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**Ari Salminen & Lotta Pitkänen**

**Finnish Research Integrity Barometer 2018**



TUTKIMUSEETTINEN  
NEUVOTTELUKUNTA

FORSKNINGSETISKA  
DELEGATIONEN

FINNISH NATIONAL BOARD ON  
RESEARCH INTEGRITY TENK



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# Foreword by the Finnish National Board on Research Integrity TENK

**People in Finland** have considerable trust in science and researchers. However, unethical behaviour on the part of researchers may endanger the quality of research and the reputation of research organisations. Although the number of researchers in Finland has increased significantly and competition has grown fiercer, research misconduct still remains rare. We know this because research organisations report all new allegations of research misconduct to the Finnish National Board on Research Integrity TENK. However, not all suspicions of the violation of responsible conduct of research (RCR) are officially reported, which means that some cases remain hidden and are uninvestigated. For this reason, TENK has sought more accurate information on the state of research integrity in Finland.

This first nationwide Finnish Research Integrity Barometer 2018 is a pilot study commissioned by TENK from the University of Vaasa. A survey like this has not been previously conducted in Finland, and the aim is to repeat it every three years.

In January 2019, the barometer survey, produced jointly by TENK and researchers of the University of Vaasa, was distributed to collect experiences and views on responsible conduct of research from researchers in Finland with regard to their working communities. The aim was also to gain information on researchers'

values and the need for research integrity training. The survey targeted people at different stages of their working and research careers, in different research organisations across Finland.

The survey was conducted in the form of an electronic questionnaire which TENK sent to universities, universities of applied sciences and research organisations that have committed to TENK's guidelines. The report was written by Emeritus Professor Ari Salminen and University Teacher Dr Lotta Pitkänen at the University of Vaasa. TENK would like to thank them for their excellent teamwork.

The results of the survey confirmed TENK's initial assumption that compliance with responsible conduct of research in Finland is rather high. However, TENK considers it important that the problems raised by the survey are recognised and solutions to them developed.

The Finnish Research Integrity Barometer 2018 was carried out as part of the Responsible Research project, a joint venture of TENK and the Committee for Public Information, which was funded by the Finnish Ministry of Education and Culture. Senior Coordinator Anni Sairio was responsible for the practical work of conducting the barometer survey. The report is published in the Finnish National Board on Research Integrity TENK's series of publications, and it is available online at [www.tenk.fi/en](http://www.tenk.fi/en).

Helsinki, 7 May 2019

**Riitta Keiski**, Chair, Finnish National Board on Research Integrity TENK

# Finnish Research Integrity Barometer 2018

## Ari Salminen and Lotta Pitkänen,

### Summary

**The Finnish Research Integrity Barometer 2018** is the first national survey of research integrity in Finland. It was conducted jointly by researchers at the University of Vaasa and the Finnish National Board on Research Integrity TENK. The aim is to repeat it every three years. This research integrity barometer charts the following aspects in the Finnish research community:

- awareness of research integrity guidelines and the extent of research integrity training
- experiences of violations of responsible conduct of research
- perceptions of threats to research integrity, and
- values in research and the ethical state of the working community

The barometer indicates that researchers working in Finland comply with responsible conduct of research. Violations of responsible conduct of research (such as plagiarism, fabrication, falsification, denigrating the work of others, misappropriation, problems relating to work practices) seem to occur infrequently, and the majority of respondents have not noticed any cases of such behaviour. However, the open comments of the survey described numerous individual problematic situations.

The respondents considered pressures relating to funding, publishing and career advancement as the most serious threats to ethical research. Uncertainty regarding data management and the lack of information about researchers' own rights were other notable concerns.

The responses regarding the ethics of the working community indicate that Finnish research organisations mainly operate with

honesty and equality. At the same time, respondents referred to a considerable amount of inappropriate behaviour they have witnessed and the responses flag various leadership problems.

To summarise what appear to be the main weaknesses in research integrity in Finland, the barometer suggests that external pressures on research, practices that foster a lack of trust, and leadership problems are the key concerns. As for strengths, researchers in Finland follow the responsible conduct of research, recognize problems related to research integrity, and discuss these issues openly.

The survey was sent as an electronic questionnaire on 9 January 2019 to all Finnish universities, universities of applied sciences and research organisations that comply with TENK's guidelines, with the request that the survey would be widely distributed in these organisations by their communications departments. The survey was available in Finnish, Swedish or English, and it could be filled in using one of these three languages.

1,246 people responded to the survey. On the basis of the respondents' background information, the typical respondent had a doctorate degree, was conducting research at a university, and had obtained their degree in Finland. The small sample size means that reliable generalisations cannot really be made, but the results nevertheless give a clear indication of the state of research integrity in Finland.

The Finnish Research Integrity Barometer 2018 was carried out as part of the Responsible Research project, a joint venture of TENK and the Committee for Public Information, which was funded by the Finnish Ministry of Education and Culture.



# I Introduction

Challenges for research integrity are a topic of discussion in the world of research. Several global changes that underline the importance of science and research underline also the crucial importance of research integrity, now more than before. Research communities in various countries have drawn up rules and guidelines on research integrity, but there is also a need to obtain research data of the ethical considerations in these communities.

## The purpose of the barometer

The purpose of the Finnish Research Integrity Barometer 2018 is to chart research integrity in Finnish research and to identify problematic issues. As a pilot report, this barometer is the first of its kind.

As the topic at hand is vast, the survey was limited to a few central questions. The key areas concern 1) guidelines and research integrity training, 2) research misconduct and threats to responsible conduct of research, and 3) the ethical state of the working community.

The survey was drawn up in collaboration by the Finnish National Board on Research Integrity TENK and the University of Vaasa. TENK's 2012 RCR guidelines Responsible conduct of research and procedures for handling allegations of misconduct in Finland were used in designing the survey. Several questions in the survey assessed TENK's own activities and research misconduct as defined in the RCR guidelines.

The survey consisted of 13 questions. Besides multiple-choice questions that gave answers for the respondents to choose from, the survey contained two open-ended questions that allowed the respondents to give information anonymously about violations of responsible conduct of research and other problems regarding research integrity that they had experienced. (Due to rounding, the percentages do not always add up to 100.) The descriptive statistical analysis was complemented by the open responses, and this qualitative data forms a valuable part of the analysis.

The introduction lays out the starting points of the survey and the respondents' background information. The second section focuses on the results on research integrity

guidelines and training. The third section presents the findings on research misconduct, and the fourth section describes the findings regarding perceptions of threats to research integrity. The respondents' views on the ethical state of their working communities are discussed in the fifth section of the report. The last section is dedicated to final observations.

## The survey's target group and timeframe

The barometer was distributed as an e-questionnaire to all Finnish universities, universities of applied sciences and research organisations on 9 January 2019. It was targeted specifically at people working in higher education and research. The survey could be answered in Finnish, Swedish or English. Respondents had a month to answer the survey, and a reminder was sent out in mid-January.

1,246 people responded to the survey, and the survey yielded approximately 600 open responses.

## Limitations

Because the potential group of respondents at Finnish universities, universities of applied sciences and research organisations is large, the low number of people who responded to the survey means that reliable generalisations cannot really be made. What we have here is a snapshot of the present-day situation and state of research integrity in Finland.

Some respondents criticised two questions in the survey which enquired about the experiences of victims of research misconduct. These questions were considered to lack suitable answer options, their wording was considered to be unclear, and it was not possible to leave them unanswered. To ensure

the reliability of the report, the results for these questions are only referred to in brief.

