

Researchers' views on diversity of career assessment criteria in Finland: a survey report

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Executive summary

This report presents the basic results of a survey conducted among researchers in Finland on the importance of diversity in career-assessment criteria. The survey was created by a working group on Responsible Assessment of the Researcher for the purpose of informing the development of the Finnish Career Assessment Matrix (FIN-CAM). FIN-CAM will be a toolbox for the implementation of the *Good practice in researcher evaluation* (Working group, 2020).

The survey was conducted by the Federation of Finnish Learned Societies (TSV) during November and December 2023. Researchers were defined as persons who participate in various ways in professional activities aimed at producing new knowledge, applying knowledge in a new way, developing knowledge or making use of it in education. The survey received 440 anonymous responses across career-stages, fields, and types of institutions. Respondent population somewhat overrepresented social sciences and humanities and experienced researchers' views.

During their careers, most respondents had faced evaluation situations where they felt inappropriate methods or metrics had been used (55%), or where the goals, criteria, or data of the evaluation had not been openly known to all parties (52%). In open answers, clarity, transparency and consistent application of evaluation criteria emerged as good practices, while narrow focus on research and especially publication and journal based metrics – and their prioritisation over other contributions to research and society – were pointed out as major shortcomings in assessments. Many respondents expressed concerns about favouritism in the evaluation processes.

When asked to rate the importance of various career-assessment criteria, most respondents regarded a great variety of outputs, contributions and activities related to outputs, research process, teaching, societal interaction, leadership and open science as “very important” or “moderately important” for their assessment. Respondents also indicated a variety of relevant working-life skills. Yet, researchers cannot and should not be expected to excel in every competence area or activity.

Findings from the survey provide strong support for the responsible research assessment agenda (e.g. CoARA) and the development of the FIN-CAM. Together with a narrative CV and research information systems, FIN-CAM can support a more comprehensive, systematic and transparent documentation, consideration and recognition of the diverse areas of researchers' work.



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Introduction

One of the main goals of the responsible research assessment agenda is to move away from a narrow set of assessment criteria to recognize the range of contributions researchers make to science and society. The first commitment of the Agreement on Reforming Research Assessment (ARRA), already signed by hundreds of organisations, is to “recognise the diversity of contributions to, and careers in, research in accordance with the needs and nature of the research” (CoARA, 2022). ARRA builds on an increasing number of international and national initiatives, which over the past decade have called for diversification of criteria for recruitment, promotion and funding of researchers (Curry et al., 2020; Rushforth & Hammarfelt, 2022; Peruginelli & Pölönen, 2023). These initiatives include, for example, *the DORA declaration* (DORA 2012), *the Leiden manifesto* (Hicks et al. 2015), *the Metric Tide* (Wilsdon et al. 2015), *Room for Everyone’s Talent* initiative in the Netherlands (2019), *the Helsinki Initiative* (2019), *the SCOPE Framework* (Himanen & Gadd, 2019; Himanen et al. 2023), and *the Hong Kong Principles* (Moher et al., 2020).

In Europe, the European Commission has promoted the recognition of diversity in career-assessment since 2005 through the *European Charter for Researchers* and the *Code of Conduct for the Recruitment of Researchers* (European Commission, 2005). According to the new *European Charter for Researchers* approved in December 2023, evaluation, appraisal and career progression should consider “researchers’ overall potential, their research creativity, their research output – e.g. publications, data, software, models, algorithms, methods, protocols, patents, policy contributions –, their activities – e.g. management and leadership, teaching/lecturing, peer review, supervision, mentoring, entrepreneurship, knowledge valorisation, national or international collaboration, administrative duties, service to society, science communication and interaction with society –, their research behaviour – e.g. ethics and integrity practice, methodological rigour, early knowledge and data sharing, open collaboration – and their mobility” (Council of the European Union, 2023).

To exemplify a more holistic approach to researcher assessment, the European Commission's Open Science Policy Platform (OSPP) Working Group formulated the *Open Science Career Assessment Matrix* (OS-CAM) in 2017. OS-CAM provides 42 possible Open Science assessment criteria across six main areas of Open Science activities: 1) research output, 2) research process, 3) service and leadership, 4) research impact, teaching and supervision, and 6) professional experience (European Commission, 2017). In 2022, the European Commission (2022) published the *European Competence Framework for Researchers: ResearchComp – Tool to assess and develop researchers' transferable skills and to foster career development*. ResearchComp outlines 38 competencies across seven competence areas: cognitive abilities, doing research, managing research, managing research tools, making an impact, working with others, and self-management.

The OS-CAM approach has inspired the development of more comprehensive career assessment tools and matrices, which list career-assessment criteria more broadly. *NOR-CAM: A toolbox for recognition and rewards in academic careers in Norway* (Universities Norway, 2021) provides examples of results and competencies across six areas of academic work, with indication of their documentation and self-reflection. Two Finnish universities (Turku and Oulu) have developed their own CAMs based on the model of OS-CAM and NOR-CAM. In addition, Utrecht University Medical Centre and University College London have developed Career Profile/Assessment Frameworks with a range of criteria specific for diverse career profiles and/or stages (Pain, 2023). Career Impact Framework developed in Trinity College Dublin combines CAM with a narrative CV, which provides structured written descriptions of academics’ or researchers’ contributions and achievements that reflect a broad range of relevant skills and experiences (Lima & Bowman, 2022).

In Finland, a broad-based working group set up by the Federation of Finnish Learned Societies (TSV) in 2018 produced a national recommendation for the responsible evaluation of a researcher: *Good Practice in*

Researcher Evaluation in Finland (2020). The goal of the national recommendation is to guide a responsible assessment process from start to finish. It contains five general principles (transparency, integrity, fairness, competence and diversity) applied across four domains of good practices:

- A) Building the evaluation process
- B) Evaluation of research
- C) Diversity of activities
- D) Researcher's role in the evaluation process

The recommendation was designed to be used in conjunction with the Finnish Advisory Board on Research Integrity's (TENK) structured template for a researcher's curriculum vitae (TENK CV). The template was originally published in 2012 and updated in 2020. It includes 15 information categories (the Finnish National Board on Research Integrity TENK, 2021). The aim of the template is to provide guidelines for the writer of a CV so that the individual's merits are presented as comprehensively, truthfully and comparably as possible.

A working group appointed by the Steering Group for Responsible Assessment of the Researcher is currently planning the Finnish Career Assessment Matrix (FIN-CAM). FIN-CAM is a tool both for the evaluator and the subject of evaluation. It aims to support a comprehensive, systematic and transparent documentation and consideration of the different areas of researchers' work. Evaluation situations may be related to recruitment, career advancement, personal development and performance evaluation, salaries, bonuses, or project funding. The working group wanted to engage the research community in Finland by means of a survey to better understand how researchers themselves would like to be evaluated.

Table 1 (next page) provides an overview of the main sources used to design and structure the survey. The TENK CV template, which many research performing organisations and funding organisations in Finland already use, was taken as a starting-point for the development of the FIN-CAM. Four examples of Career Assessment Matrix (OS-CAM, NOR-CAM, Turku CAM and Oulu CAM) were used for framing broad competence areas to be included in the survey: research output, research process, teaching, societal impact, leadership, and open science. An open question concerning working-life skills was added to the survey based on the ResearchComp.

Data collection

The survey was developed by the Working Group on Responsible Researcher Assessment and commented by the Steering Group and selected experts. It was carried out by TSV in November–December 2023. The survey consisted of 31 questions and took about 20–30 minutes to answer (Appendix 1). Participation was voluntary and anonymous.

'Researchers', as the target group of the survey, were defined broadly. They included persons who participate in various ways in professional activities aimed at producing new knowledge, applying knowledge in a new way, developing knowledge or making use of it in education. Doctoral researchers were included in the target group.

The survey was disseminated by TSV through social media and newsletter to almost 300 learned societies. Additionally, the Finnish Union of University Researchers and Teachers (FUURT), the Finnish Union of University Professors, the Council of Rectors of Finnish Universities (UNIFI), the Rectors' Conference of Finnish Universities of Applied Sciences (ARENE), and the network of State Research Institutes (Tulanet) disseminated the survey. TSV also sent survey invitations to the registries of all universities, universities of applied sciences, and the state research institutes in Finland. A total of 440 responses were received from researchers representing a wide range of disciplines, research organisations and career stages. The



anonymised data will be made openly available in the Finnish Social Science Data Archive (FSD) at a later date.

Table 1: Subheadings of TENK CV, selected CAMs and ResearchComp

TENK CV 2005/2020	OS-CAM 2017	NOR-CAM 2021	TURKU CAM 2022	OULU CAM 2022	ResearchComp 2022
1 Personal details	1 Research output	A Research output	1 Research output	A Research output	Doing research
2 Degrees					
3 Other education and expertise					
4 Language skills	2 Research process	B Research process	2 Research process	B Collaboration and research process	Managing research tools
5 Current employment					
6 Previous work experience					
7 Career breaks	5 Teaching and supervision	C Pedagogical competence	3 Teaching and pedagogical competence	C Teaching and supervision merits	Working with others
8 Research funding and grants					
9 Research output					
10 Research supervision and leadership experience	4 Research impact	D Impact and innovation	4 Impact and innovation	D Societal impact and innovation	Making an impact
11 Teaching merits					
12 Awards and honours	3 Service and leadership	E Leadership	5 Leadership	E Leadership	Managing research
13 Other key academic merits					
14 Scientific and societal impact	6 Professional experience	F Other experience		F Other experience	Self-management
15 Other merits					Cognitive abilities

Results

This report provides a basic descriptive presentation of the survey results, question by question, without cross-tabulations or statistical analyses to investigate differences based on variables, such as nationality, experience, field, or organisation type of the respondents. The survey data will be further analysed in scholarly presentations and publications.

Background

This section describes the characteristics of respondents. When possible, we aim to compare the characteristics of respondents with the overall population of teaching and research staff in Finland.

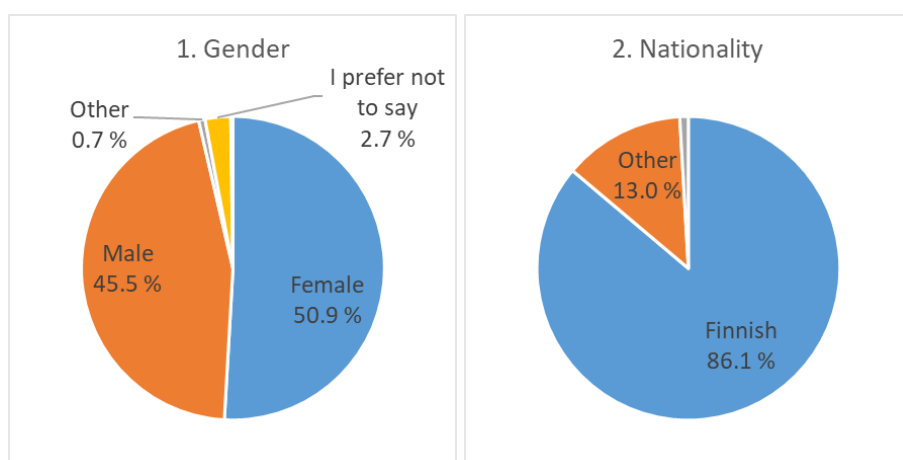
To summarise, the survey population includes respondents across genders, nationalities, years of research experience, organisation types, and fields of research. Compared to the Finnish research community, it overrepresents the following groups to some degree:

- Researchers with a Finnish origin vs. foreign researchers
- Doctoral degree holders vs. researchers with other educational background
- Researchers in permanent positions vs. researchers on a non-permanent contract or working with a grant
- Researchers with a university affiliation vs. affiliation at other organisations
- Background in social sciences and humanities vs. other fields
- Experienced researchers vs. early career researchers

1. Gender

Circa one half of respondents (51%) were women, 46% were men, and the rest preferred not to say or chose the option 'other'. According to the State of Scientific Research in Finland report, 52% of the research and teaching staff of the Finnish higher education institutions in 2022 were women, while in the public sector including state research institutes the share of women is 48% (Academy of Finland, 2023).

