RESPONSE_ABILITY

A card-based engagement method to support researchers' ability to address integrity issues

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Outline of the supplementary material

This supplementary material to the article "**RESPONSE_ABILITY – A card-based engagement method to support researchers' ability to address integrity issues**" consists of two elements:

a) It provides reflections, suggestions, and support for organizing and moderating discussion groups conducted with the RESPONSE_ABILITY engagement method; and

b) you will find the four card-sets and the discussion map necessary for conducting the discussions. More detailed information about the development and aim of this discussion method are available in the open access full paper published in *Science and Engineering Ethics*.

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The RESPONSE_ABILITY engagement method

What to consider when *planning* RESPONSE_ABILITY discussion groups?

The RESPONSE_ABILITY engagement method was developed to offer researchers a space to reflect on issues related to research integrity, how they come up, and how they are dealt with in their own research (environments). In the following pages, we outline a set of considerations necessary when conducting RESPONSE_ABILITY groups. Carefully planning how to conduct the discussions is vital for creating an environment in which the participants feel comfortable to share their experiences, address challenging questions, and gain relevant insights.

Group Composition
We recommend keeping the number of participants relatively low, approximately between five and eight people per group. This group size ensures that all participants have enough time to express their perspectives and interact meaningfully with one another. To avoid a lay-expert divide between participants and to enable participatory justice, we suggest conducting discussions with people from a similar career stage and research experience. Having too large academic age difference in the group creates a danger of the more experienced participants playing a dominant role. While there is, of course, value in intergenerational learning, such constellations might also hinder open discussion dynamics and potentially close issues of integrity down instead of opening them up. Participants should at best have experience in conducting research. Thus, experienced master students, PhDs, or early post-docs will benefit most from the discussions. With participants who have not done any research at all, it is challenging to talk about the meaning of research integrity in practice, and their accounts often remain rather abstract.

Timing
The RESPONSE_ABILITY engagement format is meant to create a space for deeper reflections on how research integrity matters in their own research. This demands a temporal investment of approximately five hours. Each phase of the discussion lasts about 45 minutes to an hour. It is up to the moderator to decide the exact length of each session depending on the discussion dynamic. We advise to plan sufficient time for smaller breaks between the phases and one longer break. Participants should be informed beforehand about the time commitment and temporal structure of the discussion.

Adapting the cards according to disciplinary needs
The RESPONSE_ABILITY engagement method is an open, process-oriented method that needs careful adaptation to specific settings and research realities. Moderators should have in-depth knowledge on the discussions and challenges related to research integrity in a given discipline. Identifying the concrete debates, regulations, and major dilemmas in the fields where the participants are coming from is key, not only for the moderator to feel confident in the discussion, but also for eventually adapting the content of the cards. The cards should reflect real challenges and realistic scenarios researchers might experience in their day-to-day practice. In our discussion groups with life science researchers, for instance, we included a transgression card dealing with the "Ethics of Animal Research". We exchanged this card for the discussions with physicists and psychologists with a card about "Tinkering with Results", as this has been an issue in those fields. Moreover, we advise being attentive to disciplinary specificities, such as co-authorship practices, for example, in order to ensure that the stories on the dilemma cards are realistic situations for the participants. The RESPONSE_ABILITY engagement method can also be used for facilitating discussion groups with more
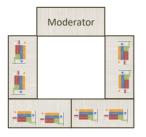
experienced researchers, such as PIs and post docs. However, the cards, in particular the dilemma cards, would have to be adapted accordingly.

Preparing the cards
In this supplementary material you find all four sets of cards as well as the discussion map. The discussion map should be printed in an A3 format to provide sufficient space for the cards.

Spatial Organization
To trigger communication within the group, we advise setting the tables in a formation so that the participants see each other. On the right, you see table formations that worked well in our discussions. In terms of space for the discussion groups, we suggest having one room per group to reduce background noise.

Recording the discussions for social science purposes
The RESPONSE_ABILITY discussions can also be used for social science research studying researchers' narratives and perspectives on research integrity, values in science, and research conditions. If that is the aim, recording the discussions offers rich material. For doing so, all participants must be asked for their consent, ideally in a written form, before beginning the discussions. It might happen that participants allow recording but do not want to be quoted in any published analysis. This option can only be offered if a detailed list is kept tracking the order in which people speak.

