



National  
Survey on  
**Research  
Integrity**

**National Survey on Research Integrity**

[www.nsri2020.nl](http://www.nsri2020.nl)

**Implementation sessions summary report**

**Oct 2021 – Jan 2022**

V1: 07.02.2022

V2: 08.02.2022

V3: 09.02.2022

V4: 14.02.2022

## 1. Background

In the final year of the National Survey on Research Integrity ([NSRI](#)) we conducted four disciplinary field specific work sessions with researchers across academic ranks to discuss the key survey findings (summarised in *Table 1*; preprints with full study findings can be read under section 4. *Related links and materials*). The main aim of these sessions was to translate the key findings into implementable action-oriented goals for research institutions to further develop 'in house' and/or use to complement their pre-existing research integrity (RI) guidelines, policies and initiatives, such as the Netherlands Code of Conduct for Research Integrity.

*Table 1: Summary of key survey findings. Green arrows indicate associations that may improve research integrity, red arrows indicate associations that may worsen research integrity. Thickness of the arrows roughly indicates the magnitude of the effect size.*

	<b>Explanatory factors</b>	<b>QRP</b>	<b>RM</b>	<b>RRP</b>
<b>1</b>	Likelihood of detection (reviewers)		↓	
<b>2</b>	Publication pressure	↑		↓
<b>3</b>	Scientific norms	↓	↓	↑
<b>4</b>	Organizational justice	↓		
<b>5</b>	Mentoring (survival)	↑		
<b>6</b>	Mentoring (responsible)	↓		↑
<b>7</b>	Competitiveness	↑		
<b>8</b>	Work pressure	↑		↑
<b>9</b>	Funding pressure			↑

## 2. Methods

Participants of each work session (an overview is provided in *Table 2*, and a timeline in *Figure 2*) were provided with the key survey findings shown in *Table 1*, along with the other preparatory materials listed in section 4. *Related links and materials*, in advance of each session and asked to reflect on and discuss three guiding questions:

1. Which findings are most urgent and important to your disciplinary field (DF) and/or academic rank (AR), and why?
2. Which specific ways (policies, initiatives, etc.) can your research institution engage in to improve these issues, focusing on those which are high impact and low effort?
3. After considering the relevance of the four open science RRP for your DF and AR (available in section 4), how would you rank these in terms of urgency vs. important and impact vs. effort for improving RI within your DF and AR?

Table 2: Overview of work session participants. Please note that for work sessions 2-4 the policy advisors did not work as a separate group but were distributed over the three academic rank specific groups (described in detail in the text).

<i>Work session (date of work session)</i>	<b>PhD candidates and junior researchers</b>	<b>Postdocs and assistant professors</b>	<b>Associate and full professors</b>	<b>Policy advisors</b>	<i>Total</i>
<b>Life and medical sciences (05.10.21)</b>	3	3	8	4	18
<b>Social and behavioural sciences (28.10.21)</b>	4	4	4	3	15
<b>Natural and engineering sciences (09.12.21)</b>	3	2	2	1	8
<b>Arts and humanities (25.01.22)</b>	3	1	1	4	9
<i>Total</i>	13	10	15	12	50

Figure 2: Timeline of all work sessions



During each work session, participants were introduced to one another via an icebreaker task (photovoice exercise) before the key survey findings were presented and explained in more detail and the instructions for the work session given.

Participants were provided with eight key survey findings (note that '5. Mentoring (survival)' and '6. Mentoring (responsible)' were combined) and the four open science RRs as post-its on an online collaborative workspace known as a "MIRO board" (an example is provided in Figure 3). The findings were phrased as changes which, if made, could improve RI; for example, '2. Publication pressure' was phrased as 'Lower funding pressure' in line with its association to research integrity (Table 1).

Participants worked in groups (break-out rooms) according to their academic rank to complete the two steps visible on the MIRO board (*Figure 3*), with short feedback sessions in plenary between each step.

### Step 1

Step 1 consisted of two parts. In step 1.1 participants discussed the importance and urgency of each item, from the perspective of their DF and AR, and “mapped” them accordingly by dragging and dropping them onto the quadrant beside the post-its (*Figure 3*). This resulted in a distribution of the 12 post-its over the quadrant, with the important and urgent items in the green coloured square (*Figure 3*).