1. Gender	N	%
Female	224	50.9
Male	200	45.5
Other	3	0.7
I prefer not to say	12	2.7
No answer	1	0.2
Total	440	100



2. Nationality

The majority of respondents (86%) were of Finnish nationality. The share of Finnish respondents is somewhat larger, especially among the respondents affiliated with universities, than their share of the total full-time equivalent of teaching and research staff among the entire teaching and research staff of the Finnish universities (71% in 2022) (Vipunen, 2024). Researchers with a foreign nationality from more than 25 different countries responded to the survey.

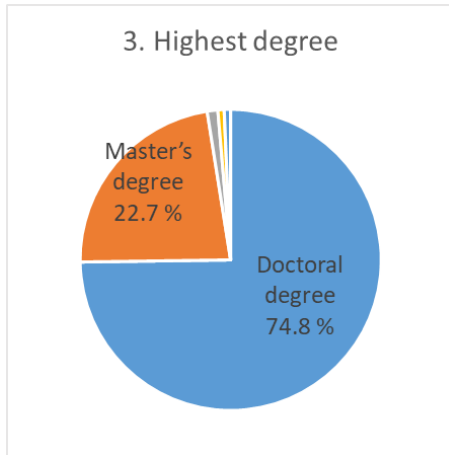
2. Nationality	N	%
Finnish	379	86.1
Other	57	13.0
No answer	4	0.9
Total	440	100.0

3. The highest degree

Nearly all respondents had either a doctoral degree (75%) or a master's degree (23%). The share of respondents with doctoral degrees is much larger than their share of the overall R&D personnel of the Finnish higher education sector (35%) or the public sector (31%) in 2021 (Academy of Finland, 2024).

3. The highest degree you have obtained	N	%
Doctoral degree	329	74.8
Master's degree	100	22.7

Licentiate degree	5	1.1
Bachelor's degree	3	0.7
No answer	3	0.7
Total	440	100

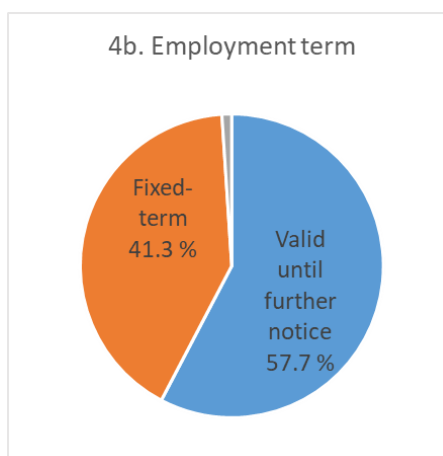
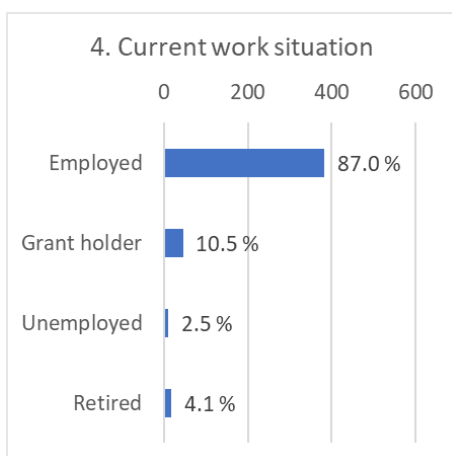


4. Current work situation

The vast majority of respondents were employed (87%), while a smaller share were grant holders (11%), unemployed (3%) or retired (4%). Of those respondents who were employed, the majority (58%) had a permanent position.

Researchers in permanent positions account for a larger share (53%) of the respondents from the universities and universities of applied science than is their share (44%) of the total full-time equivalent of teaching and research staff among the Finnish higher education institutions (Vipunen, 2024).

4. Your current work situation (multiple choice)	Employed	Grant holder	Unemployed	Retired
Yes	383 (87.0%)	46 (10.5%)	11 (2.5%)	18 (4.1%)
No	57 (13.0%)	394 (89.5%)	429 (97.5%)	422 (95.9%)
Total	440 (100%)	440 (100%)	440 (100%)	440 (100%)



5. Primary background organisation

The majority of the respondents were affiliated primarily with universities (76%). A smaller but substantial share worked at state research institutes (10%) or at universities of applied sciences (9%). Other types of organisations are represented by a very small share of respondents. As regards the individual universities (table 5b), the University of Turku is overrepresented among the respondents.

Overall, the survey population over-represents researchers affiliated with universities. There were hardly any respondents from the private sector, although it employs over half (51%) of R&D personnel in Finland (Statistics Finland, 2023). If we compare only higher education and public sectors, universities and universities of applied science account for a larger share (88%) than is the higher education sectors' share (82%) of the combined R&D personnel of the two sectors. Focusing only on the higher education sector, it seems that the share of respondents from universities (90%) is larger than the universities' share (72%) of the higher education sector's full-time equivalent in 2022 (Vipunen, 2024). This means that the responses probably overrepresent the views of the university researchers.

Note: Persons working with foundation funding but affiliated with an organisation were instructed to select the organisation in question.

5. Your primary background organisation	N	%
University	335	76.1
State research institute	42	9.5
University of applied sciences	38	8.6
Other public organisation	11	2.5
Business	7	1.6
Foundation, association or other non-profit organisation	3	0.7
Other	1	0.2
No answer	3	0.7
Total	440	100

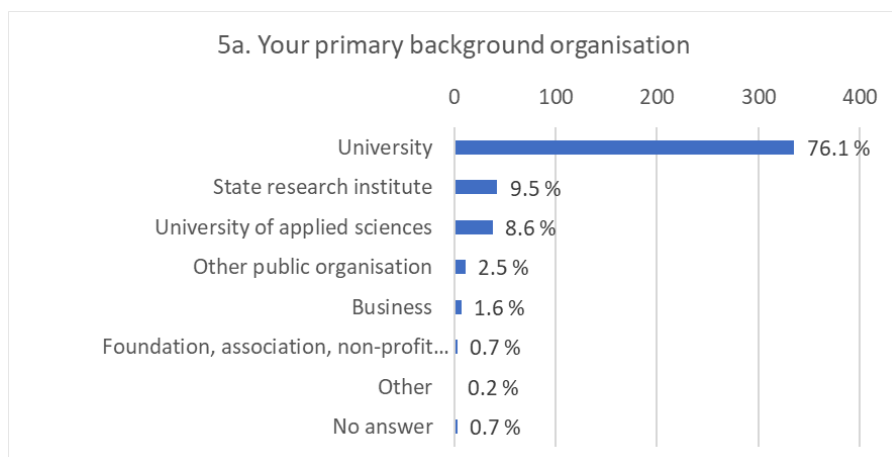
5b. University	N	%
University of Turku	88	26.3
University of Oulu	46	13.7
University of Helsinki	44	13.1
University of Eastern Finland	41	12.2
University of Jyväskylä	32	19.6
University of Lapland	21	6.3
Tampere University	19	5.7
Åbo Akademi University	15	4.5
LUT Lappeenranta-Lahti University of Technology	7	2.1
University of the Arts Helsinki	7	2.1
Aalto University	6	1.8
University of Vaasa	2	0.6
Hanken School of Economics	1	0.3
National Defence University	1	0.3
No answer	5	1.5
Total	335	100

5b. State Research Institute	N	%
Finnish Meteorological Institute	9	21.4
Natural Resources Institute Finland	9	21.4



VTT Technical Research Centre of Finland Ltd	9	21.4
Finnish Environment Institute	8	19.0
Geological Survey of Finland	5	11.9
Finnish Institute for Health and Welfare	1	2.4
Finnish Institute of International Affairs	1	2.4
Total	42	100

5c. University of Applied Science	N	%
South-Eastern Finland University of Applied	12	31.6
Turku University of Applied Sciences	7	18.4
Diaconia University of Applied Sciences	2	5.3
JAMK University of Applied Sciences	2	5.3
Lapland University of Applied Sciences	2	5.3
Laurea University of Applied Sciences	2	5.3
Metropolia University of Applied Sciences	2	5.3
Tampere University of Applied Sciences	2	5.3
Centria University of Applied Sciences	1	2.6
Haaga-Helia University of Applied Sciences	1	2.6
Karelia University of Applied Sciences	1	2.6
LAB University of Applied Sciences	1	2.6
Satakunta University of Applied Sciences	1	2.6
Vaasa University of Applied Sciences	1	2.6
No answer	1	2.6
Total	38	100

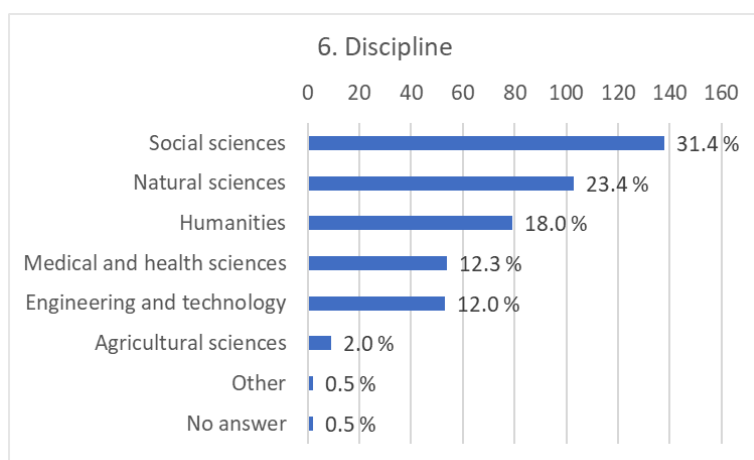


6. Discipline

The largest share of respondents represented social sciences (31%), natural sciences (23%) and humanities (18%). A smaller share of responses came from medical and health sciences (12%), engineering and technology (12%), and agricultural sciences (2%).

At least for the higher education sector, the share of respondents from social sciences and humanities is somewhat larger (33% and 20% respectively) than their share (27% and 14% respectively) of the total full-time equivalent of teaching and research staff of the Finnish higher education institutions in 2023 (FTE=26,990) (Vipunen, 2024).

6. Which of the following disciplines does your research represent	N	%
Social sciences	138	31.4
Natural sciences	103	23.4
Humanities	79	18.0
Medical and health sciences	54	12.3
Engineering and technology	53	12.0
Agricultural sciences	9	2.0
Other	2	0.5
No answer	2	0.5
Total	440	100



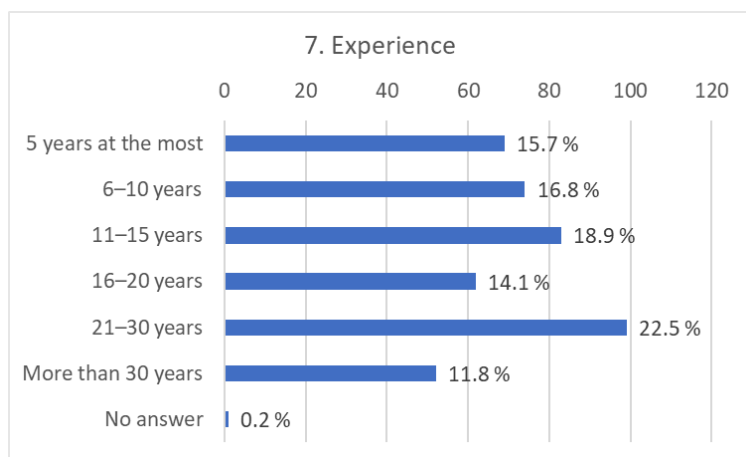
7. Experience with research work

Overall, researchers with the whole range of research experience are represented among the respondents: almost one-third (33%) have a maximum of 10 years of research experience and one-third (34%) have more than 20 years of experience.

There is no equivalent national level data, which could offer direct comparison of research experience years with the Finnish higher education or public sectors in general. Nevertheless, it seems that more experienced researchers may be overrepresented among the respondents. For example, at Finnish universities, researchers at the career phase level 1 (doctoral researchers) and level 2 (e.g., postdoctoral researchers) amounted to 62% of the teaching and research staff in 2022 (Suomen Akatemia, 2023).

Note: Respondents were instructed to include all the years in which conducting research, tasks supporting research or teaching within higher education institutions had been part of their work duties. These years also included doctoral dissertation research when carried out in addition to other work.

