

A gender-equal process

A qualitative investigation of the assessment of research grant applications 2019

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Foreword

One of the principal tasks of the Swedish Research Council is to allocate grants to basic research of the highest quality. Gender equality is a quality issue for the entire research system, and the Swedish Research Council has been mandated to promote gender equality between women and men within its own area of activities. The Swedish Research Council has built up knowledge over a number of years about how the work towards increased gender equality in conjunction with research funding can be conducted. One tool used by the Research Council is gender equality observations.

Since 2012, gender equality observations have been carried out regularly by the Swedish Research Council. The observations aim to scrutinise, from a gender equality perspective, the meetings where subject experts discuss applications for research grants received by the Research Council. These meetings are a central part of the Swedish Research Council's process for allocating research grants. The observations are part of a broader process to ensure gender equality at the Swedish Research Council.

Previous gender equality observations have resulted in recommendations, which together with internal development work have changed certain procedures at the Research Council. During autumn 2019, the Swedish Research Council conducted its seventh set of gender equality observations at the meetings of fifteen review panels. These were done to investigate whether there is further potential for improvement in terms of procedures, instructions and other aspects that promote gender-equal assessment of grant applications. The observations made in a selection of review panels cannot be generalised and considered to apply for all groups. Nor is the purpose to prove any causality. The purpose is to develop documentation for discussion and learning about quality improvements to the process.

Gender equality in the allocation of research grants is an important goal that requires a long-term approach and continuity. This report provides good documentation for the Swedish Research Council's continuing discussions and contributes to the work on further improving the quality of the Research Council's processes.

Stockholm, 15 april 2020

Sven Stafström Director General, Swedish Research Council

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Summary

During autumn 2019, the Swedish Research Council conducted gender equality observations in 15 review panels¹, to investigate how the processes function from a gender equality perspective.

This is the seventh time the Swedish Research Council has conducted gender equality observations, aimed at investigating whether it is possible to improve procedures, instructions and other aspects that promote gender-equal assessment of grant applications. The Swedish Research Council has implemented several of the recommendations made in conjunction with previous gender equality observations. This, together with other development work, has resulted in improvement of the Swedish Research Council's procedures.

During the 2019 gender equality observations, the following was noted:

- In the majority of the panels, the roles and the group dynamics worked well in general, which is of great importance to both the content, quality and result of the assessment, and also to the process. The reviewers were usually deeply engaged in the assessment of applications, and strove strongly to create a fair system while the meetings were in progress.
- Positive discrimination in 'borderline' cases was rarely discussed, although there
 were times when this could have been justified. The 'borderline' exception
 states that applications from the under-represented gender shall be prioritised
 when several applications are assessed as being of equal quality.
- On a couple of occasions, it was unclear whether the fact that an applicant had a
 grant from another funding body should be considered a merit or a problem.
 This lack of clarity may have contributed in some cases to women and men
 being assessed differently in this aspect. Here, a clarification from the Swedish
 Research Council may have been of value for the goal of equivalent and genderequal assessment.
- Reviewers in several groups within natural and engineering sciences and
 medicine and health used concepts and expressions that differed between
 women and men respectively when speaking about their merits and personal
 abilities. It is uncertain whether this was due to actual differences based on the
 assessment of the applicants' qualifications, or was due to other factors. It would
 be good if the tendency noted in some review panels can be further investigated
 further in the continuing development work.

Two interesting changes compared to previous gender equality observations have also been noted. Earlier, panel members sometimes brought up informal information about the applicants during the assessment of grant applications. These could be on subjects such as an applicant's private relationships, rumours about a workplace, or

¹ The Swedish Research Council calls its teams of application assessors "review panels". The teams consist of prominent researchers, who assess grant applications received.

speculations about an application. The gender equality observers now noted that all such discussions were always interrupted by the Swedish Research Council personnel and/or the chair of the review panel. The issue of whether the researcher is independent had previously been raised in discussions particularly when women were applying. Now, no such differences between genders were noted.

