

QRPs and the limitations of the FFP definition of research misconduct

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Project “Discussion Hubs to Foster Research Integrity”,
as part of the German Research Ombudsman,
funded by the DFG (German Research Foundation)

Structure of the German Research Ombudsman

The Office: first point of contact for questions and enquiries, confidential advice



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Project: Discussion Hubs to Foster Research Integrity



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The Committee: assessing enquiries, solution-orientated conflict mediation



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Discussion Hubs to Foster Research Integrity

(funded by the DFG)



Discussion hub: „Authorship criteria and best practices in authorship conflicts“

Project coordination: Dr. Nele Reeg



Discussion hub: „Dealing with research data“

Project coordination: Dr. Katrin Frisch



Discussion hub: „Dealing with plagiarism in academia“

Project coordination: Dr. Felix Hagenström



Located on the boundary
between *research* and the
*work of the German
Research Ombudsman*.

Translation and sharing
expertise from the German
Research Ombudsman
with others.

Discussion Hubs to Foster Research Integrity

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Main Aims of the Project



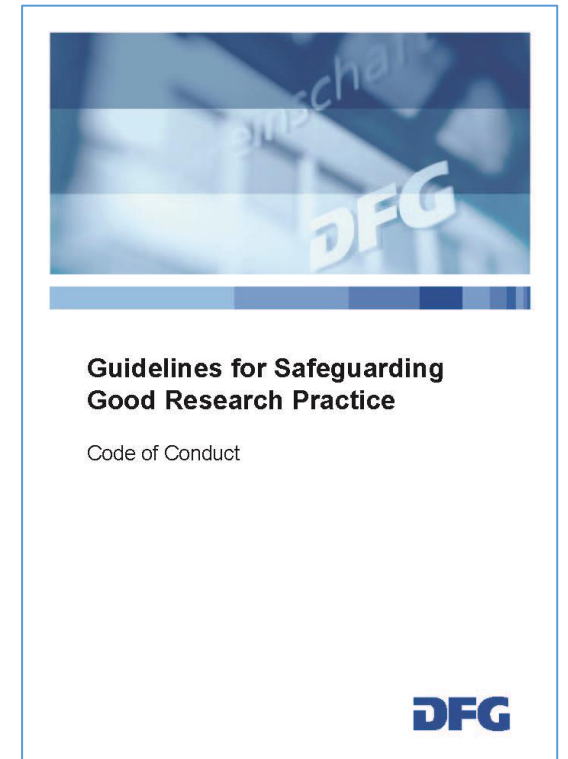
Book *Fairness in Science*:
commentary on current challenges
(due to be published in autumn 2022)



Bringing together diverse experts and stakeholders for interviews, workshops and panel discussions.



Developing guidelines supplementary to the standards of good research practice formulated in the DFG Code of Conduct.



DFG Guidelines for Safeguarding
Good Research Practice, 2019

Research Misconduct vs. QRP

Research Misconduct: comprises *fabrication, falsification, and plagiarism* (FFP) → most common definition.

Questionable Research Practices: do not fall under misconduct, but still are at odds with Good Research Practice (GRP).

Examples:

- Idea, conception or design: e.g., insufficient review of current literature, deselecting appropriate methods.
- Data acquisition, analysis or interpretation: e.g., hypothesizing after the results are known, ignoring negative results, cherry picking of data, lack of validation.
- Publication: e.g., salami slicing, self-plagiarism, inappropriate attribution of authorship, selective reporting of results (cf. Ravn/Sørensen 2021; Hall 2019).



From the point of GRP, both research misconduct and QRPs constitute a deviation, if not a violation.

➤ Fostering research integrity needs to give consideration to QRPs.

Negative Impact of QRPs

Impact on Science

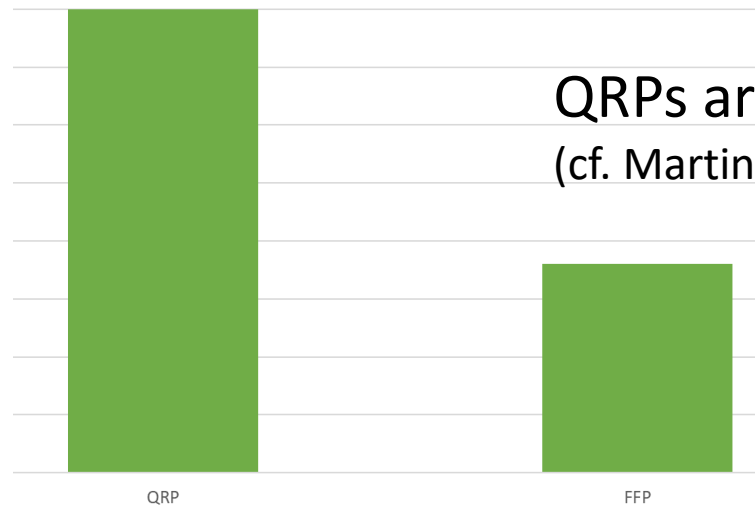
- Cluttering the literature with science that's neither robust nor replicable
- Loss of trust in science and its findings
- Misallocation of credit
- Waste of money and resources