7. Your experience with research work.	N	%
5 years at the most	69	15.7
6–10 years	74	16.8
11–15 years	83	18.9
16–20 years	62	14.1
21–30 years	99	22.5
More than 30 years	52	11.8
No answer	1	0.2
Total	440	100



8. Role in research

Most respondents were members or heads of a research group (26% and 20% respectively), independent researchers (13%), researcher-teachers (12%) or doctoral researchers (15%).

8. Which of the following best describes your role in the field of research	N	%
Member of a research group	112	25.5
Head of a research group	87	19.8
Independent researcher (without a research group)	59	13.4
Researcher-teacher or other role with an emphasis on teaching	53	12.0
Doctoral researcher (not a member in a research group)	33	7.5
Doctoral researcher in a research group	31	7.0
Management role in an organisation	17	3.9
Head of a network of several research groups or other similar entity	16	3.6
Tasks supporting research work	14	3.2
Other	7	1.6
Part-time researcher	7	1.6
I am not working in the field of research anymore / for now	3	0.7
No answer	1	0.2
Total	440	100

General questions related to evaluation

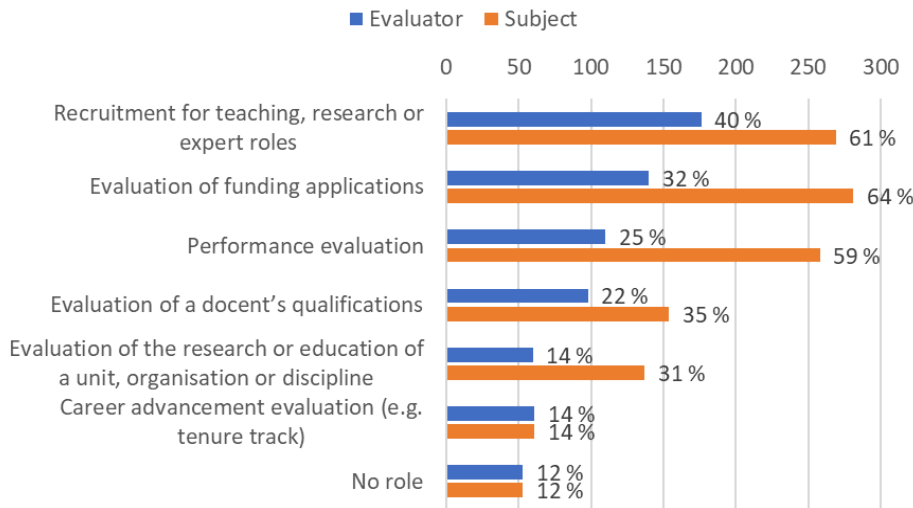
This section describes the main results of questions related to the respondents' experience in assessments. Less than a half of respondents, 45%, had experience as both evaluators and subjects of evaluation. Little over one-third (36%) had experience only in the role of subject of evaluation. A smaller share had only experience as evaluators (12%) or had no experience of either role (7%).

Respondents had experience especially related to recruitment, funding applications, and performance review processes. Evaluations related to docent's qualification, career advancement at the individual level, and research or education of a unit, organisation or discipline were less commonly experienced (Figure 9).

To summarise, transparency and clarity of the assessment criteria and process, as well as holistic approach with consideration of a broad range of contributions, were valued as good practices encountered by respondents both in the role of evaluator and subject of evaluation. Furthermore, evaluators highlighted the benefits of open dialogue and collaboration of the evaluation group, while subjects underscored the value of constructive feedback from evaluation.

Over a half of the respondents indicated having been in situations where they felt wrong methods or criteria (54.8%) had been used or the goals or criteria of evaluation were not openly known to all parties (52%). The main problems experienced by respondents in assessments included a narrow focus on research and publication metrics, and their prioritising over other areas of academic work. Also a vague definition and inconsistent application of evaluation criteria, and non-transparency of information used as basis of evaluation, were indicated as problems. Many respondents expressed concerns about fairness and favouritism.

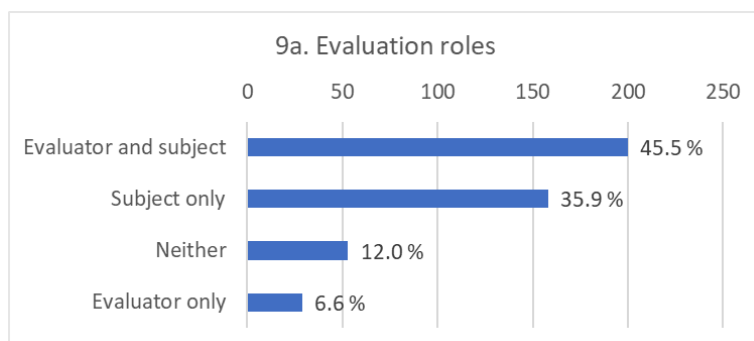
9. Evaluation context



9a. Roles in evaluation

The vast majority of respondents (81.4%) have been subject to evaluation, while more than half (52%) have experience as evaluators. When answers are combined, the largest share (45%) of respondents have experience as both evaluators and subjects, little over one-third (36%) has experience only in the role of subject, while a small share has only been evaluators (12%) or have no experience of either role (7%).

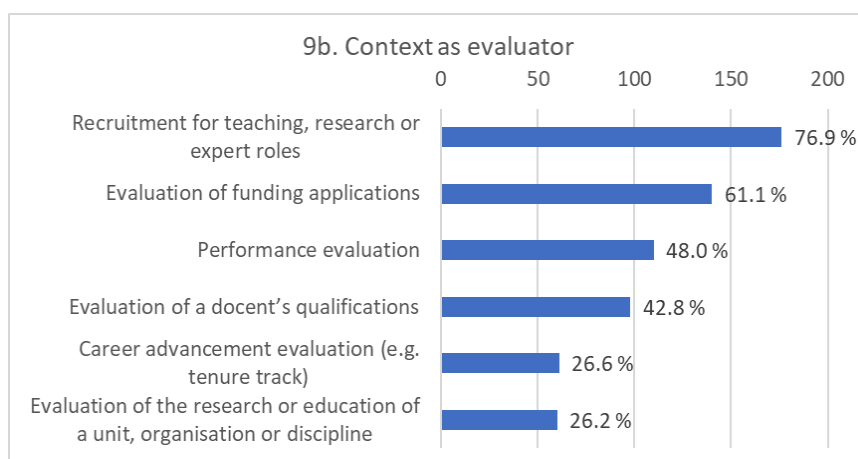
9a. In which role have you participated in evaluations	Evaluator	Subject of the evaluation
Yes	229 (52.0%)	358 (81.4%)
No	211 (48.0%)	82 (18.6%)
Total	440 (100%)	440 (100%)



9b. As an evaluator

Of those 229 respondents who had been evaluators, the largest share had experience of assessment for recruitment (77%) and for funding application (61%), followed by performance review (48%) and docent's qualifications (43%). Fewer respondents had experience of career advancement evaluation, for example tenure track, (27%) and evaluation of the research or education of a unit, organisation or discipline (26%).

9b. If as the evaluator, please specify the context.	Yes	No	N/A	Total
Recruitment for teaching, research or expert roles	176 (40.0%)	53 (12.0%)	211 (48.0%)	440 (100%)
Performance evaluation	110 (25.0%)	119 (27.0%)	211 (48.0%)	440 (100%)
Career advancement evaluation (e.g. tenure track)	61 (13.9%)	168 (38.2%)	211 (48.0%)	440 (100%)
Evaluation of a docent's qualifications	98 (22.3%)	131 (29.8%)	211 (48.0%)	440 (100%)
Evaluation of funding applications	140 (31.8%)	89 (20.2%)	211 (48.0%)	440 (100%)
Evaluation of the research or education of a unit, organisation or discipline	60 (13.6%)	169 (38.4%)	211 (48.0%)	440 (100%)



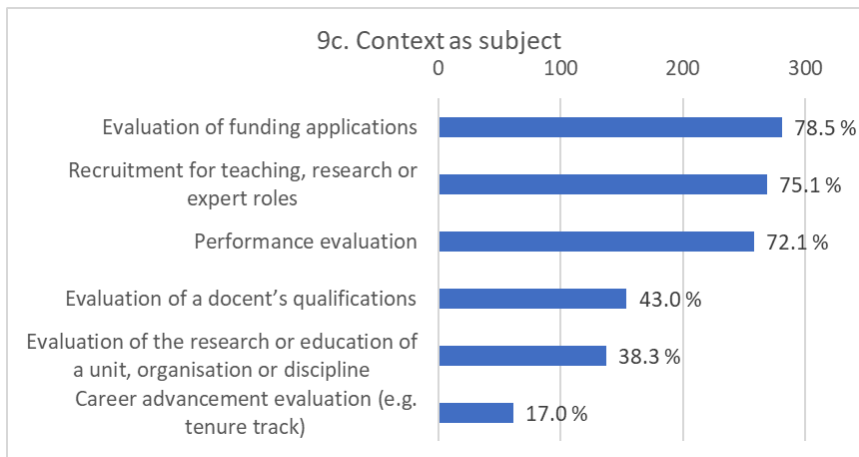
9c. As subject of evaluation

Of those 358 respondents who had been subjects of evaluation, around three-fourths had experience of assessment for funding application (78%), recruitment (75%) and/or performance review (72%). Less frequently experienced assessments were for docent's qualifications (43%) and evaluation of the research or education of a unit, organisation or discipline (38%), while relatively few had been subject to career advancement evaluation, for example tenure track (17%).

9c. If you were the subject of the evaluation, please specify the context.	Yes	No	N/A	Total
Recruitment for teaching, research or expert roles	269 (61.1%)	89 (20.2%)	82 (18.6%)	440 (100%)
Performance evaluation	258 (58.6%)	100 (22.7%)	82 (18.6%)	440 (100%)
Career advancement evaluation (e.g. tenure track)	61 (13.9%)	297 (67.5%)	82 (18.6%)	440 (100%)
Evaluation of a docent's qualifications	154 (35.0%)	204 (46.4%)	82 (18.6%)	440 (100%)



Evaluation of funding applications	281 (63.9%)	77 (17.5%)	82 (18.6%)	440 (100%)
Evaluation of the research or education of a unit, organisation or discipline	137 (31.1%)	221 (50.2%)	82 (18.6%)	440 (100%)



9d. Good practices encountered as an evaluator

Of those 229 respondents who had experience as evaluators, 170 (74%) commented in an open-ended answer on their views on good evaluation practices. Some of the most frequently mentioned good practices were related to the assessment process itself, the clarity of the purpose of the assessment, comprehensiveness of the assessment including different dimensions of work, and the transparent use of diverse assessment criteria and data.

Below is a more detailed summary of the more frequently mentioned good practices encountered by researchers as evaluators:

- Structured and well-prepared evaluation process especially in the case of recruitment: a clear process description and a timeline, introduction and guidelines to peer reviewers (e.g., responsible use of bibliometrics), how to acknowledge possible biases within assessments (e.g., related to gender)
- Reserving enough time for the evaluation process especially in the case of recruitment, including joint discussions within the committee
- Diversity and large enough size of the assessment committee, effective collaboration within the committee members, having an impartial member within the process (e.g., from HR), involving external experts within the process, and emphasising the reviews of peer reviewers in the assessment process
- Openness of recruitment (instead of invitation-based recruitment)
- Clearly defined job postings: defining the criteria beforehand, communication of the criteria to the candidates and evaluators, applying the criteria in practice
- Transparency of the evaluation process
- Consideration of conflicts of interests within recruitment and promotion processes
- Ethical treatment of candidates within recruitment processes, offering constructive feedback as part of assessment, proper archiving and discarding of data after the process
- Mutual respect of different partners, active role of the researcher who is being assessed

- Comprehensive and holistic approaches: considering diverse dimensions of work (e.g., research, teaching, societal interaction, community-related tasks, artistic achievements) while taking into account the specific field of the candidates
- Use of both qualitative and quantitative assessment and indicators, and diverse sources of data (e.g., reviewing original research publications, the use of bibliometrics, peer review, portfolios, interviews)
- Taking into account the career phase of candidates in assessments
- Taking into account the academic fields and their differences (e.g., different publication patterns) in assessments

9e. Good practices encountered as subject of evaluation

Of those 358 respondents who had been a subject of evaluation, 240 (67%) commented in an open-ended answer on good evaluation practices. In this report we do not provide comprehensive analysis of these answers but only highlight that among the good practices most frequently mentioned were transparency and clarity of the assessment criteria and process, consideration of a broad range of contributions, and constructive feedback.