In step 1.2 participants considered only those post-its that had been placed on the green square and mapped these according to the impact they would have if implemented, as well as the effort it would take to implement them.

In both stages of step 1 participants could add additional items using the dark green post-its if they felt there were things not reflected on the original 12 post-its that were important for RI in their DF and AR (*Figure 3*).

When finished, all participants met in plenary to present their mappings to one another. A spokesperson summarized each group’s progress, and participants from other groups were free to ask questions.

### Step 2

Participants returned to their break-out rooms to complete step 2, where they proposed one or (time permitting) two long-term goals which they felt could foster RI within their DF and AR (*Figure 3*). To develop these goals they also specified four associated short-term actions concerning things that should be “Started”, “Stopped”, “Continued” or “Changed” in pursuit of the goal. Furthermore, they suggested who (which organisation or group) they felt should be responsible for each of these actions.

The completed goals were then presented and discussed amongst all participants in plenary.

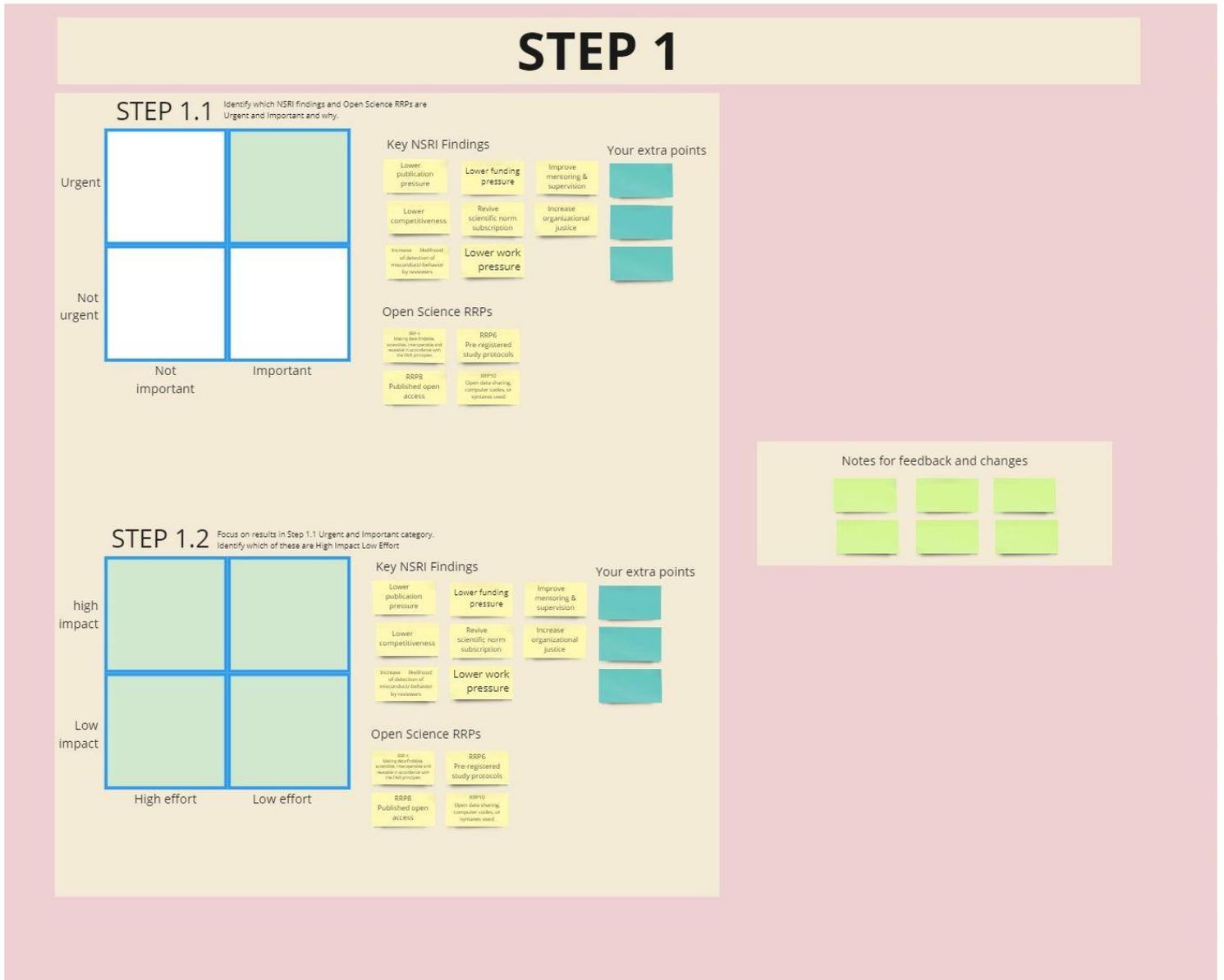
### Voting

Finally, participants were asked to consider all of the action points developed during the session and to vote (using stars on the MIRO board which could be dragged and dropped) for those they preferred. Each participant could vote three times, and all voting took place at the specific action point level (it was not possible to vote for the broader goals).

### Policy advisors’ role

In the first session (Life and Medical Sciences) the policy advisors participated as a separate group, in line with the description above. However, after this first session, the NSRI team felt it would make more sense for the rest of the work sessions to have the researchers’ perspectives only presented in the work session findings. In line with this the policy advisors were split over the three academic rank specific groups and acted as observers; they could ask clarificatory questions, but not influence the mappings and development of goals and action points. In the plenary discussions they were invited to share their thoughts and impressions for everyone’s consideration.

Figure 3: Example of a MIRO board from work sessions 1-4. This page: view of step 1 (parts 1.1 and 1.2). Next page: view of step 2.



# STEP 2

Focus on results in Step 1.2 High Impact-Low Effort category. Identify 1 Long term goal (e.g. specific policies or initiatives at research institution level) and Short term actions (e.g. policies or initiatives at dept or research group level) that can help foster your Longterm goals.