What to consider for *moderating* RESPONSE_ABILITY discussion groups?

The choreography and the cards act as structuring and facilitating tools. This is why there is, in principle, less direct moderator involvement compared to classical discussion groups. Nevertheless, a moderator is essential for the smooth conduct of a RESPONSE_ABILITY discussion. The primary role of the moderator is to explain the stages and guide the group through each of them. Moreover, it is essential to ensure a discussion climate where participants feel comfortable talking about their experiences and to moderate in case of conflictual situations.

The moderator
Discussions on research integrity may touch on sensitive issues, creating vulnerabilities and insecurities. Therefore, the moderator should ideally not stand in a direct hierarchical relationship with the participants. Thus, we strongly advise against PIs or supervisors conducting RESPONSE_ABILITY discussions with 'their' PhDs or post-docs. However, the moderator should be a person who is knowledgeable about research integrity discussions and contemporary ways to organize and reward research. In our experiences, also knowledge about concrete regulations and legal frameworks concerning research integrity is helpful to respond if questions or uncertainties come up in the discussion.

The choreography
Moderators should be familiar with the choreography and structure of the discussion. RESPONSE_ABILITY groups are structured into four consecutive phases, where each phase engages the participants to think from a different perspective how values, transgressions, dilemmas, and research conditions matter for research integrity. Each of the phases comes with a specific set of cards. The participants are provided each with a discussion map that visualizes the four stages of the discussion and four sets of cards (values, transgressions, dilemma, and research conditions).

Kicking off the Discussion

Each phase is kicked-off with the participants' individual engagement with the respective card set. For each phase the participants are asked to perform a different task – ordering or choosing. We advise to keep all card sets upside down in the beginning and only ask the participants to turn the card set that is specific to each phase. This avoids that participants start reading the different inputs and therefore focus less on the task they are asked to do.

The participants' individual tasks for each of the four phases are listed in the table below:

Phase	Participants' individual tasks
Value	**Rank the value cards according to how central the described values are in your own research. Add empty value cards if you feel values/elements are missing from the discussion.** The term 'central' can have different meaning and it is part of the exercise for the participants to come up with justifications/reflections of why specific values matter for themselves/in their own research. It is important to emphasize that they should think about their own research experiences and not 'science in general'. It might be, however, interesting to discuss with the participants later how they perceive differences between their own experiences and their ideal vision of science.
Transgression	**Rank the transgression cards according to how relevant they are in your research environment. Add empty transgressions cards if you feel transgressions/elements are missing from the discussion.** Again, participants are asked to rank the transgression cards according to the relevance they have for them and they are invited to reflect what 'relevance' means in this context. Participants might report about recent debates/cases in their disciplines/groups or about practical issues they are worried about. Also, the terminology of transgressions was deliberately chosen because it acknowledges that not all transgressions are clear-cut misconduct or fraud.
Dilemma	**Pick two dilemma cards that address issues you want to discuss.** Participants are invited to explain their choices and give reasons for them. Arguments can be very different. Some participants pick cards of situations similar to ones they experienced, others may choose situations they would like to discuss because they are afraid to be overwhelmed and unprepared if confronted with them.
Research Condition	**Pick two research condition cards you feel are potentially influencing your capacities to respond to/deal with issues of integrity.** Here the moderator can decide whether they want them to choose one card that supports their capacities to do 'good' research and one that might hinder it. But moderators can also leave the choice open to the participants. This would allow them to speak more broadly about systemic influences on their research.
Change Cards	**Write down which changes you want to see in your research environment.** Be ready to be surprised by the creativity of the participants' propositions of how they would like their research environment to change. In our experience their considerations range from rather small changes within their research groups to bigger ideas about how to re-think science evaluations or publishing. It is usually a good idea to ask the participants to come up with realistic, concrete (maybe even small) changes as this invites them to ground their imaginations in actual practices.