The communications departments of Finnish research organisations were asked to distribute the survey within their organisation. TENK’s research integrity advisers gave feedback of the distribution of the survey in their own organisations. It was not possible to check whether all potential respondents ultimately found out about the survey and whether the chosen distribution method was the best possible for this pilot research.

### Background information of the respondents

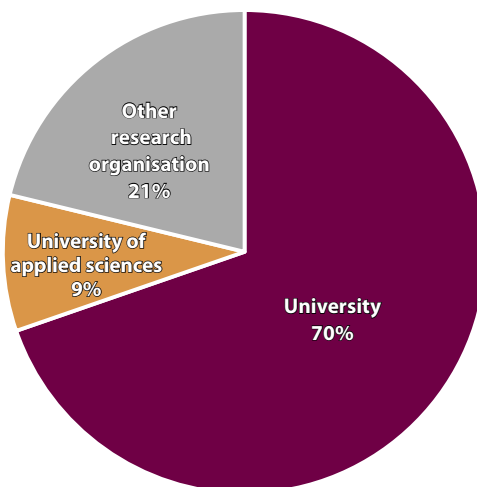
Certain background information of the respondents was collected in the survey, and their degrees, work profiles and research experience are set out in Table 1.

The majority of respondents held a doctorate. Of those who reported their degrees, over 25% had a Master’s degree. The majority of respondents worked in research, whereas the proportion of those who worked in teaching was significantly lower. Considering the number of people employed in Finnish

research organisations, the universities of applied sciences are slightly under-represented in the survey. Since these organisations are largely focused on teaching and education, it is possible that their staff may have found the themes of the survey to some extent distant.

The respondents’ research experience was divided into three time-based groups (less than 10 years, 11–20 years or more than

**Figure 1. Background of respondents (% , N=1,238)**



**Table 1. Respondents’ degrees, type of work and research experience**

Highest degree gained (n=1,240)		Main type of work (n=1,235)		Research experience in years (n=1,242)	
	%		%		%
Doctorate	66	Research	70	Less than 10 years	37
Licentiate	4	Teaching	15	11–20 years	34
Master’s degree or equivalent	28	Administration	7	More than 21 years	29
Other (Bachelor’s degree, other degree)	2	Other	8		



21 years of experience). Table 1 shows that the research experience of the respondents is divided relatively evenly between these time periods.

### Respondents' employer or background organisation and research sectors

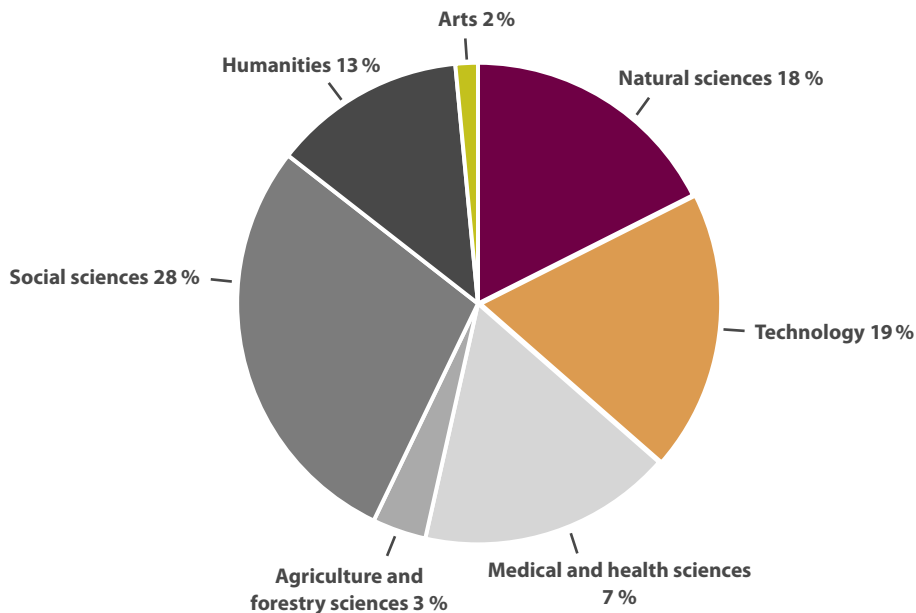
As Figure 1 indicates, the largest group of respondents are based at Finnish universities (69%). The second largest number of surveys was returned from other research organisations (21%), and the smallest number of respondents represented universities of applied sciences (9%). It was something of a positive surprise that people working in other research organisations comprised about one fifth of the respondents.

Another background factor charted in the survey was the research discipline of the respondents. The respondents could choose their own from seven disciplines. Figure 2 shows how the respondents are divided into different disciplines.

The respondents were also asked in which country they gained their degree. The majority had Finnish degrees, while some had gained their degrees in Nordic countries, other European countries, the US and certain Asian countries.

On the basis of background information, we can determine that the most typical respondent of the survey is a person with a doctorate gained in Finland who works in research at a university.

Figure 2. Respondents by discipline (% , N=1,228)





# II Guidelines and training in research integrity

The first group of questions in the survey concerns

- awareness of TENK's guidelines
- investigations of suspected violations of responsible conduct of research
- the extent of training in research integrity
- knowledge of the work of Finland's research integrity advisers

The impact and meaning of ethical rules and training is a matter of discussion in research of the field. For example, DuBois et al. (2013: 334) conclude based on case material from the US that traditional ethics education that focuses on principles and rules is unlikely to prevent misconduct. It may play a more significant role in activities such as deciding on the order of authorship, for example. DuBois et al. recommend the use of approaches aimed at the individual. In this way individuals are encouraged to question their preconceptions, examine their motives, show consideration to others, anticipate the consequences of their actions, and to seek help.

## Guidelines

TENK has issued several guidelines, including the guidelines on responsible conduct of research and procedures for handling allegations of misconduct (the RCR guidelines). Respondents were asked to indicate which guidelines they were familiar with. The results of the Finnish research community's awareness of TENK's guidelines are given in Table 2.

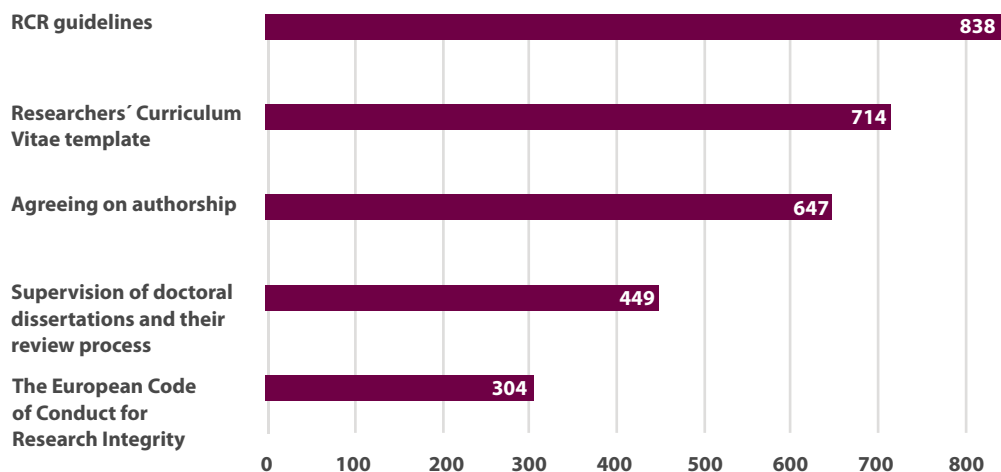
A significant number of the respondents are familiar with the RCR guidelines, and the researcher's CV template is also well known. Knowledge of the authorship guidelines was not far behind. On the other hand, TENK's guidelines on doctoral dissertations and the ALLEA code on research integrity are less well known in the Finnish research community.