## Suggestions made by PhD's

Goal A [describe objective briefly]

First action on short term		
To start new		by whom?
To stop		by whom?
To change/improve		by whom?
To change		by whom?

Do you have some spare time? Determine a second goal:

Goal B [describe objective briefly]

First action on short term		
To start new		by whom?
To stop		by whom?
To change/improve		by whom?
To change		by whom?

After completion of all four work sessions we collated the results of step 2 and the voting stage, resulting in a list of roughly 70 actions with their associated number of votes. Informed by the discussions which had occurred during the work sessions, as well as the goals and key survey findings which related to each action, these actions were merged where relevant into broader thematic areas while remaining close to the original data points. The results of this process are presented in Table 3, with the goals ordered (highest to lowest) according to the number of votes assigned during the work sessions.

### 3. Next steps

The data presented in *Table 3* will serve as the key results and foundation for the discussion in work session 5.

In this session you will work in small groups (maximum 4 participants) which you will be assigned to based on whether you work for a research performing organisation (RPO) or research funding organisation (RFO); each participant will work with colleagues from the same group of organisations as their own. It is therefore essential you let us know if you are unable to attend the session so we can ensure that the groups are well balanced. In the event that you are unable to attend, we would appreciate if you could nominate an available colleague who can take your place.

Briefly, in this work session we would like you to select roughly 2-4 goals or actions from *Table 3* which you feel are, or should be, priorities for your organisations in their efforts to foster RI and to develop these actions in detail; there will be prompts provided in the session asking you to think of, for example, what the first step would be towards implementing your chosen action, and so on. Detailed instructions will be provided to you on the day.

The intended result of the final work session is concrete agreements on the actions that will be taken forward from this session, who will be responsible for them, and an idea of how they will be implemented.

*Request to all participants*

**In light of the practical aims of this work session, participants are asked to discuss *Table 3*, the materials listed in section 4, and any other information they find relevant, with their colleagues prior to the session, in order to generate ideas and create support.**

We look forward to welcoming you on February 17<sup>th</sup>!

Table 3: Summary of the results of work sessions 1-4. These are the key results which will be discussed in work session 5.