Recommendations for continued work by the Swedish Research Council:

- Make room for reflection on central concepts
 Let preparatory meetings and review panel meetings include the opportunity
 for review panel members to reflect jointly on the concepts of gender
 equality, objectivity and bias. For Swedish Research Council personnel,
 similar opportunities should continue to be arranged within the framework
 for in-house training.
- Inform about the Swedish Research Council's gender equality goal at an early stage
 It is important that the information on the Swedish Research Council's gender equality goal reaches all panel members before they start reading and assessing the applications. The information is today included in the written instructions to the panel members (in the "review handbook"), but if the opportunity exists, it is good if it is also provided in other ways.
- Increase vigilance of gender equality in the assessment
 The panel chair and Swedish Research Council personnel should be encouraged to increase vigilance during review panel meetings of aspects relating to the goal of gender-equal approval rates.
- Continue to highlight the issue of assessment of competence and merit
 The Swedish Research Council should continue to clarify how researcher
 merits shall be assessed, and also investigate whether the indicators used by
 many panel members to assess merits impact on the gender-equal allocation
 of research grants.

INTRODUCTION

Gender equality observations: background

During autumn 2019, the Swedish Research Council conducted gender equality observations for the seventh time. This year, this was done in fifteen review panels, to investigate whether there was further potential for improvement in terms of procedures, instructions and other aspects that promote a gender-neutral evaluation of grant applications. The Swedish Research Council's gender equality observations have been considered as ground-breaking, not just in Sweden but also internationally.² To begin with, we want to provide some background and context for this task.

The allocation of research funding is an important matter that links into Sweden's overall gender equality policy objectives, one of which is an even distribution of power and influence. Another is financial gender equality: women and men shall have the same opportunities and conditions in relation to education and paid work. These two goals are relevant to the Swedish Research Council, as the financing of research involves both decision-making and allocation of financial resources. Researchers awarded grants by the Swedish Research Council are given the financial preconditions to pursue their ideas and, in some cases, this also means that the researcher is able to secure their own employment and make progress in their research career. It can also be accompanied by a certain boost to the researcher's reputation and, by extension, their influence in the field because of the high symbolic value associated with the award of research grants from a government funding body.

The Swedish Research Council works with gender equality in several way, and has been doing so for many years. According to its instructions, the Swedish Research Council shall integrate a gender equality perspective in is activities, and promote gender equality in the allocation of research funding.³ The Swedish Research Council publishes annual statistics on the number of applicants and approved grants distributed by gender. The Swedish Research Council participates in international groupings focusing on issues concerning gender equality and, from 2014 to 2018 was part of the Swedish Government's initiative to integrate gender equality in the work of public authorities. The Swedish Research Council's gender equality strategy, which is updated regularly, underlines that research benefits from the participation of both women and men and the expertise and experience they contribute. It is of great importance that the funds the Swedish Research Council awards to researchers are allocated in a gender-neutral manner. In this context, gender equality means that the proportion of women and men who receive research grants shall correspond to the proportion of women and men who have applied. This target has been achieved many times, but there have also been times when the approval rate has differed between women and men. This underlines why it is essential for the Swedish Research Council to continue working on issues relating to

² Liisa Husu och Anne-Charlott Callerstig: Riksbankens jubileumsfonds beredningsprocesser ur ett jämställdhetsperspektiv RJ rapporterar 2018:1, p 6

³ Förordning (2009:975) med instruktion för Vetenskapsrådet, SFS 2009:975.

how it can achieve a gender-equal distribution of research grants, and improves its procedures. Ultimately, the Swedish Research Council's work towards increased gender equality is about creating the same opportunities for female and male researchers.