81% of the respondents stated that their organisation had committed to following TENK's guidelines, but 18% were unable to state whether their organisation had done so or not. Less than one percent estimated that their organisation had not committed to TENK's guidelines.

Respondents also commented on the guidelines in the open comments:

"Ethical guidelines might be needed also for those who commission research, or perhaps some other way needs to be developed to communicate how research projects are commissioned."

**Table 2. Knowledge of TENK's guidelines**



“My answers refer specifically to the working community in my own university. The situation is different when it comes to joint projects between universities. In those cases different practices come together and collide: for examples the guidelines on agreeing on authorship are interpreted in very different ways at different universities.”

## Knowledge of the RCR investigation process in Finland

TENK's RCR guidelines (2012) are applied when research misconduct is suspected and the allegations are formally investigated. TENK must be notified when an investigation begins, and the outcome of the investigation must also be reported to TENK. TENK is thus able to monitor compliance with the guidelines in Finland. The specific content of the guidelines is as follows.

### TENK's guidelines:

**“The notification of alleged RCR misconduct is to be sent to the respective university or university of applied sciences or to the research institute in which the research has primarily been conducted. If those alleged of misconduct have worked in several research communities, the handling of the alleged misconduct requires cooperation between the respective organisations, which are to agree amongst themselves as to how to conduct the investigation.”**

The questions in this part of the survey are affected by the limitations mentioned in the introduction. The two multiple-choice questions that deal with being a victim of an RCR violation and the measures taken as a result of RCR violations were criticised. As a result, the number of responses to these questions

was exceptionally small. For this reason, clear conclusions cannot be drawn on this topic.

Only 166 respondents answered the question on how RCR violations were handled in their research organisation. The majority considered that violations a) were not addressed, b) were not taken seriously in the organisation or c) were settled internally without a formal notification. 27 respondents stated that an RCR notification was made to the organisation's leadership and the RCR process was begun.

In the open comments, the respondents raised points and brought up experiences concerning the RCR process. One respondent commented as follows:

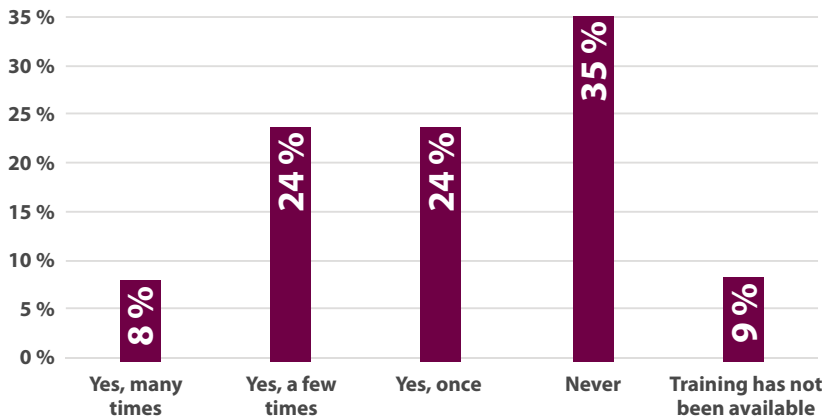
“[The investigation of] alleged RCR violations should be outsourced to independent trained experts/communities outside the higher education institutions. It is not convincing that for example the preliminary inquiry is almost always conducted by some professor from some Finnish university.”

## Training

Training in research integrity is a relatively new system in Finnish universities, universities of applied sciences and research organisations. Training activities undoubtedly vary depending on the organisation.

The respondents were asked about their participation in research integrity training. As Figure 3 shows, a relatively small number had received training, and almost two-thirds of the respondents had either not participated in training at all or had done so once. One third of the respondents had attended training a few times or more. Just under a tenth of respondents stated that training had not been available.

Comments from several respondents indicate that training in research integrity

**Figure 3. Participation in training (% , N=1,244)**

would be welcome and necessary. For example in these supervision it may not always be clear what the relevant ethical rules are and how they should be applied. The comments below describe some attitudes to training:

“I’ve noticed that ultimately it’s a question of an individual researcher’s attitude towards research integrity. You make choices and decisions on this topic almost every day. It may not always even cross your mind that it’s a question of ethics. This should be second nature. Training young researchers is very important.”

“It would be good to have RCR training available all the time, e.g. as an annual course in a personnel training portal or as an online course e.g. via TENK. In addition, participating in training ought to be compulsory, e.g. at fixed intervals – every 3 years.”


“The field is changing all the time and there isn’t enough information.

There should be a lot more training on copyright issues.”

### **Research integrity advisers in Finland**

How well do the respondents know of TENK’s research integrity advisers and the work they do in Finland? With the system of research integrity advisers that has been in place since 2017, TENK’s connections to and activities with universities, universities of applied sciences and research organisations have been organised in a new way. At the moment, there are over 120 research integrity advisers in Finnish research organisations. They give advice in suspected research misconduct situations and provide information on responsible conduct of research (TENK/Research integrity advisers 2019).

According to the response data, respondents are largely unaware of or not very familiar with the system of research integrity advisers. 16% state that they know this activity very well, 39% know a little about it and 45% are not familiar with it at all. These findings encourage the different parties to develop this activity and to clarify its necessity and purpose.



# III Violations of responsible conduct of research in Finland

The main section of the report deals with the violations of responsible conduct of research as defined in TENK's guidelines. Research in the field has attempted to identify factors that explain misconduct. Mustajoki and Mustajoki (2017: 42–43) highlight five points that describe the pressure on researchers and research and which at worst may lead to research misconduct.

According to Mustajoki and Mustajoki, researchers have to deal with time pressures and pressures to publish quickly. In addition, researchers need to advance their careers and acquire research funding. With short-term funding, hopes and expectations of significant findings may be high. Pressures may also come from other life situations, for example family commitments. According to Mustajoki and Mustajoki, attempts to gain name for oneself either in the research community or in society can lead to internal and external pressures.

The survey included TENK's definition of RCR violations:

**“Violations of the responsible conduct of research or RCR violations generally refer to the unethical and dishonest practices that damage research. Research misconduct takes the form of plagiarism, misappropriation, fabrication and falsification. In Finland, RCR violations also include disregard for the responsible conduct of research, such as negligence relating to the authorship of research publications.”**

Due to the broad nature of this topic, only a limited number of research violations could be included in the survey. The specific topics were selected from the central discussion on research integrity in the RCR guidelines. The survey focused on these three themes:

- plagiarism and denigration of another researcher's work
- fabrication, falsification and misappropriation
- problems connected to the researcher's position and work activities.

The survey was limited so that respondents were asked to evaluate the occurrences of re-

search misconduct in their research community only in the last three years. Respondents had the chance to also freely describe cases of research misconduct which they were aware of.

## **Plagiarism and denigration of another researcher's work**

Plagiarism continues to be a central question in research integrity discussions. Various organisations dealing with research integrity have presented international rules on research integrity and actions to combat plagiarism. Chinese researchers (Fatima et al. 2019) who have analysed student data emphasise the internal and external factors in combating plagiarism. A central external factor is control, though it needs additional measures to be efficient and may easily result in new ways to plagiarize. Plagiarism can be prevented by internal measures and training, which invoke individual morality. This is assumed to affect individual behaviour.