	Goals (ranked in order of priority according to work session participants)	Actions [by whom]			
		STOP	CHANGE	CONTINUE	START
1	<b>Evaluate researchers</b> (especially on hiring, promotion and funding allocation) <b>and research output on more balanced and diverse criteria</b> (quality and RI, rather than quantity)	<p>Evaluation of research via quantitative metrics, including e.g. publication requirements for PhD theses</p> <p><i>[RPOs &amp; RFOs]</i></p>	<p>Hire and promotions based solely on research output and/or acquired funding only.</p> <p>Instead divide this more equally between research and other merits which may include a variety of other types of output (e.g. societal outreach, education and training)</p> <p><i>[RFOs &amp; RPOs (Universities of the Netherlands [UNL] specifically mentioned)]</i></p>	<p>Create new standards based on research quality and RI practices which are in line with Rewards and Recognition and the goals of the university</p> <p><i>[RPOs &amp; RFOs]</i></p>	<p>Recognising and rewarding <u>effort</u>, not only outcome</p> <p><i>[RPOs]</i></p>
2	<b>Improve awareness, interest and education on RI</b>			<p>Create opportunities for researchers to reflect on and openly discuss their ideas about RI, including their understanding of themselves as researchers (to move away from the idea of researchers as "working machines")</p> <p><i>[RPOs]</i></p>	<p>Good quality, structured (mandatory) RI education</p> <p><i>[RPOs]</i></p>

3	<b>Promote an open and safe research culture</b>	<p>Shaming, silencing and belittling (especially unintentional) misconduct, instead establish safe spaces for intervision and mutual support where bottom-up norm development can occur</p> <p><i>[RPOs and RFOs]</i></p>	<p>Increase the visibility and reporting of research misconduct and QRPs</p> <p><i>[RPOs and RFOs]</i></p>		<ul style="list-style-type: none"> <li>• Initiatives to openly discuss and normalize failure, mistakes and the daily struggles/hassles of research</li> <li>• Improve work culture (by e.g. learning from academics who have left)</li> </ul> <p><i>[RPOs and RFOs]</i></p>
4	<b>Reduce pressure and competition at individual level. Focus on Team Science</b>		<p>Reduce high value funding for individuals, and eliminate the incentives (i.e. awards, future career prospects) to pursue this.</p> <p>Replace this with funding and grant opportunities at the institutional level so that institutions can support promising researchers and reward team science</p> <p><i>[RPOs and RFOs (Universities of the Netherlands [UNL], Dutch Research Council [NWO] and Ministry of Education, Culture and Science [OCW] specifically mentioned)]</i></p>	<p>Non-standard grants that are relatively easily attainable for researchers</p> <p><i>[RFOs]</i></p>	<ul style="list-style-type: none"> <li>• Increase the ratio of unconditional funding</li> <li>• Increase and encourage a diversity of career paths within and out of academia</li> </ul> <p><i>[RFOs (NWO and Ministry of Education, Culture and Science [OCW] specifically mentioned)]</i></p> <p><i>[RPOs and RFOs]</i></p>

5	<p><b>Improve supervision and mentoring</b></p>		<p>Allow more time for PIs to do good supervision and related training on that</p> <p><i>[RPOs]</i></p>		<ul style="list-style-type: none"> <li>• Mandatory courses and supervision guidelines/SOPs (which address RI issues/challenges in supervision and mentoring).</li> </ul> <p>Promote the importance of this for researchers of all career stages, including junior researchers</p> <p>Reward researchers who make efforts to be good supervisors and mentors</p> <p><i>[RPOs &amp; RFOs]</i></p> <ul style="list-style-type: none"> <li>• Socially supportive supervision i.e. supervision that is person and process focused than content and output focused</li> <li>• Increase the visibility of independent confidential advisors to reduce misuse of</li> </ul>
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					power, "turning away" and harassment between ranks
					<i>[RPOs]</i>
6	<b>Incentivize RRP and Open Science (e.g. open access publishing, pre-registration, preprints, etc.)</b>	Give advice that goes against/conflicts with open access publication (e.g. prioritizing impact or finances over open access). Instead support it by improving awareness/visibility, advice, funding  <i>[RPOs &amp; RFOs]</i>	Expand the availability of and support for Registered Reports  <i>[RPOs &amp; RFOs]</i>	Institutional agreements with open access journals  <i>[RPOs]</i>	Require pre-registration for funding, and reward it in other ways  <i>[RFOs]</i>