Turn taking

After the participants have individually ordered or chosen cards, the moderator opens the discussion. They do so, by asking the participants to present their card choices or rationales for ordering them on the bord (depending on the phase). Then the group is invited to react, compare different choices, speak to contradictions, share experiences, etc. In our discussion groups, we either asked participants to present their card choices one after another and open the wider discussion up after all participants have done so (participant-by-participant) or we started the discussions of by going through each of the cards, asking why participants have (not) chosen them or where participants ranked the respective card (card-by-card). We also used diverse hybrid forms depending on the group dynamic.

Asking one participant after another has the advantage that everybody participates actively in the discussion from the beginning, which is particularly useful for the first phase. In our experience this reduces participation barriers for quieter participants and leads to a more inclusive discussion environment. However, this way to assign turn taking might take a little longer, as every participant should be able to tell their choices without feeling rushed. A discussion more focused on single cards allows deeper collective reflections on the discussed card. The moderator must manage the time here accordingly, so that all cards will be discussed after the planned time. This also allows to explicitly address cards that were not chosen.

Encourage discussion among participants

The moderator should encourage participants to discuss with all participans in the plenum and not get into a separate dialogue with a specific participant or with the moderator. Therefore, it may be helpful to actively invite participants explicitly to enter the debate, suggest a comparison between the different disciplinary/methodological approaches and challenges, point out observations of the discussion dynamics, etc.

Contrary to introductory methods for undergraduate students, which may focus more intensively on teaching clear-cut practices (e.g., teaching students to quote their sources properly to avoid plagiarism), in RESPONSE_ABILITY discussions the moderator is mainly a facilitator. While the moderator does not need to agree with all positions expressed in the discussion, it is however essential to ensure that questionable practices are not trivialized. In our experience, this critique usually comes automatically from other participants. In none of our groups, participants tried to justify clear-cut misconduct, but we witnessed borderline cases where it was essential to address a palpable unease of participants with a specific position voiced.

Keep the discussion going

To keep the discussion going, the moderator can pose open-ended questions and comments directly to individuals or to the group. At the end of the moderation guideline, we outlined some potential questions that we felt were helpful to steer the discussion. We suggest keeping brief notes during the discussion, if there is anything the moderator wants to come back to later. Furthermore, if, for example, a participant decides to make use of the cards in novel ways, e.g., rank the cards not linearly, but clusters them, or if someone insists on choosing more/less cards than they are asked to, it has proven interesting and relevant to hear their rationales behind it.

What to consider for *organizing train the moderator seminars*?

For moderators who are inexperienced with facilitating discussions and who need more knowledge about research integrity debates, it may be helpful to organize train the moderator seminars. Such seminars offer the possibility to try out, reflect on, and prepare for moderating RESPONSE_ABILITY discussions. Most important in these workshops would be to internalize the choreography and particularities of the discussion method. We suggest for train the moderator seminars to make sure that the future moderators try the discussion method out themselves as this provides a better feeling for the potential dynamics. Ideally the participants should engage in RESPONSE_ABILITY discussions themselves, take turns in being the moderators or participants and reflect their insights together with experienced moderators.

Furthermore, we also suggest future moderators reading the article about this method in *Science and Engineering Ethics.* It describes the background and development of RESPONSE_ABILITY in more detail as well as it illustrates some discussion dynamics.

Moderation Guideline

In the following, we present a moderation guideline that should give new moderators a feeling of how RESPONSE_ABILITY discussion groups can be facilitated. On the next pages, we spell out the introductions we used for facilitating the discussions, indicate when we had shorter or longer breaks and give ideas for follow up-questions. Preparing for the discussions, we suggest that moderators should modify the moderation guide according to the environments/situations in which they are conducting the discussion.