**TENK's guidelines: “Plagiarism, or unacknowledged borrowing, refers to representing another person's material as one's own without appropriate references. This includes research plans, manuscripts, articles, other texts or parts of them, visual materials, or translations. Plagiarism includes direct copying as well as adapted copying.”**

**“Disregard for the responsible conduct of research manifests itself as gross negligence and carelessness during the research process.” This includes e.g. “denigrating the role of other researchers in publications, such as neglecting to mention them, and referring to earlier research results inadequately or inappropriately.”**

**Self-plagiarism means publishing the same research results “multiple times ostensibly as new and novel results (redundant publication, also referred to as self-plagiarism).”**

The first statements in the survey deal with plagiarism and self-plagiarism as well as denigration (dismissal) and omitting citations. As previously, the definitions are from TENK's RCR guidelines.

The results are shown in Table 3. The overall situation in Finland seems to be clear: the majority of respondents have not come across research misconduct in terms of the abovementioned issues. The highest number of respondents who note that they have encountered research misconduct "fairly often" or "often" is approximately 10%, and the lowest number to do so is about 3%. However, respondents were aware of several situations where the work of another researcher was denigrated or left uncited.

The results from Finland point in the same direction as the research integrity study conducted in Norway (Hjellbrekke et al. 2018, 13–15). According to the Norwegian report, almost all the respondents considered

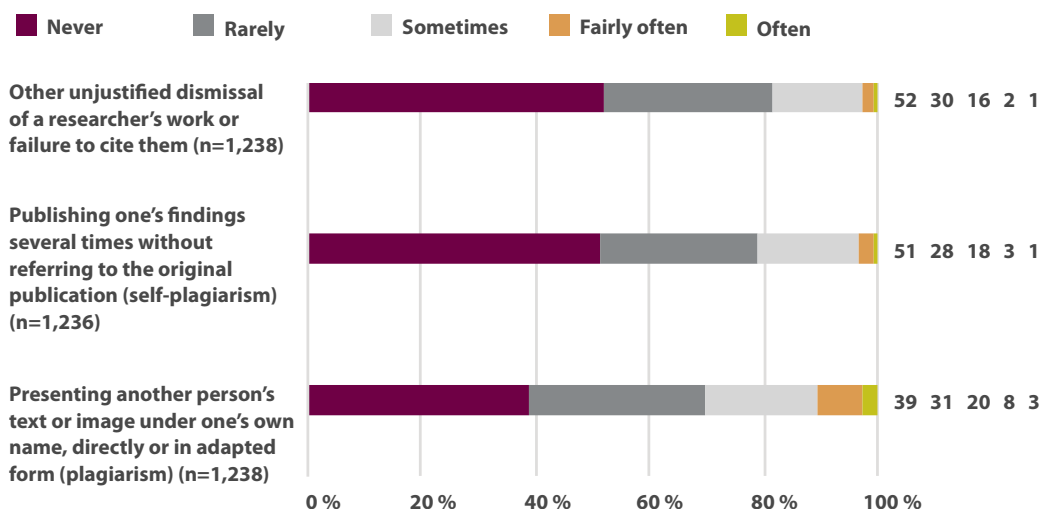
plagiarism to be a problem, but 86% of them had not observed plagiarism in their research community. Almost all (more than 99%) stated that they had not engaged in plagiarism themselves.

82% of the respondents in the Finnish survey, whether placed at universities, universities of applied sciences or research organisations, were not aware of plagiarism incidents or had observed them only rarely.

In the open comments, respondents shared individual experiences of suspected plagiarism. Action had been taken in some situations, whereas in other cases the matter was ignored. In addition, the following comments bring up the need for training and the inadequacy of plagiarism detection software:

"In general, these violations are unintentional. For example, self-plagiarism is a new concept to many [...] researchers."

**Table 3. Plagiarism and denigration**



**Question: How often have you noticed the following unethical activities in your research community?**



“Identifying self-plagiarism is perhaps over-emphasised in modern plagiarism detection software.”

“Ethical behaviour and good practices are emphasised and encouraged, but genuinely deep understanding is rare; a good example is [...] plagiarism detection programs, which are seen as a sufficient guarantee of responsible research conduct for these.”

“Other unjustified dismissal of a researcher’s work or failure to cite them. -> there is a lot of indirect invalidation, holding back information etc. in particular teams, issues that require collaboration are decided in small groups and within a closed circle.”

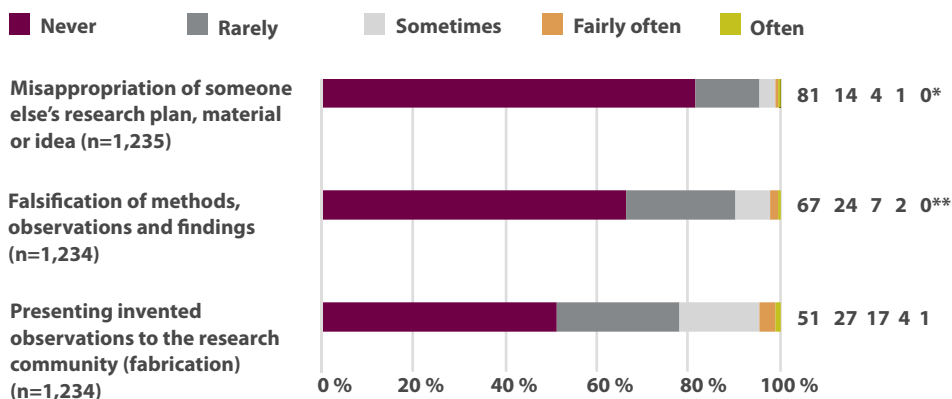
## Fabrication, falsification and misappropriation

The second theme of the survey concerns fabricated research observations, falsified findings, and the misappropriation of another researcher’s research plan, material or idea (Table 4). To begin with, respondents were reminded of TENK’s definitions of these topics.

**TENK’s guidelines: “Fabrication refers to reporting invented observations to the research community. In other words, the fabricated observations have not been made by using the methods as claimed in the research report. Fabrication also means presenting invented results in a research report.”**

**“Falsification (misrepresentation) refers to modifying and presenting original observations deliberately so that the results based on those observations are distorted. The falsification of results refers to the unfounded modification or selection of research results. Falsification also refers to the omission of results or information that are essential for the conclusions.”**

**Table 4. Fabrication, falsification and misappropriation**



Question in the survey: same as in Table 3 above. \*0.4%, n=5; \*\*0.4%, n=5

As Table 4 shows, the results are largely the same as the previous findings on plagiarism and denigration. The questions addressed three topic areas.