Below is a summary of the more frequently mentioned good evaluation practices encountered by respondents as subjects of evaluation:

- Clear, transparent and objective pre-defined criteria communicated before the evaluation process.
- Transparency of the evaluation process, including how the evaluation process works, who the evaluators are, and the timeline of the evaluation process, the steps involved and how decisions are made.
- Encouraging open dialogue throughout the evaluation process and clear communication of evaluation outcomes was considered important.
- Instead of solely focusing on metrics such as number of publications or h-index, a more holistic approach that considers various aspects of an individual's contributions and capabilities was favoured.
- High-quality, clear and versatile feedback to researchers concerning the areas of the assessment they performed well, and where there is still room for improvement.
- Evaluators recognize the specific circumstances and contexts of candidates' work and adjust their assessments accordingly.

10. Problems or shortcomings

Of all 440 respondents, 352 (80%) commented in an open-ended answer on the shortcomings in research assessment ("What do you think are the biggest problems or shortcomings in the evaluation of a researcher's qualifications and performance?"). In this report we do not provide comprehensive analysis of the open-ended answers, but highlight the problems and shortcomings most frequently mentioned.

One of the tackled issues was the overemphasis on publication metrics, in other words, concerns about the narrow focus on, or dominant role of, the number and venue of publications. This includes a focus on the number of publications, the impact factor of journals, and other bibliometric indicators, such as the JUFO classification system. Several respondents specifically mentioned their concerns about the use of the h-index. The respondents also discussed the issue of a too narrow focus in evaluation in a more general way, mostly highlighting the neglect of recognition for teaching and activities related to attempts to create societal impact.

Second, there were many responses discussing the problem of unclear assessment criteria and the lack of transparency in the assessment processes. A common issue experienced in the evaluation process was that



criteria changed during the process. This was also discussed in connection with concerns about bias and subjectivity in evaluation. It was highlighted that the personal preferences of evaluators influence their decisions. Respondents also expressed their worries about the influence of personal networks, favouritism, and nepotism. Additionally, the bias of the evaluators was raised in connection with the lack of appreciation for research that does not fit traditional disciplinary boundaries, and in general the fields of research unfamiliar to the evaluators.

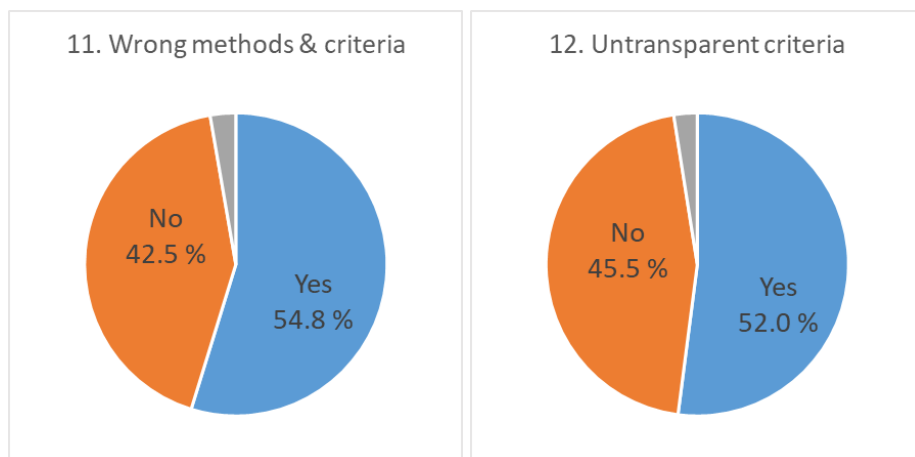
Third, from the perspective of responsible evaluation, one of the challenging themes was the issue concerning evaluators who are not familiar with the field they should evaluate. This is typically the case in relatively small fields and situations where most of the crucial actors are not eligible to act as evaluators because of their collaboration with the subjects of evaluation.

11. Wrong methods or criteria

Over a half (54.8%) of all 440 respondents indicated having been in situations where they felt wrong methods or criteria had been used in evaluating their skills.

11. During your career, have you ever been in evaluation situations in which you feel that your skills were evaluated using wrong methods or criteria	N	%
Yes	241	54,8
No	187	42,5
No answer	12	2,7
Total	440	100

Of the 241 respondents who answered 'yes', 225 (93.3%) provided comments in a long text field regarding the situation. The responses to this question were very similar to those regarding the question of the biggest problems (see above). Among the most frequently mentioned concerns were worries about the overemphasis on publications at the expense of other areas of academic work, such as neglect of teaching and other responsibilities, lack of transparency and clear criteria, and non-recognition of interdisciplinary research. In addition, there was a theme of inconsistency and unfairness of application criteria. This referred to the examples where different criteria were applied to similar situations, or criteria were used to disadvantage a candidate. This was linked to perceptions of unfairness and bias in the evaluation process.



12. Non-transparency of goals or criteria

Over a half (52%) of all 440 respondents indicated having been in situations where they felt the goals or criteria of evaluation were not openly known to all parties.

12. During your career, have you ever been in evaluation situations in which the goals or criteria of the evaluation or the materials used were not openly known to all of the parties involved-	N	%
Yes	229	52,0
No	200	45,5
No answer	11	2,5
Total	440	100

Of those 229 respondents who answered 'yes', 192 (83.8%) commented in a long text field on the situation. Among the most frequently mentioned practices were the vague or too generic definitions and inconsistent application of evaluation criteria. Also, non-transparency of information used as the basis of evaluation was taken up. There was a common perception that funding applications and recruitment processes involve hidden criteria that are not disclosed to the applicants. This includes situations where the criteria communicated publicly do not match those used in decision-making. Several responses also pointed to situations where evaluators have access to certain materials or information that are not made available to the applicants, leading to a lack of transparency. Furthermore, the lack of feedback from evaluations, particularly in funding decisions, were highlighted as a concern.

13. Other experiences with evaluations

Over one-fourth (27%) of all 440 respondents commented in a long text field on other experiences with evaluations (“In this section, you can describe your other experiences with evaluations in which you have taken part”). In this final question of the survey, respondents extensively shared their experiences and views related to evaluation. Responses mainly addressed the themes already covered in relation to other survey questions. However, two new themes emerged in relation to the questions presented earlier: perceived stress and anxiety related to constant evaluation, and disbelief that developmental work could bring about changes.

Several respondents mentioned that the constant state of being evaluated is stressful, and there is a sense of having become desensitised to the anxiety this causes. Respondents also commented that surveys of this nature do not help in situations where ultimately the selection criteria are always tailored so that the preferred person can be selected. This section also highlighted how constant disappointments in evaluations had led to the decision to leave the academy permanently. A few respondents also shared positive experiences, particularly when the evaluation process was structured to foster mutual understanding among all parties involved.

Questions related to the areas of evaluation

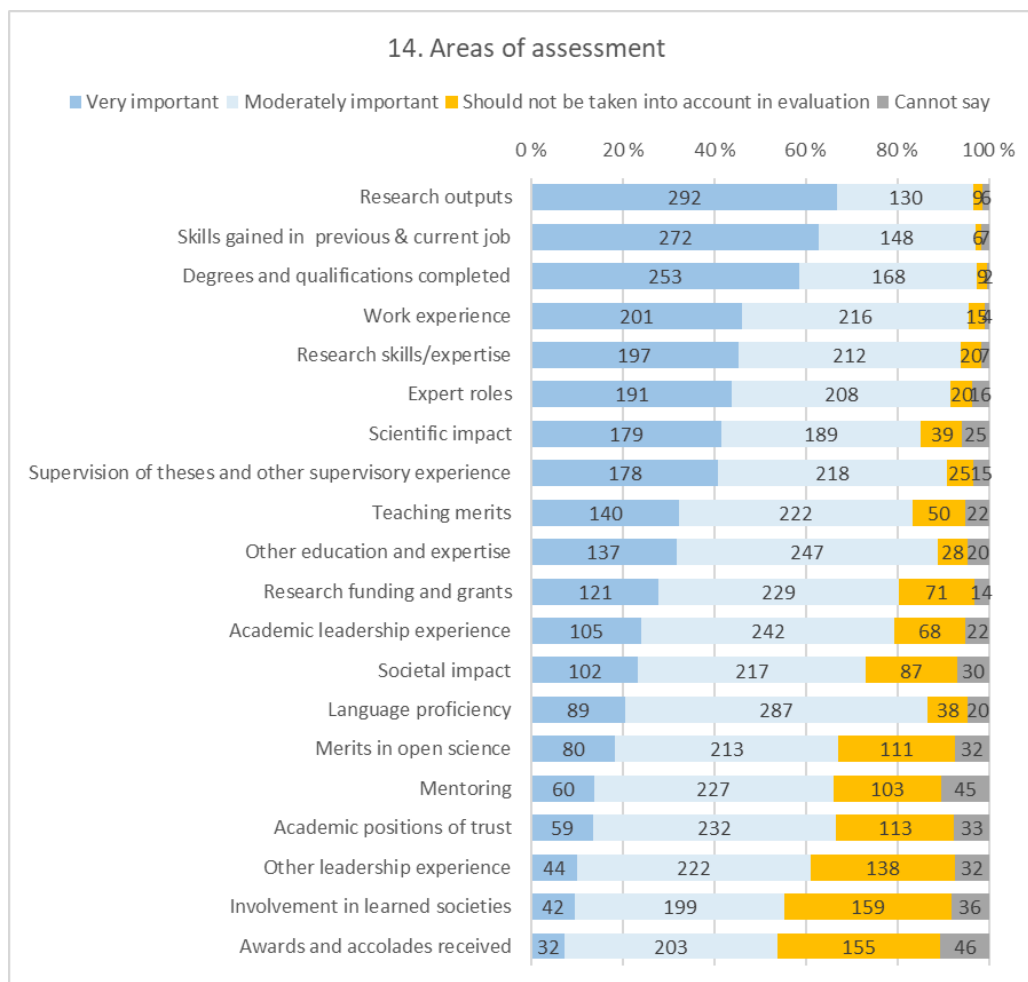
In this section we describe the main findings to questions regarding the importance of diverse areas and elements of assessment related to research output, research process, teaching, societal impact, leadership and open science. The answers show that researchers consider a great variety of experiences, competences and contributions to science and society “very important” or “moderately important” for their assessment. On average, 440 respondents considered 26 out of 109 elements listed in the survey “very important”, and 49 elements as “moderately important”, which provides strong support for moving away from narrow output-based criteria towards a more holistic assessment of competences.

14. Areas of assessment

The respondents were first asked to rate the importance of 20 listed competence area elements from their own perspective. The listed elements were taken from the structured CV format published by the National Board for Research Integrity (the Finnish National Board on Research Integrity TENK, 2021). The format is used by many research organisations and funders in Finland. On average, 440 respondents indicated 6.3 different listed elements as “very important” and 9.6 as “moderately important”. Out of 19 listed elements, three respondents considered only research outputs “very important”.

The majority of respondents considered research outputs (67%), skills gained in previous and current jobs (63%), and degrees and qualifications completed (59%) as “very important”. Only a very few respondents thought these areas should not be taken into account in evaluation.

The areas that only a minority of respondents saw as “very important” for the assessment of their competences were non-academic leadership experience (10%), involvement in learned societies (10%), and awards and honours received (7%) . Nevertheless, even in these cases around one-half of the respondents considered these elements as “moderately important”. The low significance granted to awards and honours may be explained by the fact that these are relatively rare forms of recognition and thus not relevant from the perspective of most respondents.



15. Missing areas of assessment

The respondents were asked to add any missing areas of assessment that were not listed in section 14. Almost one-third (31%) of all 440 respondents provided answers in an open-ended answer. Many of these areas were covered later in the survey.