#### 4. Related links and materials

##### NSRI main findings:

- On questionable research practices and misconduct: [Gopalakrishna, G., Riet, G. t., Vink, G., Stoop, I., Wicherts, J. M., & Bouter, L., Prevalence of questionable research practices, research misconduct and their potential explanatory factors: a survey among academic researchers in The Netherlands. MetaArXiv \(2021, July 6\)](#)
- On responsible research practices: [Gopalakrishna, G., Wicherts, J. M., Vink, G., Stoop, I., Van den Akker, O., Riet, G. t., & Bouter, L., Prevalence of responsible research practices and their potential explanatory factors: a survey among academic researchers in The Netherlands. MetaArXiv \(2021, July 6\)](#)

##### SOPs4RI:

- Paper: [Mejlgaard, N. \*et al.\*, Research integrity: nine ways to move from talk to walk. Nature 586, 358-360 \(2020\)](#)
- Toolboxes: [Research integrity tools for RPOs](#) and [Research integrity tools for RFOs](#)

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Open Science RRP (data taken from the pre-print reporting the NSRI main findings on responsible research practices, linked above):

- Estimated prevalence by DF and AR

**Table 2 Estimated prevalence of the four Open Science RRP stratified by disciplinary field and academic rank<sup>^</sup>**

RRPs <sup>+</sup>	Description (In the last three years..)	Disciplinary field (DF)				Academic rank (AR)			
		Life and medical sciences	Social and behavioral sciences	Natural and engineering sciences	Arts and humanities	PhD candidates and junior researchers	Postdocs and assistant professors	Associate and full professors	Overall
<b>RRP 4</b>	I contributed, where appropriate, to making my research data findable, accessible, interoperable and reusable in accordance with the FAIR principles	74.8	70.7	77.5	84.6	75.2	73.6	76.6	75
<b>RRP 6</b>	I pre-registered my study protocols in line with open science practices	50.8	38.9	31.9	30.2	44.3	40	45.2	42.8
<b>RRP 8</b>	My research was published under open access conditions	75.1	72.7	73.7	59.1	73.8	72	72.6	72.6
<b>RRP 10</b>	I fully disclosed and made accessible on open science platforms my underlying data, computer codes, or syntaxes used in my research	47.4	41.4	52.7	53.4	42.4	47.1	51	47.2

<sup>^</sup>All figures in this table are percentages and refer to the last 3 years; <sup>+</sup> RRP numbers refer to Table 1 of the “Prevalence of responsible research practices and their potential explanatory factors: a survey among academic researchers in The Netherlands” preprint; see Note for link to preprint.

- % of “not applicable” answers by DF and AR

**Table 3 Prevalence (%) of “not applicable” answers for the four Open Science RRP stratified by disciplinary field and academic rank<sup>^</sup>**

		Disciplinary field (DF)				Academic rank (AR)		
RRPs <sup>+</sup>	Description	Life and medical sciences	Social and behavioral sciences	Natural and engineering sciences	Arts and humanities	PhD candidates and junior researchers	Postdocs and assistant professors	Associate and full professors
<b>RRP 4</b>	I contributed, where appropriate, to making my research data findable, accessible, interoperable and reusable in accordance with the FAIR principles	9.8	14.5	12.8	27.5	23	10	8.8
<b>RRP 6</b>	I pre-registered my study protocols in line with open science practices	29.6	32.5	52.2	67.8	42.6	37.6	36.8
<b>RRP 8</b>	My research was published under open access conditions	10.6	11.5	8	11.5	29.1	3.5	1.2
<b>RRP 10</b>	I fully disclosed and made accessible on open science platforms my underlying data, computer codes, or syntaxes used in my research	21.3	28.8	20.4	67.6	39.5	22.6	22.5

*^All figures in this table are percentages and refer to the last 3 year; <sup>+</sup> RRP numbers refer to Supplementary Table 4 of the “Prevalence of responsible research practices and their potential explanatory factors: a survey among academic researchers in The Netherlands. See Note for link to preprint*