The respondents to the survey have not observed fabricated observations to any particular extent in their research communities. 81% had never witnessed fabricated observations, and 67% had never witnessed falsification. On the other hand, only 51% had never witnessed the misappropriation of someone else’s research plan, material or idea. It should be noted that the “often” responses were non-existent (at the level of 1%). When respondents evaluated the extent to which

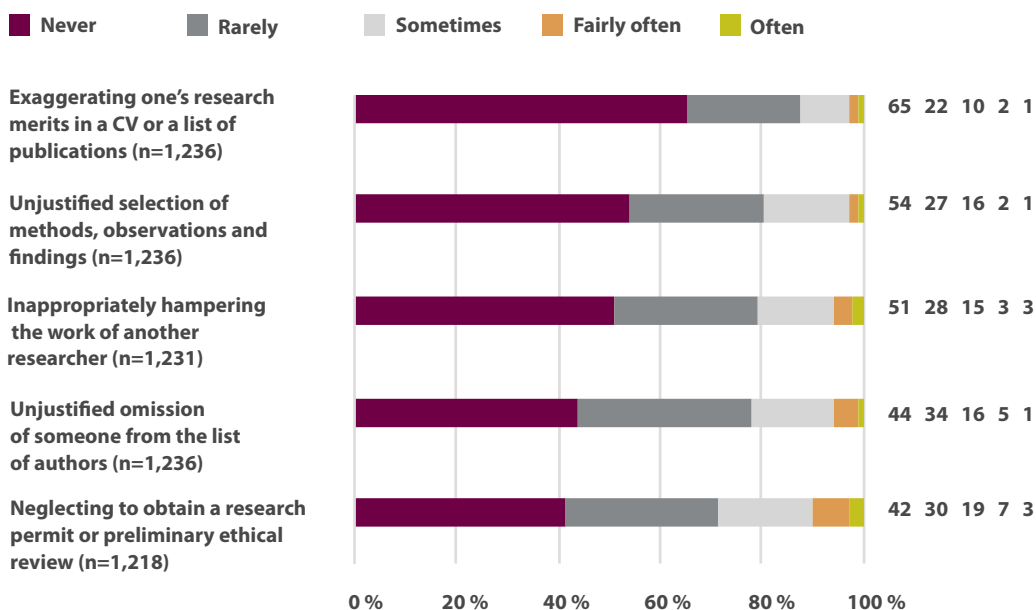
research plans, material or ideas had been misappropriated, the options “sometimes”, “fairly often” and “often” combined make up 22% of the responses.

Open comments on the topic:

“A professor in my department published my idea under his name. No action was taken after I reported it to the authorities.”

“The misappropriation of research ideas is clearly linked to current disproportionate competition.”

**Table 5. The position of the researcher and the conducting of research**



Question: same as in Tables 3 and 4 above.

## Researcher and research work

Ethical problems relevant to the researcher's position in their community and the conducting of research were surveyed via five questions (Table 5). Again, if the respondents selected the option "never", this indicates that the problem in question does not arise. Correspondingly, the "often" responses confirm the existence of the problem.

Table 5 shows that the clear majority of the respondents have encountered the described problem situations never or rarely. Those who have faced these situations "sometimes", "fairly often" and "often" comprise a much smaller group, albeit in combined numbers they make up a fifth of responses for several of the examples. Especially the exaggeration of one's research merits emerges as a problem.

The following comment describes one person's experiences:

"Researchers are subject to time pressures and other pressures and perhaps the expectations of research funders. As a result, they sometimes operate in a grey area when it comes to ethics, e.g. when describing very preliminary findings in seminars. It is easy to fall into methodological carelessness, considerable tendentiousness in selecting observations and for example exaggerating the importance of findings [...]"

Research into these research integrity issues addresses for example the lack of clarity regarding authorship. For example Shaw and Elger (2017: 43, 49–50) focus on ghost collaborators, who provide content for a research article but are not

listed as authors in the final publication. Shaw and Elger (2017) have observed these ethical problems in large multi-disciplinary research programmes. A ghost collaborator is excluded from all publication activities.

Another typical problem is the so-called honorary or guest authorship. According to Elliott et al. (2017: 80–81, 87), an honorary author has not contributed to the publication but is nevertheless included as one of its authors. Underlying factors may be the failure to agree upon authorship principles in the initial stage of the research, or lack of training on authorship questions.

The respondents to the survey had rarely experienced the unjustified omission of an author from a list of authors. Only 3% had encountered this "often" or "fairly often" (Table 5). However, many problems relating to authorship were brought up in the open comments:

"When developmental research is carried out in a multi-professional team, it's pretty easy to attribute the results to a particular unit or individual, even though experts and students from many different fields have been involved in achieving the outcome. Ethically speaking, everyone involved should always be named."

"There are especially professors who demand that their name must be added to research publications, even though they have not participated in conducting the research or writing the publication. They consider that their position of authority is sufficient grounds for them to have their name on the publication."

“The survey didn’t offer the option to answer that too many people are included in the list of authors without grounds, for example on the principle of the “old boys’/girls’ network” or in order to favour those in power or to appease the demands from those in power. In my opinion, this is extremely common in the research community, particularly when you consider the RCR criteria for authorship. People’s lists of publications and h-indexes are significantly exaggerated by this procedure.”

“Sometimes researchers are included as authors in publications even when they haven’t made any contribution to the published work.”

Even though the numerical data suggests that research misconduct as described in Table 5 is rare in Finland, the open responses bring up several problematic situations that individuals have encountered. These topics can be summarised as follows:

- Authorship issues: author’s name is omitted, author’s name is replaced by someone else’s, the order of the authors is changed, guest authors are included without real input.
- Same research is published twice.
- Citation problems: citing one’s own publications or the publications of friends, not citing the work of competitors.
- Biased referee or peer review process.

- Rapid pace of publication (article mills) that causes carelessness and deficiencies in terms of the scientific requirements for publications.
- Problems caused by external (commercial) funding, for example in terms of what can be researched and what findings are published (selective publishing).
- Hate speech, denigration, badmouthing and jealousy, which are unethical behaviour.

Overall, the survey shows that responsible conduct of research is rather firmly embedded in Finnish research communities. Similar observations have been made for example in the Finnish Science Barometer. When the point of view of the general public is considered, the latest Science Barometer (Kiljunen 2016: 83) shows that the majority of people in Finland see research misconduct as something uncommon “which should not condemn the entire research community”. Additionally, the general public in Finland believes that researchers in Finland do their work responsibly and are aware of their social responsibility.

The following comments in the Finnish Research Integrity Barometer 2018 tell the same story:

“Violation of responsible conduct of research is a harsh term, given that the majority of allegations turn out to be about rather minor things. In other words, people may complain about not being cited, or they express disgruntlement over some stage of the process where all

the potential authors were not asked about their contribution during the various stages of the process or asked to approve the text.”

“Overall, I do see all these dimensions as rather honest and responsible, although in a field as strongly competitive as ours malice, bitterness and the subsequent rudeness are inevitable, and when the opportunity arises, people’s emotions may get the better of them. However, the culture does not encourage or approve of this.”

“I notice that in my research project we never talk about ethical questions, presumably because they are self-evident to all of us. There is no need to emphasise this when researchers already comply with existing rules and this has become the default, the status quo. On the other hand, I haven’t done research long enough to be able to identify unethical behaviour around me (though I believe that it only occurs in very rare cases).”





## **IV Factors that threaten research**

Responsible conduct of research can be threatened by several factors, which may at worst jeopardise the ethical principles of research and lead to research misconduct.

Because this is a broad topic, it was examined through seven themes. The results are shown in Table 6.