Below is a summary of the different types of elements mentioned or issues raised:

- Interdisciplinarity/multidisciplinarity of one's research, capability of multidisciplinary thinking
- Methodological competence
- Handling research permit applications and data protection processes in research
- Following and promoting ethical conduct in research
- Maintaining research infrastructure
- Contribution to external research funding applications (even if no funding was granted)
- R&D funding and development projects with organisations outside academia
- Efficiency of using R&D funding (ratio between research outputs and the resources used)
- Acting as keynote speaker in prestigious conferences
- Acting as opponent in doctoral defences, acting as a scholarly peer reviewer or academic editors
- Quality of academic leadership
- Promoting research competences in one's organisation (e.g., contribution to the development of research)
- Fostering work well-being in one's organisation/unit/team; fostering collegiality and a sustainable work culture
- Working-life skills
- Collaboration and interpersonal skills, ability to work in teams
- Development of teaching, pedagogical skills, quality of teaching
- International networking and collaboration
- Mobility within the higher education sector, mobility between sectors
- Activity in open research networks
- Administrative experience
- Language proficiency: mastering several languages
- Further specification of societal engagement activities (e.g., industry collaboration, activity in media, citizen science, contributing to policy-making, positions of trust outside academia, research popularisation)
- Academically-oriented development cooperation
- Understanding scientific impact not only quantitatively (e.g., the number of citations), but qualitatively in terms of innovativeness, creativity, and risk-taking
- Problem-solving skills, time management and organisation skills
- Independence in research, taking into account the researcher's role in research publications (emphasising first-authored papers)
- Scope or narrowness of one's research and/or teaching
- Clinical skills, experience in clinical work

In addition, the respondents stated that there can be no universal list of criteria, but the criteria should be tailored according to the position or situation the assessment is related to. One respondent commented the candidates have to be assessed in terms of the added value they would bring to the existing team or unit. One respondent called for positions that would enable to have room for a certain profile instead of having to excel in every competence area.

Other comments were related to the need to acknowledge the career phase of candidates and how to take these into account in assessments (e.g., balance between potential and achievements): more junior-level candidates should be expected to have less achievements compared to senior candidates. One comment considered the need for candidates to have a progressive career timeline with increasing activity in the latest years.



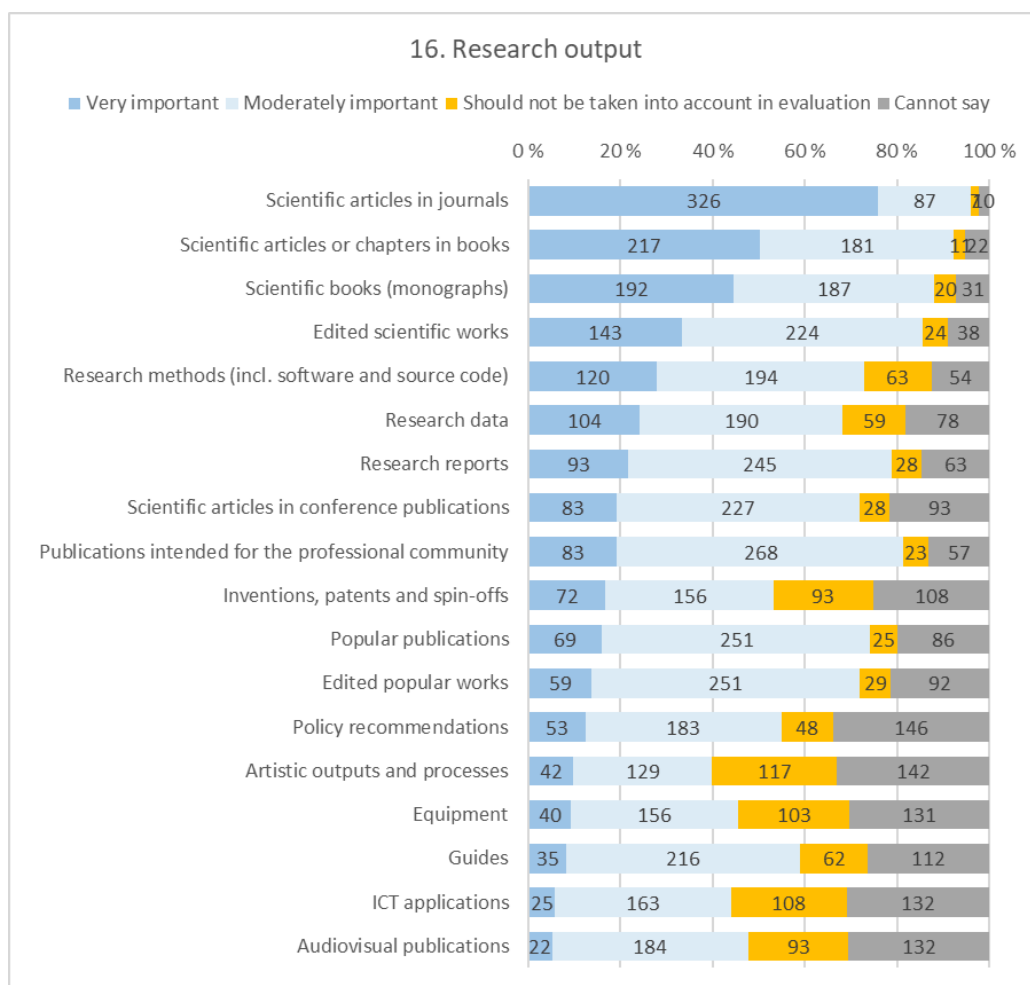
Many respondents commented that the possibilities of researchers to gain certain achievements are not equally distributed (e.g., possibilities of early-career researchers to contribute to teaching, possibility of staff in teaching-intensive positions to contribute to research, possibility to publish openly, effects of career breaks, possibility of non-natives to contribute to societal interaction in Finland), and that these discrepancies should be taken into account in assessments.

Some respondents called for widening the data used in assessments to cover, e.g., feedback given by colleagues and students, and the employability of new doctors.

16. Research outputs

The respondents were asked to rate the importance of listed research output elements from their personal perspective. Out of 18 listed research outputs, 41 respondents considered only scientific articles in journals “very important”, while 440 respondents indicated on average 4 different outputs as “very important” and 7.9 as “moderately important”.

The largest share of respondents considered the scientific articles in journals (76%) “very important”, followed by scientific articles or chapters in books (50%), and scientific monographs (45%). At the other end of the spectrum, the smallest share of respondents considered ICT applications (6%) and audiovisual publications (5%) “very important” for the assessment of their competences. Nevertheless, even in these cases around 40% of the respondents considered these elements as “moderately important”.



Large share of “should not be taken into account” and “cannot say” in the case of inventions, patents and spin-offs, policy recommendations, artistic outputs and processes, equipment, guides, ICT applications and

audiovisual publications may be explained by the fact that these are often field specific outputs, which are not relevant from the personal perspective of most respondents.

17. Missing research outputs

Almost one-fifth (22%) of all 440 respondents commented in an open-ended answer on missing research outputs. In addition to the great diversity of outputs mentioned by the respondents, we wish to highlight an important point raised by one respondent regarding the role of outputs in assessment: "I think that there is no point treating any research output different from any other one. As pointed out above, research outputs should provide evidence of the research process, its rigour, integrity, novelty, etc., but these should not be misinterpreted as measures of productivity, and their numbers or popularity do not reflect their quality."

Below is a summary of the different types, specifications and aspects of outputs mentioned:

- Blogs, columns, social media communication
- Book reviews, bibliographies, critical editions, translations,
- Exhibitions
- Replications, negative results
- Review reports
- Recommendations
- Contributions to EU research programs
- Simulations and operating models, references
- Tools
- Geospatial data
- Organised seminars, conferences, workshops, trainings, discussion forums
- Keynote presentations and lectures
- Expert, panel and committee work
- Building research groups, consortia, social and cooperation networks and communities,
- Collaboration with industry and artists
- Editorial work
- Further research topics
- Contribution roles

18. Meaning of scientific quality and impact

264 respondents (60%) commented on the meaning of quality and impact of research in their field. In this report we do not provide comprehensive analysis of these answers but only highlight that among the most frequently mentioned aspects of research quality relate to methodological rigour and innovativeness and novelty of contributions to scientific knowledge. Impact is most often related on one hand to contributing to future research and advancing the field, as well as to practical application and use of research findings outside academia and influencing social practices or economic policies.

Below is a summary of the more frequently mentioned meanings:

Research Quality

- Original, theoretically and/or methodologically ambitious, produces new and significant information from the point of view of the discipline.
- Proper use of methods and suitable data, following ethical standards, open and transparent conducting of research.
- Substantive contribution to the field that introduces new approaches or concepts, deepens theoretical understanding, is creative or innovatively applies concepts from other fields.



- Validated through peer review processes which indicate the acceptance of the scholarly community and ensure the research meets academic standards and rigour.

Research Impact

- Contributing to and advancing the field, influencing ongoing research and opening up important new avenues for further research.
- Practical use of research findings in industry, policy-making, or other fields outside academia or the broader implications of research on society and the economy, influencing social practices or policies.
- Research impact is difficult to measure, because fields of sciences are so different.
- Published in high-quality journals, has a high number of citations, research results are transferred to practice and the research results are openly and transparently available to everyone.

19. Research process and conduct of research

The respondents were asked to rate the importance of listed elements related to the research process from their personal perspective. Out of 18 listed elements related to the research process, 440 respondents indicated on average 4.5 different elements as “very important” and 8.5 as “moderately important”.

Participation in international scientific networks and applying for research funding were considered “very important” by circa half of respondents (54%; 46%). The smallest share of respondents considered working in disciplinary associations (12%), national mobility within the research community (11%) or participation in clinical studies (6%) “very important” for the assessment of their competences.

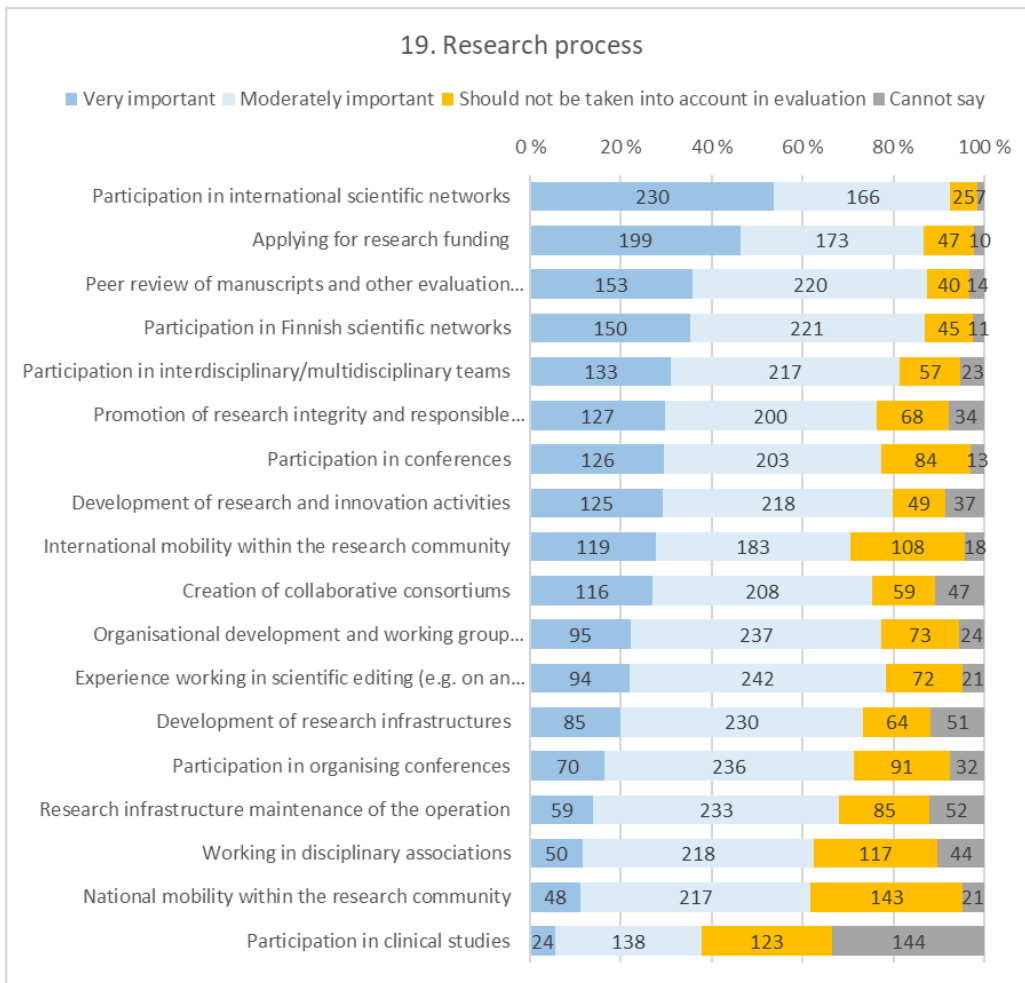
Nevertheless, even in the latter case around 30% of the respondents considered the element as “moderately important”. Large share of “should not be taken into account” and “cannot say” reflect the fact that participation in clinical trials is a very field specific activity, which is not relevant from the personal perspective of most respondents.