Introduction	Welcome to today's workshop. […] Today we will discuss how you experience issues of research integrity, so what doing good science means in your research, but also which potential troubles and tensions you experience.
	Each of you has a **discussion map** and **four card stacks** in front of you – please do not flip them over yet. On the discussion map you can see, how the discussion will be **organized along four successive steps**. Each step has its own card stack: value cards, transgression cards, dilemma and research conditions cards. In each round, there will be a slightly different task.
	Each step will last about **45 minutes to an hour** in which there will be moments when you read the cards and then discuss them. We will have enough breaks in-between. [Lunch break will be from…]
	Before we start, I want to strongly encourage you to **talk to one another** and not to me. Also, I want to ask you to be respectful with one another and make sure that everybody who wants to talk can actually talk. Disagreement should be solved by respectful discussion.
	Any questions before we start?
Value	We start with the value cards. In the first card stack, you find 9 cards that provide a repertoire of different forms of **values that matter for conducting research** or that describe **valuable attributes of researchers**. Before going into discussions about transgressions and dilemmas, it is good to reflect on the **things we value when doing research**.
	The cards are in a **random order**, the numbers on the top are just to know which card you are talking about when you refer to them.
	What I want you to do now is to read through the cards and rank them at the top of your map from the most central for your research to the least central for your research. As soon as all of you have made your choices, **we will do a round, in which each of you can explain your logic of ordering and what your three most central and three least central cards are.**
	I invite you also to come up with additional values that you can note down on an empty card and include them in your ordering. **If you have anything to add or ask to your colleagues, do so after they are finished. Then we will open up a general discussion where you should discuss as a group.**
	Any questions before we start?
	After the choices: Let's start here, with you. Could you please tell us how you ranked your cards? In particular, I would be interested to know which were your three most central and your three least central cards and why the cards ended up where they are on your board.
	15 minutes break

Transgression	Let us start now with the transgression cards. We will talk in this phase about which transgressions of good scientific practice potentially matter in your research environment. The **terminology of 'transgressions'** is deliberately chosen, as it acknowledges that troubles in research are not always straight-forward misconduct or fraud. You might be concerned about less obvious, smaller transgressions of good scientific practice. These cards are very similar to the value cards, not only in number, but also in what I want you to do with them. I would invite you to order the cards again on a scale. This time from most to least **'relevant'** and this can mean very different things, depending on your experiences. Maybe you had a case in your field or group? Maybe you are at a point in your research where you are struggling particularly with something? Was there anything discussed more intensively in your group? Are you worried about certain behaviors? So, feel free to think about what 'relevant' means to you. Again, I actively invite you to also come up with additional transgressions that you can note down on an empty card and include them in your ordering. *Any questions before we start?* ***After choices***: I would like to kick off the round a little bit differently. We will go through the cards chronologically and everybody is invited to say where they placed the card and why they did so. Let's start with another person for this round. Where did you place the card number 1 on your spectrum and why?

<div align="center">Longer break</div>

Dilemma	Let's move to the next step in our discussion. Here we will use eight so-called '**dilemma' cards**. These are inspired by the Dilemma Game of the Erasmus University in Rotterdam. On these you find short dilemma stories, which you could realistically encounter in your research life. Every card has four answers, the last one is always open-ended. I want you to choose two dilemmas you are most eager to discuss and think about how you personally would react to it. *Any questions before we start?* ***After choices***: I would now make a quick round, where everyone shares which cards they chose and why. And then we will collectively discuss the most frequently chosen dilemmas.

<div align="center">15 minutes break</div>

Research Conditions	And now to our last step in the discussion, where we want to **address the conditions under which research is done and what implications this might have for doing good science.** You have addressed already some of these issues, but now we will explore them in more detail. On the eight research condition cards, you will find quotes from researchers – many of them original quotes, others paraphrased – that address the conditions under which research is happening nowadays. I would now ask you to choose two cards: One card that portrays a research condition that you think is necessary for being able to do good research and another that you think hinders it. *Any questions before we start?* ***After choices***: Let us now start here. Please can you tell us about the cards you chose. Everybody who has chosen the same card or wants to say something about it is invited to join in. We will make a round to make sure all chosen cards are covered.

Change	We talked a lot about the conditions in which your research is happening, and it is always easy to complain. What I want you to do now at the end of this discussion round is to think about **what you would like to change** in your concrete research environment. How could research be done differently without losing quality? What would you change? Make sure to come with changes that are small enough to be realistic. Please write your ideas on the empty cards.
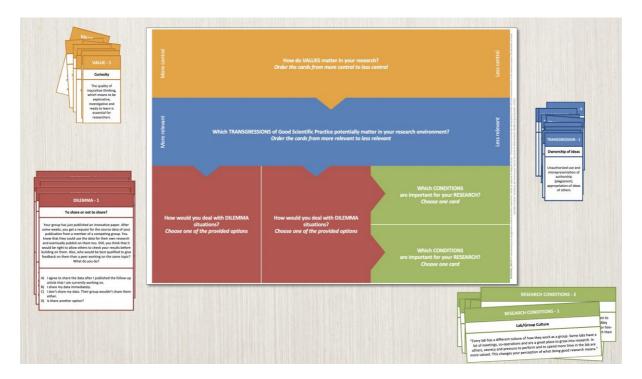
Any questions before we start?