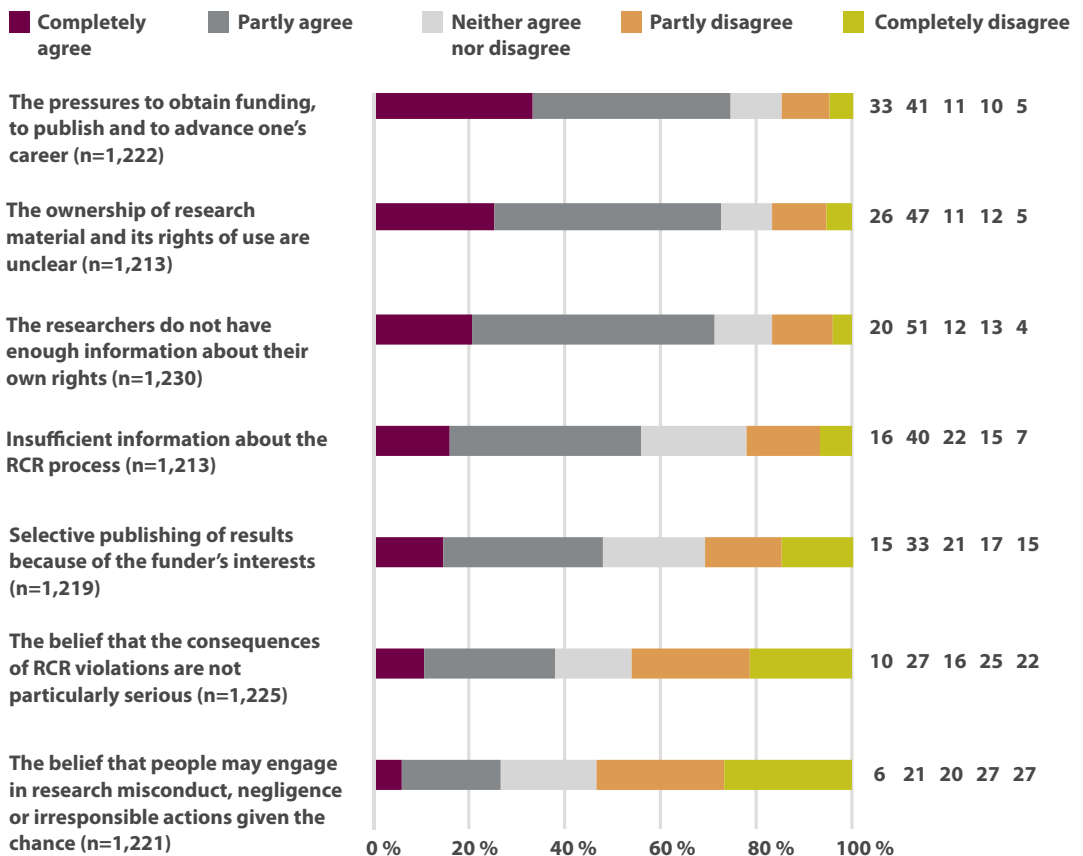
The findings indicate the respondents' biggest concerns regarding research integrity (Table 6). By combining the numbers for "completely agree" or "partly agree", the greatest concerns that emerge in this survey are the following:

- Pressures to acquire research funding (74%)
- Lack of clarity on ownership of research data and the right to use it (73%)

- Insufficient knowledge of researcher's rights (71%)
- Insufficient knowledge about the RCR process (well over 50%)
- Selective publishing (almost 50%)

In addition to these factors, respondents were presented with two statements that charted attitudes towards conducting research and to some extent to the prevailing ethical views in research communities.

**Table 6. Factors that pose a threat to research**



**In your opinion, which of these factors could pose a risk to responsible conduct of research in your own research community?**

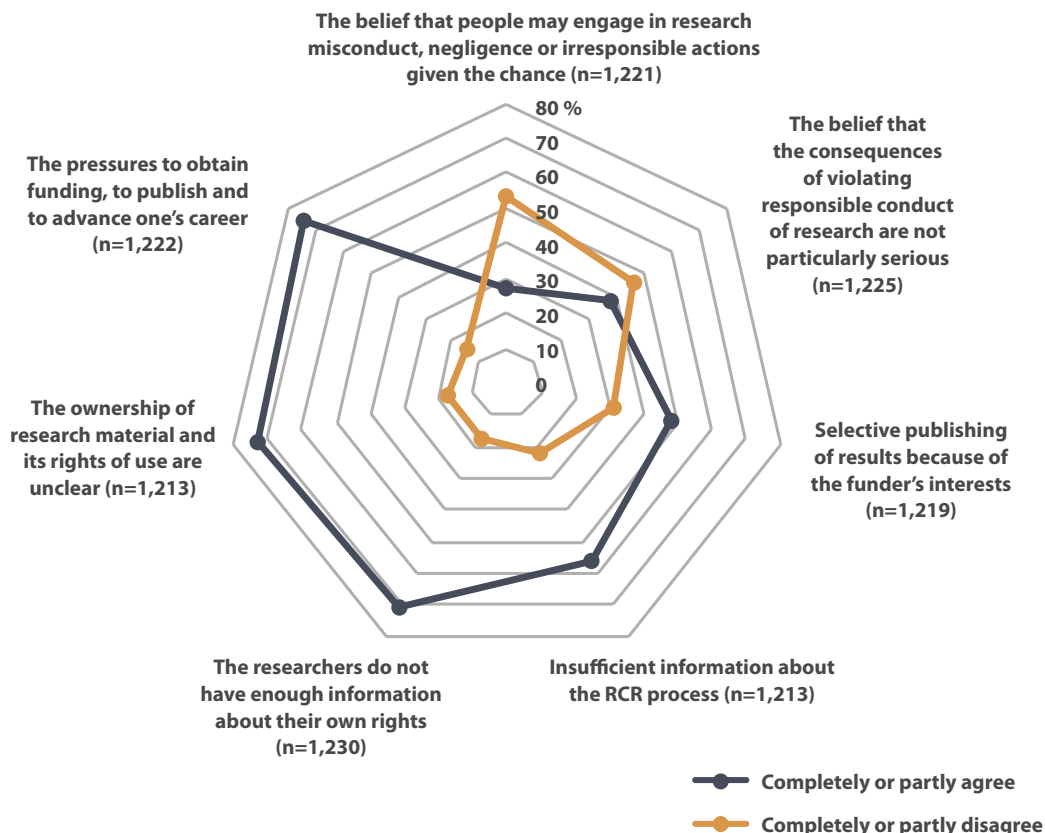
Respondents reacted in two different ways to the statement that the consequences of violating responsible conduct of research are not particularly serious. Just under half disagreed with the statement, while a good third agreed (Table 6). The difference is not considerable, but it is clear.

The second statement concerned the misconduct of other researchers, namely the belief that people may engage in research misconduct, negligence or irresponsible actions if given the opportunity. This statement

was not readily accepted, as the majority disagreed. Nevertheless, one fourth of the respondents agreed with the statement. One comment points to concerns in this regard:

“[...] I think the most unpleasant thing about all this is that unscrupulous superiors pass unethical behaviour models on to young researchers. There is a risk that the working culture and values of the research organisation will be eroded in the

**Figure 4. Dimensions of factors that pose a threat to research**





long term and unethical behaviour will become simply the way things are done, unless young researchers are given a model of a healthy working and research culture.”

Figure 4 illustrates threat factors, namely the funding and publication pressures, the lack of clarity regarding data ownership, and the lack of knowledge about rights. In Figure 4, those who agreed and those who disagreed with the statements in question are divided into separate groups. The following comments describe the views of respondents:

“I find that the majority of ethical problems in science are due to funding pressures and the associated problem of publish or perish.”

“Funding pressures distort science, as these days funding and jobs are awarded not so much for scientific merit but on the basis of the financial profitability of the research topic or the individual.”

“Power battles are real. The rights of especially younger researchers and researchers in a weaker position (for example those on fixed-term contracts / grants) are easily at risk.”





# V Ethical state of the working community

The final section concerns the ethical state of the working community. As is well known, a working community, and especially a research community, operates on the basis of both obligating and recommended ethical values, rules and guidelines. If a community operates ethically, it must also be assumed that this creates the prerequisites for reliable research. The values that individuals share as part of the research community are essential.

## The values in research according to the respondents

Mustajoki and Mustajoki (2017: 28) have summarised the ethical principles of research in seven points: scientific honesty, carefulness, transparency, recognising achievements of others, ethically sustainable methodologies, academic freedom and social responsibility.

