Back to Basics: Can Early Communication about Good Scientific Practice Help Prevent Misconduct?

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Content

- Good scientific practice workshops
- Our research interest
- Three surveys
- Some answers
- Some conclusions

Can Early Communication Help Prevent Misconduct?
Good Scientific Practice Workshops

- 1998 German Research Foundation (DFG) White Paper
- 2009 Curriculum for GSP workshops
- 2009 Team Scientific Integrity – 9 members in 2019

- 550 two-day workshops
- 60 institutions (Germany, Europe, Asia)
- 6,000 participants (mostly PhD candidates)
- Impression of “inherited unawareness” concerning RCR/GSP =>
  Three surveys with 1,593 respondents
Our research interest

• Do early career researchers (ECR) know about GSP and GSP regulations?
• Do they know what to do if they experience misconduct?

• Are ECR aware of important aspects of data management?
• Are ECR trained well in the art of documentation?
• Are ECR aware of what it means to be an author?

• How much misconduct do ECR experience?
Three exploratory surveys – 136 workshops

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<tbody>
<tr>
<td>N =</td>
<td>387</td>
<td>660</td>
<td>546</td>
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<tr>
<td>Return rate</td>
<td>94 %</td>
<td>97 %</td>
<td>97 %</td>
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<td>Research experience</td>
<td>2.9 years</td>
<td>3.5 years</td>
<td>3.2 years</td>
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Can Early Communication Help Prevent Misconduct?
Sample composition \( (N_{1+2+3} = 1,589) \)

- Science: 69%
- Medicine: 11%
- Engineering: 10%
- Humanities/Arts: 7%
- Other: 3%
,,How do you document your research process in comparison with the documentation criteria that were discussed in the workshop? “

\[ N_3 = 542 \]

431 not well/partially = 79.5 %
111 well = 20.5 %
„Have you been instructed about lab book maintenance sufficiently well before starting your dissertation (e. g. during your Master thesis)?“

\[ N_3 = 362 \]

105 yes = 29,0 %
257 no = 71,0 %
Has your lab book ever been checked for formal correctness? \((N_3 = 364)\)

- yes \(51 = 14.0\%\)
- no \(313 = 86.0\%\)
„When were the following questions concerning your dissertation project discussed with you?“

„Who will store your research data?“

\[ N_3 = 539 \]

237 at the beginning/during = 44,0 %

302 not yet = 56,0 %
„When were the following questions concerning your dissertation project discussed with you?“

“How long must research data be stored?”

\[ N_3 = 537 \]

206 at the beginning/during = 38.4%

331 not yet = 61.6%
„When were the following questions concerning your dissertation project discussed with you?“

“Who owns your research data?”

\[ N_3 = 538 \]

\[ \begin{align*}
205 & \quad \text{at the beginning/during} \quad = \quad 38.1\% \\
333 & \quad \text{not yet} \quad = \quad 61.9\%
\end{align*} \]
„Has the issue been addressed during your dissertation project whether you are allowed to copy your research data and take the copy with you? “ (N₃ = 543)

- no 434 = 80,0 %
- yes 109 = 20,0 %
“Has anyone discussed authorship criteria (e.g. ICMJE, COPE, DFG) with you during your scientific education? “ (N₃ = 544)

- no 432 = 79.4%
- yes 112 = 20.6%
Have you ever been directly involved (e.g. as a victim) in one or more than one of the following forms of scientific misconduct: data manipulation, data fabrication, data theft, plagiarism, ‘honorary’ authorship, duplicate publication?

\[ N_1 = 387 \quad N_2 = 660 \quad N_3 = 542 \]

Yes 19.6%  20.3%  18.3%
„Did you know before you attended this workshop that there are binding regulations on good scientific practice in your institution?”

\[ N_2 = 654 \quad N_3 = 543 \]

yes \quad 46 \% \quad 56 \%
Some conclusions

• Important GSP/RCR topics for preventing irresponsible practices and misconduct are too rarely discussed in regular doctoral training
• Workshops might convey important GSP/RCR knowledge and tools and help prevent misconduct
• Better: early, thorough and continuous instruction and regular checks by supervisors
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Team Scientific Integrity
is a member of

[Image of Enrio logo]