20. Missing elements related to research processes

Less than one-fifth (16%) of all 440 respondents commented in an open answer on missing elements related to the research process and conduct of research.

Below is a summary of the different types of elements mentioned or issues raised:

- Active participation in international scientific steering groups and networks, organising events, and doing actual collaborative research work, considering also multi- and interdisciplinary contexts. However, requirements for international mobility were considered as potentially discriminating, especially for researchers with caring responsibilities.
- Leading international events, fostering the work of younger researcher generations, managing and directing research teams.
- Success in obtaining research funding, knowledge of global research infrastructures, developing new research methodologies, analytical and synthetic capabilities and ability to generate research data.
- Ethical and fair treatment of team members, adhering to ethical standards in the workplace as well as in conducting research
- Producing transparent and replicable research outcomes.



21. Teaching

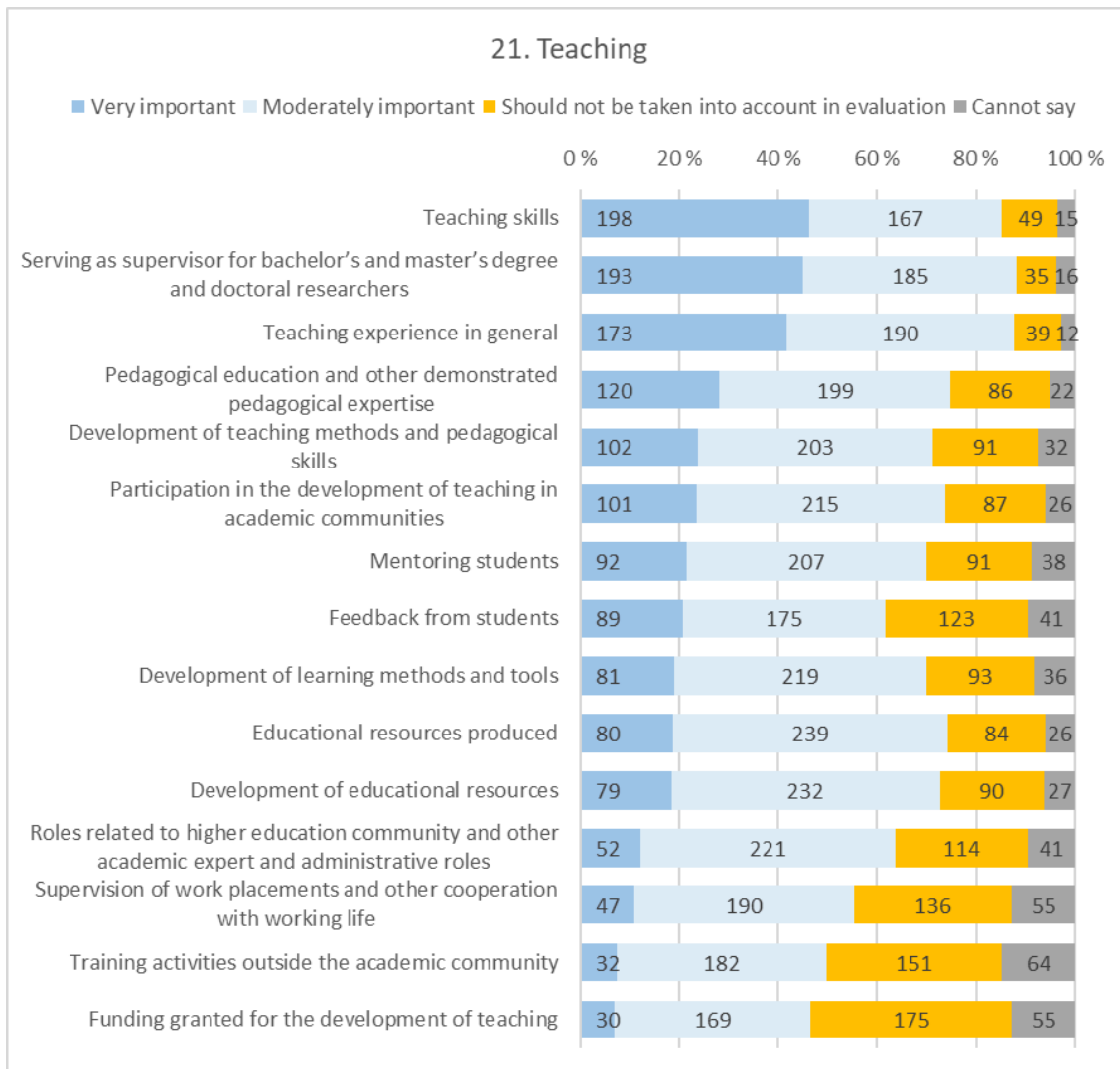
Out of 15 listed elements related to teaching, 440 respondents indicated on average 3.3 different elements as “very important” and 6.8 as “moderately important”.

When asked to rate from their personal perspective the importance of listed elements related to the teaching, the largest share of respondents considered as “very important” the teaching skills (46%), serving as supervisor for bachelor’s and master’s degree and doctoral researchers (45%) and teaching experience in general (42%). At the other end of the spectrum, the smallest share of respondents considered training activities outside the academic community (7%) and funding granted for the development of teaching (7%) “very important” for the assessment of their competences.

Nevertheless, even in these latter cases around 40% of the respondents considered the elements as “moderately important”. Large shares of “should not be taken into account” and “cannot say” reflect the fact that training activities outside academia may be relatively rare, and funding for development is perhaps specific to teaching-oriented academics, and so not relevant from the personal perspective of most respondents.

22. Missing teaching merits or outputs

Less than one-fifth (16%) of all 440 respondents commented in an open answer on missing elements related to teaching.



Below is a summary of the more frequently mentioned elements or issues raised:

- Informal guidance and mentorship, i.e. acting as an informal supervisor or mentor for undergraduate students, doctoral candidates or postdoctoral researchers
- Involvement in developing, drafting or renewing curriculum, entrance exams and/or study programs
- International experience and multilingualism in teaching
- Educational leadership roles
- Student performance
- Some respondents emphasised that teaching and research are separate activities
- Some respondents raised concerns about the reliability of student feedback in the assessment of teaching performance
- One concern was that international researchers might not have the same access to pedagogical training as Finnish researchers and not everybody have the possibility to gain teaching merits

23. Societal impact

Out of 21 listed elements related to societal impact, 440 respondents indicated on average 3.5 different elements as “very important” and 8.8 as “moderately important”.

When asked to rate from their personal perspective the importance of listed elements related to the societal impact, the largest share of respondents considered as “very important” the publishing for

professional audiences (38%) and popularising research for the general public (37%). At the other end of the spectrum, the smallest share of respondents considered cross-sectoral mobility (8%), entrepreneurship and innovation activities (6%), clinical work (5%), commercialisation of research (5%) and being active on social media (4%) “very important” for the assessment of their competences.

Nevertheless, even in these latter cases around 30% of the respondents considered the elements as “moderately important”. Large share of “should not be taken into account” and “cannot say” reflect the fact that the activities may be field specific or mission oriented, and so not relevant from the personal perspective of most respondents.



24. Missing element related to societal impact

Around one-tenth (13%) of all 440 respondents commented in an open answer on missing elements related to societal impact.

Below is a summary of the different types of elements mentioned or issues raised:

- Foresight
- Media activism
- Interdisciplinary and multidisciplinary research
- Acting as a role model or example
- Participation in public debates and discussions
- Nonpublic communication and networking
- Consultations

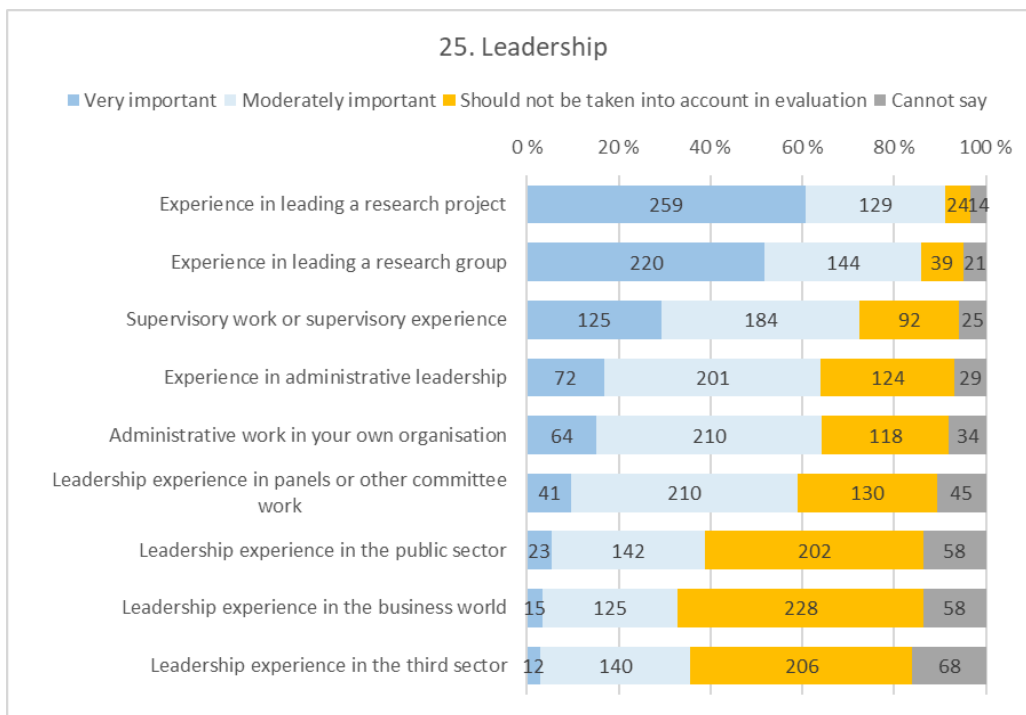
- Commercialisation
- Social significance of the research topic
- Managing the interaction
- Acknowledging language barriers that can prevent engaging with local media

25. Leadership and administration

Out of 9 listed elements related to leadership and administration, 440 respondents indicated on average 1.9 different elements as “very important” and 3.4 as “moderately important”.

When asked to rate from their personal perspective the importance of listed elements related to leadership and administration, the largest share of respondents considered as “very important” the experience in leading a research project (61%) and experience in leading a research group (52%). At the other end of the spectrum, the smallest share of respondents considered Leadership experience in the public sector (5%), in the business world (4%) and in the third sector (3%) “very important” for the assessment of their competences.

Nevertheless, even in these latter cases around 30% of the respondents considered the elements as “moderately important”. Large share of “should not be taken into account” reflects the fact that the leadership experience outside academia is relatively rare and so not relevant from the personal perspective of most respondents.



26. Missing elements related to leadership and administrative roles

Around one-tenth (13%) of all 440 respondents commented in a long text field on missing elements related to the leadership and administrative roles.

