2014)
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4.1. Number of cases

• 150 misconduct files from 4 European countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Cases retrieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Netherlands</td>
<td>82</td>
</tr>
<tr>
<td>Denmark</td>
<td>42</td>
</tr>
<tr>
<td>Belgium</td>
<td>23</td>
</tr>
<tr>
<td>Sweden</td>
<td>3</td>
</tr>
</tbody>
</table>

\[ n = 150 \]
## 4. Results

### 4.2. Criteria to qualify a case as misconduct

1) **OBJECTIVE FINDING OF MISCONDUCT**

| ✓ Assessment of the **content of the scientific work** concerned (e.g. scientific article, PhD dissertation) |
| ✓ Decision whether the content is consistent with the way research was conducted |

- **Illustrations from misconduct files:**
  1. “… documentation was found for the existence of 5 mice. According to the article, at least 8 – 12 mice should be included in the study” (case 5)
  2. *The decision is based primarily on the PhD thesis, in which large parts have been plagiarized …* (case 3)

- The research is not performed/reported in a credible way
- Misleads the reader of the scientific work concerned
4. Results

4.2. Criteria to qualify a case as misconduct:

1) OBJECTIVE FINDING OF MISCONDUCT
2) SUBJECTIVE INTENT

- Different degrees of intentionality:
  - Intent:
    - ‘The mice described in the article could not have existed… The Committee finds serious violation of good research practices committed willfully when reporting…’ (case 5)
4. Results

4.2. Criteria to qualify a case as misconduct:

1) OBJECTIVE FINDING OF MISCONDUCT

2) SUBJECTIVE INTENT

- Assessment of parties’ claims
- Decide the extent to which violation was committed consciously

• Different degrees of intentionality:
  - Intent
  - Gross negligence
  - Negligence

‘… the Petitioner should have inserted a direct reference to the Complainant’s paper. That was negligent of him. Since his dissertation contained repeated instances of negligence, the Petitioner can be deemed to have acted with gross negligence and consequently to have violated the principles of research integrity’. (Case 10)
4. Results

4.2. Criteria to qualify a case as misconduct:

1) OBJECTIVE FINDING OF MISCONDUCT
2) SUBJECTIVE REQUIREMENT
3) CIRCUMSTANCES

AGGRAVATING CIRCUMSTANCES

Experienced researcher
   i. ‘Expected to have knowledge of good scientific practice’ (case 8)
   ii. Example to others (case 14)

EXTENUATING CIRCUMSTANCES

Junior researchers
   i. ‘The … has some degree of understanding for the more junior researchers who have been in a position of dependency on (…) (Case 11)
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5. Discussion

1) **Objective finding of misconduct**
   - Importance of RAW DATA and data management
     (Singapore Statement, 2010)

2) **Subjective intent**
   - Challenge to distinguish intentional fraudulent behavior from sloppiness, rushed work or incompetence
   - Same categorization of intentionality in the literature
     (Anderson, 2007; Fanelli, 2011)
   - ≈ Culpability in criminal law

3) **Difficult to collect full misconduct reports**
   - Plea for more TRANSPARENCY of misconduct files
     - ‘Share practices and learn from experiences’
       (the Bonn PRINTEGRER Statement, 2018)

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