The barometer covers somewhat similar areas. Respondents were asked to choose from a predefined list three values they considered the most important, and they were given the opportunity to include an additional value. The initial assumption was that the respondents would share similar values. It was more difficult to hypothesize what the most important values would be, or which values would be selected the least often.

The survey did not define the content or meaning of the ethical values, so the respondents' understanding of them might differ to some extent. These values are nevertheless generally known in the scientific world and repeatedly seen in research integrity surveys. Out of the thirteen values, the six most commonly shared are as follows:

- Reliability (666 responses)
- Critical stance (483 responses)
- Openness (472 responses)
- Fairness (429 responses)
- Truthfulness (391 responses)
- Independence (337 responses)

Reliability comes in above the others. Next are critical stance and openness. Fairness, truthfulness and independence are not far behind. Respondents also rated values such as justifiability, freedom, impact, self-correctability and clarity relatively highly. The

two least chosen values were applicability and furthering research. Values which were mentioned from outside the predefined list included novelty and communality.

## Ethics of the working community

Ethical evaluation of a working community is not an unambiguous or simple matter, and it was not, of course, possible to determine afterwards how the meaning of different statements was understood.

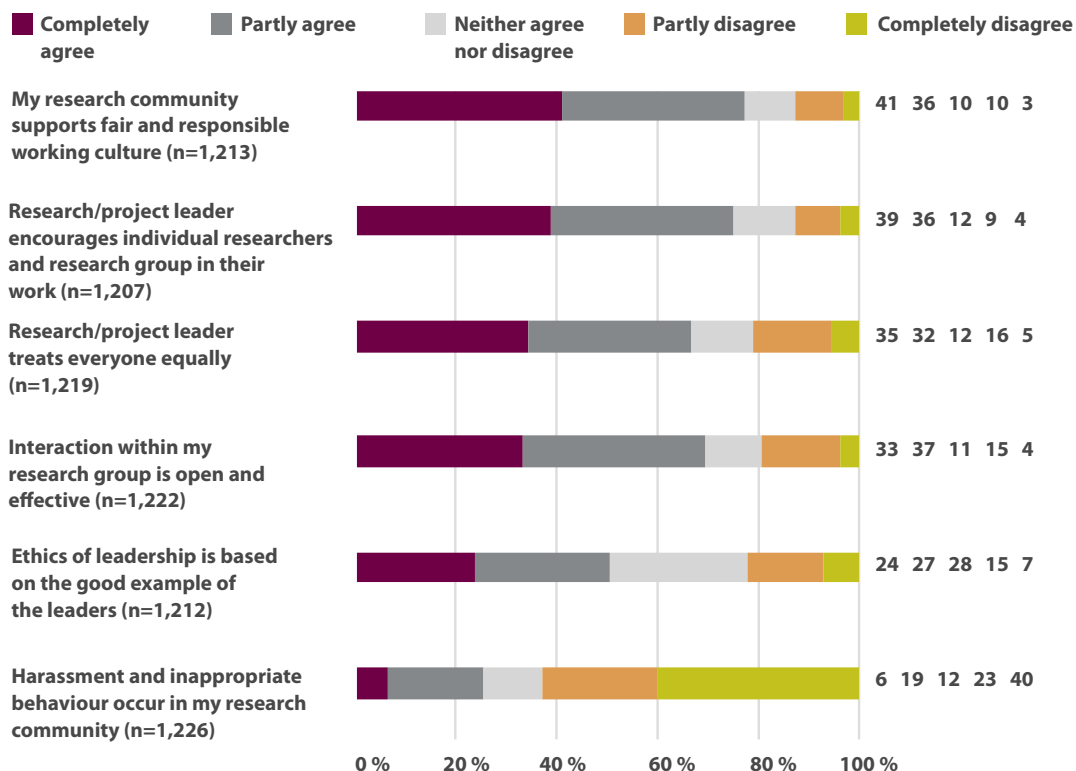
Table 7 shows that the respondents completely or partly agree with the first four statements: in other words, that their research community supports and upholds a responsible working culture; that the leadership supports those conducting research; that the director treats researchers equally; and that their own research group is characterised by openness. More than two-thirds of the respondents agreed that these statements describe their working communities.

When asked about good examples of leadership, the situation changes somewhat. About half considered that ethical leadership in their community draws from the good example of the directors, but a good fifth of the respondents did not think so. It doesn't seem to be generally agreed that ethical behaviour is founded on the example of the leadership – at least not in terms of good examples.

In open comments, ethical leadership brought up various views:

“The ethics of leadership is based on the leaders serving as good examples. -> In principle yes, but they should monitor what is happening in the organisation and ensure that values are followed. The leadership easily gets told what they want to hear.”

**Table 7. Characteristics of an ethical working community**



**Question: What is your opinion of the following statements regarding leadership and personnel in your working community?**

“My community has excellent research leaders, but the relationships between them have become toxic. This causes them obvious stress, which is unavoidably reflected onto other researchers. There are plenty of models of good, ethical leadership from elsewhere. I have several different [...] superiors, and there are still more positive and supportive examples available than negative ones.”

“I find it extremely problematic that today a researcher’s appreciation seems to be based on the funding they bring in and their number of publications and other merits. More attention should be paid for example to exemplary leadership and factors linked to evaluation.”

When asked whether harassment and inappropriate behaviour occurs in their working community, a quarter stated that this is the case, whereas almost two-thirds disagreed.

Although the content of this statement is difficult to interpret unambiguously, it should be noted that the respondents identified a relatively large number of situations in which harassment and inappropriate behaviour have occurred.

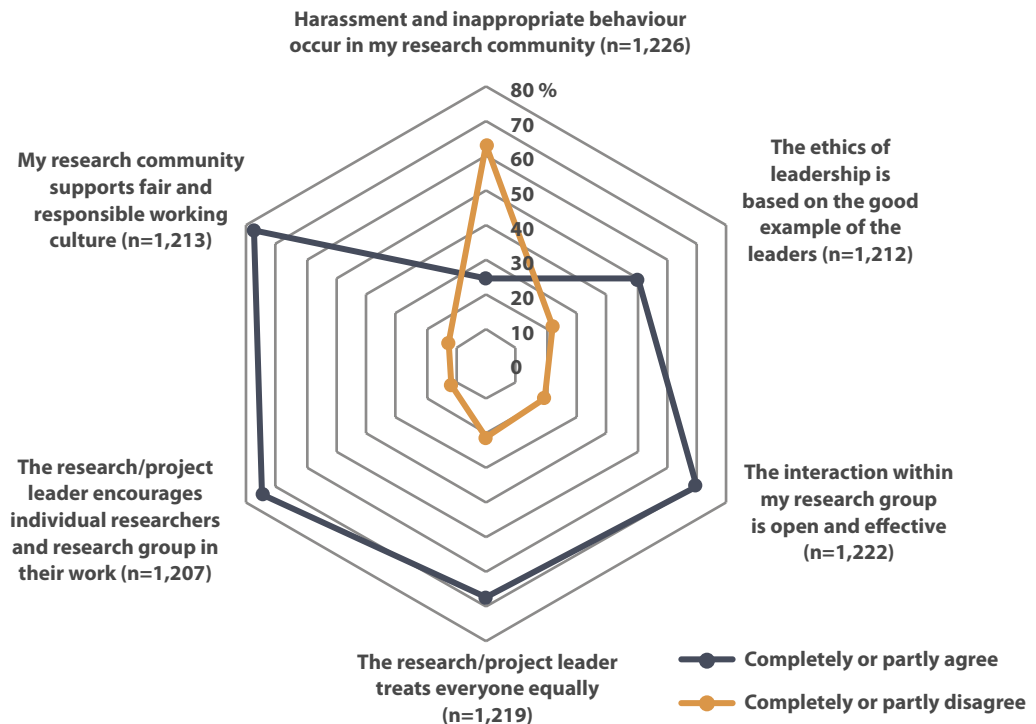
A more detailed picture of the state of the working community is shown in Figure 5, which illustrates the dimensions of the ethical state of the working community.