Below is a summary of the different types of elements mentioned or issues raised:

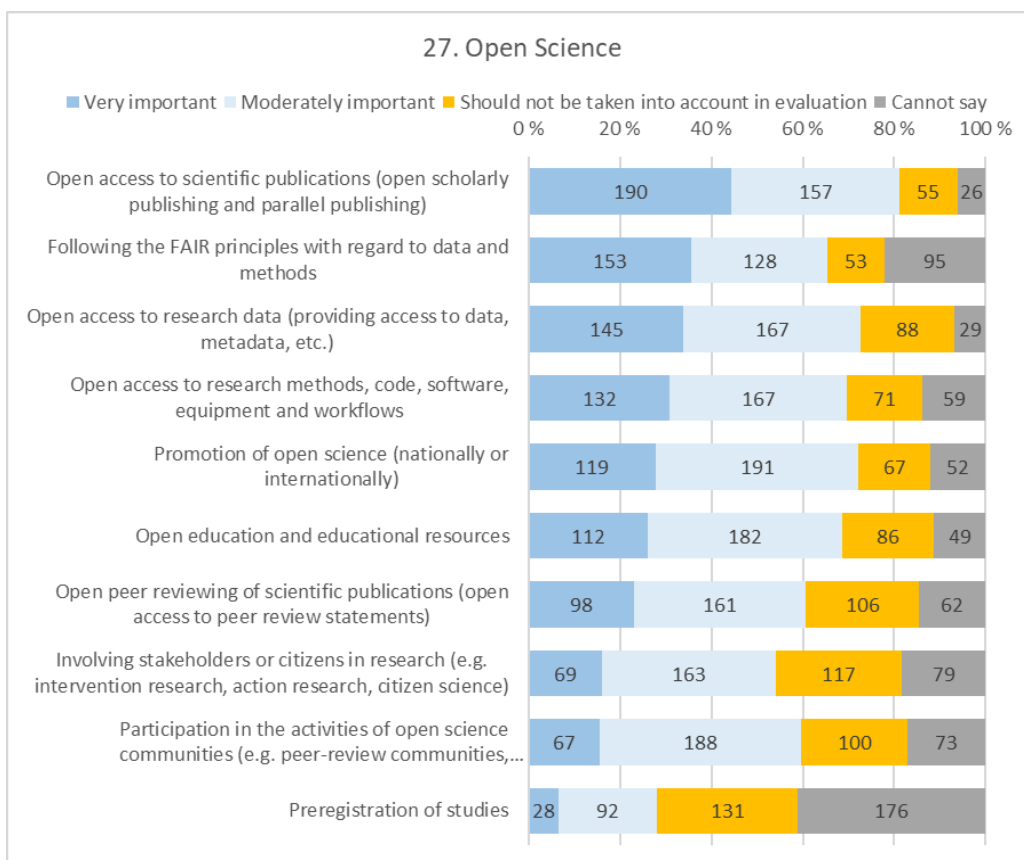
- Financial management as a relevant skill for leadership and management positions.
- Recruitment skills, such as identifying and evaluating the best candidates for different positions, and participating in the recruitment process as a leader or a team member.



- Training and self-development for leadership positions, as well as the participation in management training organised by the organisation or other providers.
- Hidden management, which refers to the actual work done by researchers who are not formally recognized as leaders.
- Feedback collection and competence assessment in management and supervisory positions.
- Management style, values, motives and innovation should be taken into account in performance evaluation.
- Not all researchers should be expected to act as leaders, some can focus on being top rank-and-file researchers.

27. Open science outputs and practices

Out of 10 listed elements related to open science, 440 respondents indicated on average 2.5 different elements as “very important” and 3.6 as “moderately important”.



When asked to rate from their personal perspective the importance of listed elements related to the open science, the largest share of respondents considered as “very important” open access to scientific publications (44%), following the FAIR principles with regard to data and methods (36%) and open access to research data (34%). At the other end of the spectrum, the smallest share of respondents considered involving stakeholders or citizens in research (16%), participation in the activities of open science communities (16%) and preregistration of studies (7%).

Nevertheless, even in these latter cases 44–22% of the respondents considered the elements as “moderately important”. The large share of “should not be taken into account” and “cannot say” in case of pre-registration of studies reflects the fact that this type of publication process is still relatively rarely used and less relevant from the personal perspective of most respondents.

28. Missing open science outputs and practices

One tenth (10%) of all 440 respondents commented in a long text field on missing elements related to open science. Below is a summary of the different types of elements mentioned or issues raised:

- Innovations based on open source software, reasons for open/restricted access, funding obtained and implemented for open science, use of open science outputs in open environments, co research practices (e.g. co-creation of research questions, citizen review/extended peer review, return of output to research participants).
- Recognition of differences in outputs and outputs, so that researchers in certain fields may be disadvantaged due to the nature of their data or the publishing practices.
- Individual researchers in a research group may not be able to influence decisions on outputs, so the costs of open science as a limiting factor in low-income countries was also mentioned.
- Views on open science, and open peer review in particular, vary.
- Open science should be mandatory and a factor in assessment.

29. Working life skills

Two-fifths (40%) of the 440 respondents commented in a long open text field on working-life skills (Which working life skills required in the research community's activities do you think should be taken into account in the evaluation of your qualifications or performance as a researcher?).

Below is a summary of the different types of elements mentioned or issues raised:

- Social skills and social intelligence
- Good manners
- Ability to negotiate
- Communication skills
- Networking skills
- Ability to cooperate
- Ability to participate in collaborative projects
- Ability to work well within a team
- Ability to contribute to group efforts
- Supporting colleagues
- Contributing to the well-being of the work environment
- Leadership and Management skills
- Self-management
- Pressure tolerance
- Ability to mentor and supervise others
- Manage resources effectively
- Organisational ability and time management
- Ability to inspire others
- Problem-solving skills
- Critical thinking
- Ability to adapt to new challenges
- Innovativeness
- Creative Thinking
- Curiosity about new means of working
- Foresight skills
- Lifelong learning
- Ability to ethical judgement

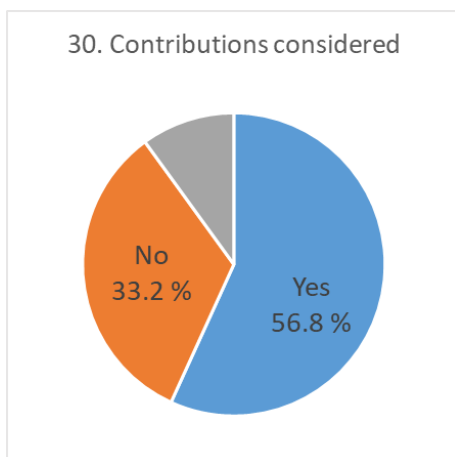


- Digital and IT skills

30. Recognition of diverse contributions

Over a half (56.8%) of all 440 respondents indicated that their contributions to research and education activities and societal impact have been appropriately taken into account, while one-third (33.2%) felt that their contributions had not been sufficiently considered.

30. Has your contribution to research and education activities and societal impact been appreciated and taken into account to a sufficient degree in previous evaluation situations?	N	%
Yes	250	56,8
No	146	33,2
No answer	44	10,0
Total	440	100,0



Of those 146 respondents who answered “no”, 89 (61%) commented in a long text field on how their contributions to research and education activities and societal impact should be evaluated. In this report we do not provide comprehensive analysis of these answers but only highlight that among the most frequently mentioned improvements include more comprehensive and transparent evaluation systems in academia that recognize the diverse contributions of researchers, educators, and societal engagers equally.

Below is a summarised list of the most frequently mentioned matters to be recognised:

- Teaching merits, supervision, teaching methods and pedagogical skills, development of learning materials
- Societal Engagement, media coverage, public speeches, podcasts, popular texts
- Capabilities and potential
- Quality of Research Outputs

Below is a summarised list of the most frequently mentioned matters to be considered in evaluations:

- Qualitative evaluation methods
- Transparency of aim of evaluation
- Transparency in evaluation processes
- Holistic evaluation

Conclusions

This study investigated the researchers' views on diversity of career assessment criteria based on a survey targeted to researchers in Finland. The aim of the survey was to support the development of the Finnish Career Assessment Matrix (FIN-CAM). It was conducted by the Federation of Finnish Learned Societies (TSV) during November and December 2023. We received 440 anonymous respondents across career-stages, fields, and types of institutions. Respondent population somewhat overrepresented social sciences and humanities and experienced researchers' views. While the responsible research assessment agenda strongly promotes the recognition of diversity of contributions and profiles, the added value of the survey is to gain understanding of the importance of diversity of career-assessment criteria, as well as good practices and challenges related to evaluation processes, from the researchers' perspective.

Transparency, clarity and consistency of the assessment criteria and process, as well as holistic approach with consideration of a broad range of contributions, were valued as good practices encountered by respondents both in the role of evaluator and subject of evaluation. Furthermore, evaluators highlighted the benefits of open dialogue and collaboration of the evaluation group, while subjects underscored the value of constructive feedback from evaluation. Narrow focus on research and especially publication and venue based metrics - and their prioritisation over other valuable contributions to science and society - was pointed out as major shortcomings encountered in assessments. During their careers, most respondents had faced evaluation situations where they felt inappropriate methods or criteria had been used (55%), or where the goals, criteria, or data of the evaluation had not been openly known to all parties (52%).

Many respondents expressed concerns about favouritism in the evaluation processes. In open answers, one respondent likened the assessment process to a theatre, summarising the broader view that the evaluation process may not actually be carried out with the aim of genuinely evaluating competence but rather at finding justifications for a predetermined outcome. The survey suggests that while researchers may acknowledge system level biases, they strongly relate unfairness to favouring certain candidate(s) in the evaluation process level. To engage researchers, the reform of research assessment needs to improve conditions for the individual experience of fair process (e.g. by means of transparent and consistent application of criteria). The goal of the national recommendation, *Good Practice in Researcher Evaluation in Finland* (2020), is specifically to guide a responsible assessment process from start to finish.

One of the key findings of the survey is that most respondents regarded a great variety of experience, competences and contributions related to outputs, research process, teaching, societal interaction, leadership and open science as very important or moderately important for their assessment. On average, 440 respondents considered 26 out of 109 elements listed in the survey "very important", and 49 elements as "moderately important", which provides strong support for moving away from narrow output-based criteria towards a more holistic assessment of competences. This underscores the narrowness of assessments focused only on publication and citation based metrics because these recognize only a small part of researchers' work. Even if few elements (such as research outputs) could be identified that are important for most researchers, researchers should be recognized for the entire variety of their valuable contributions to research and society, whether or not these are relevant from the personal perspective of most researchers. Respondents also listed a variety of relevant working-life skills. It follows that assessments need to prioritise qualitative expert-assessment because in a more holistic evaluation of competences the vast majority of diverse contributions, activities and impacts cannot be meaningfully documented, assessed and balanced based on bibliometrics or other quantitative measures.

While recognition of diverse contributions and competences is crucial, also the importance of understanding and considering distinct researcher profiles was highlighted: researchers should not be expected to excel in every competence area or activity. It must also be considered in assessments that all

researchers do not have equal opportunities and resources to gain certain achievements, e.g. because of the career-stage or breaks, research-teaching orientation of the previous position(s), availability of institutional open science services and resources, language skills, etc. Moreover, there can be no universal fixed list of criteria for all career-assessment processes, but the criteria should be tailored according to the purpose and context of assessment (e.g. specific position).

Findings from the survey provide strong support for the responsible research assessment agenda (e.g. CoARA) and the development of the FIN-CAM. Together with a narrative CV and current research information systems (CRIS), FIN-CAM can support comprehensive, systematic, transparent and evidence-based documentation and consideration of diverse contributions of researchers for the purpose of responsible, holistic and fair assessment of their competences.

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Appendix 1: Survey questionnaire

Title of survey: Researchers' views on diverse and responsible assessment of researchers

Introduction to the survey

A working group appointed by the [Steering Group for Responsible Assessment of the Researcher](#) (see the privacy statement) is currently planning the Finnish Career Assessment Matrix (FIN-CAM), the purpose of which is to facilitate a comprehensive acknowledgement of the different areas of academic activities and the merits of researchers in various evaluation situations. The areas in which researchers work include research, teaching, supervision and management, interaction with society and various expert roles, for example. Evaluation situations may be related to things such as recruitment, career advancement, evaluation of personal performance (incl. performance appraisals), salaries and wages or applications for funding.

The purpose of this survey is to find out how persons who carry out research, support research and work in education would like to be evaluated and what types of skills and expertise should be taken into account in evaluation situations. The study will survey the views of researchers working in different sectors and at different stages of their career regarding assessments at the individual level. Researchers are defined as persons who participate in various ways in professional activities aimed at producing new knowledge, applying knowledge in a new way, developing knowledge or making use of it in education. All doctoral researchers are also included in the target group of the survey. The data gathered through the survey will be used to support the planning of the FIN-CAM assessment matrix.