After they finished writing their cards: Now I am already curious to hear about your suggestions for change. Would you be so nice and kick off this final round by telling us what you would want to change in research? |

List of potential follow-up questions:
- Was there anything that surprised you about your colleagues' answers?
- Did I understand you right that …? Can you maybe explain this further?
- I see that the card … was not chosen/ was chosen most frequently.
  Why do you think this is the case?
- Listening to your discussion, I feel that one of the most pressing issues for many of you is …. Is there anything you want to add to that discussion?
- How do you think your perspective on … changed over the last years?
- I see … is an issue you feel strongly about. Do you want to elaborate on it?
- Thinking back to our discussions in the other phase(s), I find it interesting to compare …?
- If you would have had to add another card, which one would it be?

Before presenting the card sets that can be adapted and printed out, please find below a visualization of the arrangement of cards and discussion map.

VALUE - 1	VALUE - 2	VALUE - 3
Curiosity	**Diligence**	**Objectivity**
The quality of inquisitive thinking, which means to be explorative, investigative, and ready to learn is essential for researchers.	A careful and highly attentive conduct of research is important for preventing sloppy science and errors.	When producing and reporting findings intellectual honesty is a must.

VALUE - 4	VALUE - 5	VALUE - 6
Skepticism	**Commitment**	**Fairness**
Core to scientific practice is a critical examination of the results and claims of yourself and others.	Research requires extensive commitment and persistence in pursuing questions.	A fair treatment of others, in particular acknowledging their ideas and work, is important in science.

VALUE - 7	VALUE - 8	VALUE - 9
Creativity	**Openness**	**Accountability**
Research is an endeavor, where original and innovative approaches and ideas are central.	Research results must be openly discussed. Research protocols and data should be made accessible to others.	Scientists have to take responsibility for their actions, both towards other scientists but also towards society.

TRANSGRESSION - 1	TRANSGRESSION - 2	TRANSGRESSION - 3
Ownership of ideas	**Co-authorship**	**Data**
Unauthorized use and misrepresentation of authorship (plagiarism); appropriation of ideas of others	Unjustified scientific (co-)authorship; claiming co-authorship of others without asking them; neglecting co-responsibility	Not securing source data; lack of documentation of results and research steps

TRANSGRESSION - 4	TRANSGRESSION - 5	TRANSGRESSION - 6
Sabotage	**Misrepresenting data**	**Power abuse**
Hindering others in their research activity (e.g., intervention into experiments of others without their consent, not giving access to resources)	Inventing/falsifying data; rejecting data leading to inconvenient results; manipulating images or graphs (e.g., overly embellishing)	Supervisors using their position to exploit young researchers; abusing position as reviewer for one's own benefit

TRANSGRESSION - 7	TRANSGRESSION - 8	TRANSGRESSION - 9
Conflict of interest	**Critique**	**Tinkering with Results**
Changing research results/questions to make them more appealing for industry partners; not disclosing (potential) conflicts of interests	Ignoring feedback from colleagues; Lack of possibilities to raise concerns regarding the results of colleagues; not raising critique that could improve the work of others	Overstressing the own research results; Tinkering with statistics to make data look more significant; "Adapting" a model to better fit expected outcomes

VALUE	VALUE	VALUE

VALUE	VALUE	TRANSGRESSION

TRANSGRESSION	TRANSGRESSION	TRANSGRESSION

DILEMMA - 1

To share or not to share?

Your group has just published an innovative paper. After some weeks, you get a request for the source data of your publication from a member of a competing group. You know that they could use the data for their own research and eventually publish on them too. Still, you think that it would be right to allow others to check your results before building on them. Also, who would be best qualified to give feedback on them than a peer working on the same topic? What do you do?

A) I agree to share the data after I published the follow-up article that I am currently working on.
B) I share my data immediately.
C) I don't share my data. Their group wouldn't share them either.
D) Is there another option?