The response data included several comments describing ethical challenges in the working community, for example with regard to the organisation and the management:

“[...] When there are allegations of misconduct [...] universities may feel the need to sweep things under the carpet by taking no action at all or at least needlessly delaying investigations into the matter [...]”

“[...] The supervisor is advised to assume unearned credit for the research [...] when that person is your own boss, it's difficult to change the situation [...]”

**Figure 5. Dimensions of the ethical state of the working community**



"[...] Those in superior positions should commit to a code of conduct that covers decision-making and other management responsibilities [...] should commit to values and ethical principles of research [...] there is a risk that the working culture and values [...] will be eroded in the long term and working unethically will just become the way things are done, unless young researchers are given a model of a healthy working and research culture."

The open responses raised many other challenges and problems regarding the working community and leadership, such as:

- Unjustifiable decisions by senior colleagues and those in leadership positions regarding who is allowed to publish, who participates in

which project and who has access to the research data.

- Opportunities of researchers in a leadership position to use other people's research findings under their own name.
- A desire to ignore negative incidents, imposing a code of silence.
- Slow reactions on the part of the research organisation, arduous and bureaucratic processes cause problems.

However, the survey indicates that the working communities in Finnish research organisations operate honestly, openly, equally and supportively. In the future, it will be particularly important to incorporate integrity as part of the culture of the working community and the research community.



# VI Final conclusions

**This barometer** report has examined key questions of research integrity in Finland. The topic is so broad and complex that the survey had to be limited to a few relevant problems and challenges. What is the overview that the results give of the state of research integrity in Finland, and do these results offer additional interpretations?

The respondents of this survey are mainly people working in research at universities, universities of applied sciences and other research organisations in Finland. The limited number of respondents (N=1,246) does not allow for generalisations. However, the data that was gathered in this pilot project does provide clear indications of the state of research integrity in Finnish research communities. The results were examined using the data from the multiple-choice questions as well as the open responses. By adding open responses to the statistical information we were able to include a large amount of qualitative data from individual respondents on research integrity, which included respondents' personal concerns and criticism of the research system.

The background of the respondents is reflected in their identification of values that govern research. The most important values in research are reliability, critical stance and openness. We consider this survey to provide greater clarity and information of three core topics of research integrity. These topics are a) violations of scientific work, b) threats to research, and c) ethical problems in the working community.

## Violations are minimal

In international discussion, problems of research integrity focus on violations described in research integrity guidelines. In this regard, the respondents to this survey are highly like-minded and a strong consensus prevails. On the basis of the unanimous evaluation of the respondents, serious research misconduct is seen rarely and the majority has hardly ever encountered these violations of responsible research. As was shown in greater detail above, these cases concern

- plagiarism and denigration,
- fabrication, falsification and misappropriation, and
- ethical problems linked to the position of the researcher and conducting research.

Only a small number of respondents (less than 5%) had observed these activities or were aware that this type of misconduct had taken place in their community. This finding can be interpreted in two ways.

One interpretation is that judging by the response data, violations of responsible conduct of research are indeed rare. In other words, it may be justifiably assumed that the research communities in Finland operate ethically and in compliance with key principles of research integrity.

The finding that research misconduct is rarely observed can also be understood in the

context of the respondents' familiarity with research integrity guidelines. This creates an opportunity to comply with the guidelines in practical situations. This concerns all fields of research.

## Threats should be taken seriously

When examining perceived factors that pose a threat to research, there is less of a consensus. The respondents consider several factors to pose a threat to research integrity in Finland, many of which have been a subject of research-ethical discussion for some time. The clear majority of the respondents consider that

- funding pressures, publication pressures and career advancement pressures,
- lack of clarity on ownership of research data and the right to use it, and
- researchers' lack of information about their own rights could lead to situations that pose a threat to responsible conduct of research.

The results of the survey are clear in this respect. Half or almost half of the respondents also considered that selective publication due to influence from research funders and insufficient knowledge about the RCR process pose a threat to research integrity. These issues were also brought up in the open comments.

For other threat factors, the responses were divided more evenly. The respondents did not agree with the suggestion that the consequences of violating responsible conduct of research are not particularly serious. The respondents did not believe, either, that given the opportunity,

people might engage in research misconduct, negligence or irresponsible actions.

## Ethical state of the working community

The importance of the ethical state of the working community has become all the more important also because research in all disciplines has long been team work and project-based. Research leadership has become professionalised, which has brought many administrative requirements for research leaders and other superiors alongside their scientific work. In practice, there are calls for equality, fair treatment of subordinates, expectations of equality, and expectations of fair procedures in research. This topic was also addressed in the open comments.

The results of the survey give a somewhat contradictory picture of the ethical strength of the working culture. Five statements were used to evaluate the situation. Slightly pared down, the results for these statements can be summed up as follows:

- **my research community supports a fair and responsible working culture:** three-quarters of the respondents agreed and a good tenth disagreed.
- **the research/project leader encourages individual researchers and the research group in their work:** three-quarters of the respondents agreed and a good tenth disagreed.
- **the research/project leader treats everyone equally:** two-thirds of the respondents agreed and a fifth disagreed.



- **the interaction within my research group is open and effective:** more than two-thirds of the respondents agreed and a fifth disagreed.
- **the ethics of leadership is based on the leaders serving as good examples:** half of the respondents agreed and a good fifth disagreed.

The working culture leaves room for improvement especially when we examine the importance of leaders setting good examples and the open interaction within research groups. The statement that the research/project leader treats their personnel equally did not receive particularly flattering results, as a fifth of respondents disagreed with it.

## Strengths and weaknesses

What are the strengths and weaknesses of research integrity in Finland, and can additional interpretations be made on the basis of the results of the survey? Although the survey is by its nature a snapshot, it is possible to present some assessments.

It goes without saying that the better care research communities and individuals take to ensure compliance with responsible practices, the stronger is the state of research integrity. Basic guidelines and trust in individuals do not

go quite far enough. There is reason to monitor violations and breaches in other ways, too, and to conduct active training and development work in the field of research integrity.

The strengths in research integrity must be preserved. In Finland, these strengths can be listed as the following:

- low number of violations of responsible conduct of research
- the ability to recognize the various problems in research integrity (and the motivation to resolve them) and
- the ability to discuss problems in the field of research integrity.

There are also weaknesses in the research integrity system and activities. The effects of those weaknesses must be controlled or eliminated entirely, and the respondents to the survey have considered many solutions for this. Weaknesses in research integrity concern:

- external demands for research that are difficult to adapt to
- practices that feed distrust (especially judging by the open responses) and
- leadership problems and challenges.

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**The Finnish National Board on Research Integrity TENK**

is a body of specialists as appointed by the Finnish Ministry of Education and Culture on the proposal of the scientific community. TENK was founded by a decree in 1991 to handle ethical questions relating to scientific research and promote research integrity. In Finland, universities, universities of applied sciences and other research organisations have voluntarily undertaken to comply with TENK's guidelines on responsible conduct of research.



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