Individual respondents are not expected to be successful in every area mentioned in the survey. The objective of the survey and FIN-CAM is to acknowledge the diversity of research work in the context of evaluation.

The survey consists of 33 questions and will take roughly 30 minutes to answer. If you would like to take a look at the survey, you can download the survey form here in PDF format. The survey is carried out by the Federation of Finnish Learned Societies. The survey will run until xx xxxx 2023. You can submit your answers anonymously.

For more information about the survey, please contact Coordinator of Responsible Assessment Anna-Kaisa Hyrkkänen at anna-kaisa.hyrkkanen@tsv.fi

Survey form

I have read the research notification regarding this study and consent to participating in the study and having my personal data processed and stored in accordance with the privacy statement.

Yes (mandatory question)

Background information

1. Gender



- Female
- Male
- Other
- I prefer not to say

2. Nationality

- Finnish
- Other, please specify: *free text*

3. The highest degree you have obtained

- Doctoral degree
- Licentiate degree
- Master's degree
- Bachelor's degree
- Upper secondary vocational qualification
- Other, please specify: *free text*

4. Your current work situation. *Select all options that apply.*

- Employed
- Grant holder
- Unemployed
- Retired
- Other, please specify: *free text*

When 'Employed' is selected, the following section opens:

Nature of the employment relationship:

- Valid until further notice
- Fixed-term

5. Your primary background organisation. [The following instructions will be added] *Persons working with foundation funding but affiliated with an organisation should select the organisation in question.*

- University (drop-down list of universities)
- State research institute (drop-down list of research institutes)
- University of applied sciences (drop-down list of universities of applied sciences)
- Other public organisation
- Business
- Foundation, association or other non-profit organisation
- Other, please specify: *free text*

6. Which of the following disciplines does your research represent? Select the option that best describes your research. (drop-down lists of all main disciplines)

- Natural sciences
- Engineering and technology
- Medicine and health sciences
- Agricultural sciences
- Social sciences
- Humanities



- Other, please specify: *free text*

7. Your experience with research work. *Please include all the years in which research has been part of your work duties, doctoral dissertation research included. If you have carried out active dissertation research work in addition to other work, include those years as well.*

- 5 years at the most
- 6–10 years
- 11–15 years
- 16–20 years
- 21–30 years
- more than 30 years

8. Which of the following best describes your role in the field of research?

- Management role in an organisation
- Head of a network consisting of several research groups or other similar entity
- Head of a research group
- Independent researcher (without a research group)
- Member of a research group
- Researcher-teacher or other role with an emphasis on teaching
- Doctoral researcher (not a member in a research group)
- Doctoral researcher in a research group
- Part-time researcher
- I am not working in the field of research anymore / for now
- Other, please specify: *free text*

General questions related to evaluation

9. In which role have you participated in evaluations?

- Evaluator
- Subject of the evaluation

If as the evaluator, please specify the context. *When 'Evaluator' is selected, a multiple choice menu opens:*

- Recruitment for teaching, research or expert roles
- Performance evaluation
- Career advancement evaluation (e.g. tenure track)
- Evaluation of a docent's qualifications
- Evaluation of funding applications
- Evaluation of the research or education of a unit, organisation or discipline
- Other, please specify:

If you were the subject of the evaluation, please specify the context. *When 'subject of the evaluation' is selected, a multiple choice menu opens:*

- Recruitment for teaching, research or expert roles
- Performance evaluation
- Career advancement evaluation (e.g. tenure track)
- Evaluation of a docent's qualifications



- Evaluation of funding applications
- Evaluation of the research or education of a unit, organisation or discipline
- Other, please specify:

10. What types of good evaluation practices have you encountered acting as an evaluator?

Long free text

11. What types of good evaluation practices have you encountered while being the subject of an evaluation?

Long free text

12. What do you think are the biggest problems or shortcomings in the evaluation of a researcher's qualifications and performance?

Long free text

13. During your career, have you ever been in evaluation situations in which you feel that your skills were evaluated using wrong methods or criteria?

- Yes
- No

If yes, in what way?

Long free text

14. During your career, have you ever been in evaluation situations in which the goals or criteria of the evaluation or the materials used were not openly known to all of the parties involved?

- Yes
- No

If yes, what types of situations?

Long free text

15. In this section, you can describe your other experiences with evaluations in which you have taken part:

Long free text

Questions related to the areas of evaluation

This section presents various areas in which researchers work and elements related to them. Individual respondents are not expected to be successful in every area mentioned in the survey. The objective of the survey and FIN-CAM is to give visibility to the diversity of the work of researchers in connection with evaluations.

16. If you could decide how your qualifications or performance as a researcher were evaluated, which of the elements listed below would you consider to be important? *Rate the level of importance on the following scale: very important, moderately important, somewhat important, not important, cannot say.*

- Degrees and qualifications completed
- Other education and expertise (such as continuing education and professional competence)



- Skills gained in my previous and current job
- Language proficiency
- Work experience
- Expert roles
- Research funding and grants
- Research outputs (such as scientific publications or artistic outputs, methods, programs, guides, tools)
- Skills/expertise related to the research process (such as editorial activities, peer review, development of research infrastructures, international scientific activities and networks)
- Experience in academic leadership
- Other leadership experience
- Teaching merits
- Supervision of theses and other supervisory experience
- Mentoring
- Academic positions of trust
- Involvement in learned societies
- Scientific impact
- Societal impact
- Awards and accolades received
- Merits in open science (such as providing open access to publications, research data and findings or educational resources)

17. Do you think that the list presented above is missing something important with regard to the evaluation of your qualifications or performance as a researcher?

Long free text

18. How important do you consider the following **research outputs** to be when evaluating your qualifications or performance as a researcher? Answer from the perspective of how you would like to be evaluated. *Rate the level of importance on the following scale: very important, moderately important, somewhat important, not important, cannot say.*

- Scientific articles in magazines
- Scientific articles or chapters in books
- Scientific articles in conference publications
- Scientific books (monographs)
- Edited scientific works
- Edited popular works
- Popular publications
- Publications intended for the professional community
- Research reports
- Policy recommendations
- Audiovisual publications
- ICT applications
- Research methods (incl. software and source code)
- Equipment
- Research data



- Guides
- Artistic outputs and processes
- Inventions, patents and spin-offs
- Not applicable to me

19. Do you think that the list presented above is missing an important **research output** that should be taken into account in your evaluation? If yes, please specify:

Long free text

20. What do you think scientific quality and scientific impact of research mean? How about in the context of your discipline?

Long free text

21. How important do you consider the following elements related to **research processes and conducting research** when evaluating your qualifications or performance as a researcher? Answer from the perspective of how you would like to be evaluated. *Rate the level of importance on the following scale: very important, moderately important, somewhat important, not important, cannot say.*

- Participation in Finnish scientific networks
- Participation in international scientific networks
- Applying for research funding
- National mobility within the research community
- International mobility within the research community
- Participation in conferences
- Participation in interdisciplinary/multidisciplinary teams
- Proficiency in and promotion of research integrity and responsible conduct of research (e.g. acting as a research integrity support person)
- Development of research and innovation activities
- Development within the organisation and participation in working groups
- Creation of collaborative consortiums
- Development of research infrastructures
- Participation in the maintenance of the operation of a research infrastructure
- Participation in clinical studies
- Experience working in scientific editing (e.g. on an editorial board, as the editor of a publication)
- Peer review of scientific manuscripts and other evaluation experience
- Participation in organising conferences
- Working in associations related to the particular discipline
- Not applicable to me

22. Do you think that the list presented above is missing an important element related to **research processes and conducting research** that should be taken into account in your evaluation? If yes, please specify:

Long free text

23. How important do you consider the following **teaching merits and outputs related to teaching** when evaluating your qualifications or performance as a researcher? Answer from the perspective of how you



would like to be evaluated. *Rate the level of importance on the following scale: very important, moderately important, somewhat important, not important, cannot say.*

- Teaching experience in general
- Teaching skills
- Pedagogical education and other demonstrated pedagogical expertise
- Serving as an officially appointed supervisor for bachelor's and master's degree and doctoral researchers
- Mentoring students
- Supervision of work placements and other cooperation with working life
- Educational resources produced
- Development of educational resources
- Development of learning methods and tools
- Development of teaching methods and pedagogical skills
- Participation in the development of teaching in academic communities
- Funding granted for the development of teaching
- Training activities outside the academic community
- Roles related to education in the higher education community and other academic expert and administrative roles
- Feedback from students
- Not applicable to me

24. Do you think that the list presented above is missing an important **teaching merit or output related to teaching** that should be taken into account in your evaluation? If yes, please specify:

Long free text

25. How important do you consider the following elements related to **societal impact** when evaluating your qualifications or performance as a researcher? Answer from the perspective of how you would like to be evaluated. *Rate the level of importance on the following scale: very important, moderately important, somewhat important, not important, cannot say.*

- Popularising research for the general public (e.g. blog posts, exhibitions, magazine articles, non-fiction books, giving interviews)
- Publishing for professional audiences
- Science communication and serving as an expert in the media
- Multilingual science communication
- Being active on social media
- Interaction with decision-makers
- Participation in public debate based on one's research and lobbying
- Cross-sectoral mobility
- Experience and achievements gained outside the research community
- Serving as an expert (e.g. working groups, hearings, evaluation panels, steering groups)
- Positions of trust, expert roles and commissions
- Development of practices from the perspective of potential users (e.g. models and recommendations)
- Applying research in public administration, the private sector or the third sector
- Provision of research-based education or training outside the higher education community
- Clinical work
- Entrepreneurship and innovation activities

- Commercialisation of research
- Collaboration with businesses
- Collaboration with citizens
- Collaboration with the third sector
- Collaboration with public organisations
- Not applicable to me

26. Do you think that the list presented above is missing an important element related to **societal impact** that should be taken into account in your evaluation? If yes, please specify:

Long free text

27. How important do you consider the following elements related to **leadership and administrative roles** when evaluating your qualifications or performance as a researcher? Answer from the perspective of how you would like to be evaluated. *Rate the level of importance on the following scale: very important, moderately important, somewhat important, not important, cannot say.*

- Experience in leading a research group
- Experience in leading a research project
- Experience in administrative leadership
- Leadership experience in the business world
- Leadership experience in the public sector
- Leadership experience in the third sector
- Leadership experience in panels or other committee work
- Administrative work in your own organisation
- Supervisory work or supervisory experience
- Not applicable to me

28. Do you think that the list presented above is missing an important element related to **leadership and administrative roles** that should be taken into account in your evaluation? If yes, please specify:

Long free text

29. How important do you consider the following **open science outputs and practices** when evaluating your qualifications or performance as a researcher? Answer from the perspective of how you would like to be evaluated. *Rate the level of importance on the following scale: very important, moderately important, somewhat important, not important, cannot say.*

- Open access to scientific publications (open scholarly publishing and parallel publishing)
- Open access to research data (providing access to data, metadata, etc.)
- Open access to research methods, code, software, equipment and workflows
- Following the FAIR principles with regard to data and methods
- Open education and educational resources
- Open peer reviewing of scientific publications (open access to peer review statements)
- Preregistration of studies [<https://www.cos.io/initiatives/prereg>]
- Promotion of open science (nationally or internationally)
- Participation in the activities of open science communities (e.g. peer-review communities, reproducibility networks)

- Involving stakeholders or citizens in research (e.g. intervention research, action research, citizen science)
- Not applicable to me

30. Do you think that the list presented above is missing an important element related to **open science** outputs and practices that should be taken into account in your evaluation? If yes, please specify:

Long free text

31. Which **working life skills** required in the research community's activities do you think should be taken into account in the evaluation of your qualifications or performance as a researcher?

Long free text

32. Has your contribution to research and education activities and societal impact been appreciated and taken into account to a sufficient degree in previous evaluation situations?

multiple choice

- Yes
- No

When 'No' is selected, a follow-up question will open: If no, how do you think your contribution to research and education activities and societal impact should be evaluated?

Long free text

33. Do you have anything to add or any comments, ideas, concerns or feedback related to the survey?

Long free text

THANK YOU FOR PARTICIPATING!