DILEMMA - 2

Living with an error?

You finally managed to get your paper through an intense peer-review process. When reading your published article for the first time, you notice a small error in your statistical analysis. It is just a minor mistake, but you should have noticed it before. However, you are sure that the results still hold. The reviewers didn't notice it anyway.
What do you do?

A) I consult a more experienced colleague and ask what to do.
B) Before I do anything, I make sure that my results hold and run the analysis with the correct statistical model.
C) I am embarrassed. I don't want to add an erratum to my paper. I start writing another article using the correct statistics.
D) Is there another option?

DILEMMA - 3

Acknowledgement & Competition

At a conference, you hear a fascinating talk from a colleague working in the same research area as you. After the talk, there is a highly relevant discussion about potential pathways for this research. It motivates you to try out a new perspective on your own material and you want to publish the results. You are happy when you find out that you would be the first publishing on it. Still, you are not sure how you should acknowledge the fundamental ideas you got at the conference. What do you do?

A) I write a long acknowledgement thanking all the people of the discussion.
B) Nobody acknowledges all comments made at a conference by colleagues.
C) I offer one person who inspired me most co-authorship and send her the manuscript.
D) Is there another option?

DILEMMA - 4

Data trouble

In a lab meeting, one of your postdoc colleagues presents results where he discarded some samples of the large data set that you both use. He claims to having noticed problems in the data gathering procedure for these data. It feels strange to you that he does so; it is clear that the full data set does not prove his hypothesis. You are unsure how you should proceed with your own analysis on the data sample and what to do about his claims. What do you do?

A) I confront him with my thoughts right away, in the lab meeting. After all, this is the place for critique.
B) You don't raise the concerns. He is a postdoc and should know what he is doing. You make sure to do your work as good as you can.
C) You consult your supervisor.
D) Is there another option?

DILEMMA - 5

Earning Co-authorship

You are writing a research paper together with another PhD and a postdoc. The writing was separated equally among the PhDs. The postdoc offered to integrate the different parts of the paper. The postdoc sends you an email that she had to do much more than she thought because your parts didn't match up well. She thinks it's fair to list her as a first author although you did the largest share of empirical work. You do not think it is fair, but you are also not sure what would be an adequate reaction. What do you do?

A) I reply to her email that this is not what we all agreed on. I want to have a meeting and discuss it in person.
B) I write to my PhD colleague. We should agree on a first author and confront her together.
C) I write to my group leader and look for help. If he does not react, I would approach the commission for scientific integrity at our university.
D) Is there another option?

DILEMMA - 6

Documenting research

After years of hard work, you are finally in an advanced stage of the peer-review process of an article. The reviewer requests further information on one step of your methodology. You don't remember exactly how you did it back then and the notes in your lab book are incomplete because you were in a hurry. You are convinced that this step doesn't influence the overall conclusion. Still, you don't want to admit to her that you simply don't know about it. What do you do?

A) I tell her everything I remember about the procedure and don't mention that there are no notes about it.
B) I tell her straightforwardly that I have no notes about it, but that I know it doesn't influence the conclusion.
C) I consult my bench mate. He was present when I did large parts of the study.
D) Is there another option?

DILEMMA - 7

Research bias

A former colleague founded a start-up company, furthering an idea she developed in her thesis. So far, they are not very successful. One of the postdocs in your group will start to work there. Since he knows about the new position he has slightly changed his research question and the results he recently presented look overly promising for what the start-up is aiming to do. They look almost too good to be true. You know that misrepresenting data wouldn't make sense for the start-up as they need solid results. Still, you suspect that he is too eager to find suitable results. What do you do?

A) Nothing. As long as this is not a problem for the success of the start-up I see no need to intervene.
B) I ask him about it in an informal conversation.
C) I talk about it with colleagues and we think about a collective strategy.
D) Is there another option?

DILEMMA – 8

Review experience

Peer-review can be exhausting. You are already in the second round of the review process for a paper in a low-level journal. Even if you don't know officially who your reviewers are, you can guess their names because your field is rather small… and because of the articles they suggested you refer to - mainly their own. They don't really match with what you are doing, and you have a hard time incorporating them. What do you do?