Impact on Society

- Waste of taxpayer money
- No improvement of knowledge, but instead impairment of gathering robust knowledge
- Negative effects on policy making and discourses in society as well as on decisions by people who rely on science for their professional duties

- Acknowledging the *detrimental impact* of QRPs voids the argument that QRPs are less serious than FFP
- Detrimental aspect should not only be tied to the specific category of deviation from good research practice (misconduct or not) but also to the *outcome* of said deviation

Prevalence of QRPs



QRPs are way **more prevalent** than FFP

(cf. Martinson et al 2005; Fanelli 2009; Gopalakrishna/Riet/Vink et al. 2022)



Precise numbers are hard to come by

(cf. John/Loewenstein/Prelec 2012; Fiedler/Schwarz 2016)

! Despite the lack of precise numbers: **serious issue** that needs addressing

Unresolved issues

No consensus on:

- what constitutes QRPs
- what constitutes misconduct
- assessing the severity of QRPs



Lack of:

- guidelines that explicitly address QRPs and their distinction from misconduct
- discipline-specific debates on QRPs
- guidelines that specify rules for specific research contexts

Practical difficulties

for research integrity officers and institutions:

- in mediating cases of conflict
- in determining appropriate sanctioning and preventive measures

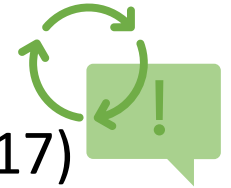


What adds significance to these issues

- With more international collaboration, a cross-cultural, cross-national understanding becomes increasingly important
- QRPs can also be read as a symptom of science being broken

Recommendations

Change of terminology around misconduct and QRPs: establishing the term “**detrimental research practice**” (DRP) (as suggested by the NASEM report 2017) – at least for some QRPs (where “questionable” might be seen as euphemistic)



Development of **recommendations** for handling cases of conflict: in form of guidelines, FAQs or case examples including adequate solutions (esp. useful for research integrity officers and institutions dealing with such cases)

Preventive measures: Apart from training and raising awareness, addressing the incentive structures in academia is of crucial importance. Currently, QRPs are rewarded. Better instead: **rewarding research practices in line with GRP.**



Thank you for your attention!

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References

- Fanelli, Daniele** (2009): »How many scientists fabricate and falsify research? A systematic review and meta-analysis of survey data«, in: PLOS ONE 4, e5738.
- Fiedler, Klaus/Schwarz, Norbert** (2016): »Questionable Research Practices Revisited«, in: Social Psychological and Personality Science 7, S. 45-52.
- Gopalakrishna, Gowri/Riet, Gerben ter/Vink, Gerko/Stoop, Ineke/Wicherts, Jelte M./Bouter, Lex** (2022): »Prevalence of questionable research practices, research misconduct and their potential explanatory factors: a survey among academic researchers in The Netherlands«, in: PLOS ONE 17, e0263023.
- John, Leslie K./Loewenstein, George/Prelec, Drazen** (2012): »Measuring the prevalence of questionable research practices with incentives for truth telling«, in: Psychological Science 23, S. 524-532.
- Hall, Jeremy/Martin, Ben R.** (2019): »Towards a taxonomy of research misconduct: The case of business school research«, in: Research Policy 48, S. 414-427.
- Martinson, Brian C./Anderson, Melissa S./ de Vries, Raymond** (2005): »Scientists behaving badly«, in: Nature 435, S. 737-738.
- National Academies of Sciences, Engineering, and Medicine (**NASEM**) (2017): Fostering Integrity in Research, Washington, DC: The National Academies Press.
- Ravn, Tine/Sørensen, Mads P.** (2021): »Exploring the Gray Area: Similarities and Differences in Questionable Research Practices (QRPs) Across Main Areas of Research«, in: Science and Engineering Ethics 27, S. 40-73.