A) I write to the editors and complain about the reviewers.
B) I add as much as I can because otherwise I won't get my paper published. It's not worth complaining, regarding the low status of the journal.
C) I write a message to the reviewers and tell them what they are doing is misconduct.
D) Is there another option?

DILEMMA - 9	DILEMMA - 10
Unfavourable outlier	**Honorary authorship**
You are about to finish the experimental work of your research project. Very few data-points appear to be outliers. They don't match with your dominant interpretation of the other data and including them in your dataset may lead to not so conclusive results. It would probably be difficult to get it published in a good journal. You could not find a logical reason why the data-points are so far off, and you would feel better if you could just exclude them. What do you do?	Your group is about to hand in a paper in a well-known journal. During the last year, you spent quite some time working on this experiment and you are very much looking forward to the article finally being off your desk. However, before sending the paper to the journal your PI suggests adding a further author to the paper for strategic reasons. What do you do?
A) I adapt my statistical model to see whether the results make sense in a new light. B) Outliers are a normal part of research. I exclude them and report them in a sidenote. C) I consult my colleagues and try to find the reason for the outliers. E) Is there another option?	A) I respond by asking who this person is and on what basis they deserve co-authorship. B) I accept the sudden appearance of names on our authorship list given the strategic reasons. Everybody does it because alliances are vital in science. C) I complain about this last-minute co-authorship. I attach the University Guideline that explicitly forbids such practices. E) Is there another option?

RESEARCH CONDITIONS - 1

Lab/Group Culture

"Every lab has a different culture of how they work as a group. Some labs have a lot of meetings, co-operations and are a great place to grow into research. In others, secrecy, and pressure to perform and to spend more time in the lab are more valued. This changes your perception of what doing good research means."

RESEARCH CONDITIONS - 2

Non-collegiality/Competition

„In academia, I sometimes saw that one researcher might have a solution to another's problem but deliberately did not help. That upsets me incredibly because no one works for the collective endeavor, but everybody works for him- or herself. Because everybody seems to fear that someone else will publish their results five seconds before."

RESEARCH CONDITIONS - 3

Selling Research

"I have the feeling, it is no longer scientists but external actors judging on what counts as good research. Funding agencies fund the research that tells the most promising stories. Journals publish the catchiest articles. Personally, I don't agree with many of these decisions and it leads to overstating what is achieved."

RESEARCH CONDITIONS - 4

Planning, planning, ...

"You really get used to thinking in a project frame: what can I do to achieve something within a time frame of three or four years? You need this to be able to continue your career. It would be nice to think more broadly about scientific stuff, but the way it is right now, we're mostly planning our own future."

RESEARCH CONDITIONS - 5

Pressure & Quality

"Everything must be productive in a sense. And I think that can have negative consequences for research. Because maybe the quality is compromised when people have the feeling they must publish, publish quickly. As a consequence, we can no longer talk about the limits of our research or about what did not work so well."

RESEARCH CONDITIONS - 6

Importance of Mentorship

"On my way to becoming a good researcher, scientific mentors and supervisors are central to guide my intellectual development. Their feedback is important for the quality of my work. However, due to dependency relationships and hierarchies, I cannot critique them or raise questions about their methodologies."

RESEARCH CONDITIONS – 7	RESEARCH CONDITIONS - 8
Open Debate	**Journals as Central Players**
"We have a lack of open debate about how the research system works. Should we simply assume that just because results are published in a highly ranked journal that they stem from better research? Why do journals take so long, in retracting articles if something went wrong? Why do more problematic things in science simply get silenced? "	"The 'currency' with which we are paid is completely weird: it's not about whether outcomes are scientifically important in your field. Only publications count! Journals are central players. They decide how research is presented and what gets communicated. Nowadays, mostly positive results get published and research that sounds very new."
CHANGE	**CHANGE**

More central **Less central**

How do VALUES matter in your research?
Order the cards from more central to less central

More relevant **Less relevant**

Which TRANSGRESSIONS of Good Scientific Practice potentially matter in your research environment?
Order the cards from more relevant to less relevant

Which CONDITIONS are important for your RESEARCH?
Choose one card

How would you deal with DILEMMA situations?
Choose one of the provided options

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Choose one of the provided options

Which CONDITIONS are important for your RESEARCH?
Choose one card