The Research Council has previously undertaken two studies that specifically targeted the subject area medicine and health, as this area has had more difficulty achieving the target of a gender-equal distribution of research grants. The first is a quantitative study, in which the causes of a lower approval rates for women within the field of medicine are discussed. The data used in this study cover about 8 000 applications; the question of the extent to which women and men have their applications approved in relation to how qualified they are (measured on the basis of their academic publications) is based on 1 350 applications. One hypothesis generated by this report is that one component is given greater significance within medicine (now medicine and health) than in other subject areas, namely the rating for merits. The applicant's merits are largely measured by their number of publications.4 Incidentally, it can be noted that a bibliometric analysis conducted one year later confirmed that, within medicine and health, the number of publications, together with the journals' impact factor (JIF) is the variable that correlates best with rating and outcome. The analysis does, however, only compare variables within the merits criterion, and not with other criteria. 5 Returning to the study referred to, the authors point out that, on average, women have fewer publications than men, which is partly but not entirely explained by the fact that men are, on average, at a later stage of their careers. 6 The report's authors argue that criteria that may appear to be neutral, such as the merits rating, do not simply reflect structural patterns, but also potentially reinforce them. The authors challenge the Research Council to conduct an ongoing debate about how the assessment criteria affect different groups of applicants. 7

In the present report, we will be returning to the question that has been posed, namely: Do the set criteria and indicators contribute to reproducing structural patterns, with specific reference to the issue of merits? What this is alluding to is the Swedish Research Council having to deal with a gender inequality that exists within academia, where the majority of professors are men. How the issue of merits is dealt with in the Swedish Research Council's review processes is a question that is of relevance to a gender equal allocation of research grants.

One further study specifically focused on the subject area of medicine and health was conducted in order to investigate whether there are differences between how women's and men's independence is assessed by the reviewers. ⁸ This studied the

⁴ Kvinnor och mäns framgång med projektansökningar inom medicin, Vetenskapsrådets rapportserie 2009:4.

Other variables investigated are the applicant's job title, number of years from doctoral degree award, and article citations. Pilotstudie av effekter av Vetenskapsrådets jävshantering, Vetenskapsrådet 2010, D.nr 354-2010-1038

⁶ There are several studies indicating that women in general publish to a lesser degree than men. In this study, a check was made of applicants to medicine and health at the Swedish Research Council in 2006 and 2007. Men on average had 30 publications, and women 16. The difference can be partly, but not wholly, be explained by male applicants being further on in their careers. Kvinnor och mäns framgång med projektansökningar inom medicin, Vetenskapsrådets rapportserie 2009:4.

⁷ Kvinnor och mäns framgång med projektansökningar inom medicin, Vetenskapsrådets rapportserie 2009:4.

⁸ Jämställdheten i Vetenskapsrådets forskningsstöd 2011–2012, Vetenskapsrådet 2014 Appendix 1, pp. 47–48.

written statements⁹ that were submitted as part of applications for starting grants to junior researchers within medicine and health in 2011. According to the instructions in the review handbook for the subject area medicine and health, which the reviewers are to read prior to assessing applications, independence is one aspect of the applicant's merits. The study concluded that within the group of applicants that the reviewers did not wish to recommend for grant approval, the issue of the applicant's independence was discussed more frequently when the statement related to applications from women.¹⁰ The Swedish Research Council's previous gender equality observations confirm the observation that the issue of independence is more often problematised when reviewers are assessing women's applications.¹¹ This is, however, not confirmed in this year's observation study, to which this report will return to later.

Gender equality work in the drafting and implementation of previous recommendations

The Swedish Research Council is continuously developing the format for the review processes. The intention of the gender equality observations is to support the Swedish Research Council's work in this area. Previous reports, and also this one, contain recommendations for the Swedish Research Council, several of which have contributed to improving the Council's processes. Below are some examples of how the Swedish Research Council is working with gender equality in the review processes. The footnotes contain references that describe if and when there has been a recommendation concerning this procedure, to show how recommendations from the gender equality observations have been implemented.

The Swedish Research Council provides information to all those who participate in its review processes about how important gender equality is to the assessment. This information is communicated both in writing and orally. The written information is proved in a "review handbook". Each subject area has a specific review handbook, and all include the Swedish Research Council's gender equality strategy in an appendix. Several review handbooks contain further information on gender equality aspects. For example, the review panels shall report the outcome if this is justified, and provide comments on the outcome.¹²

In addition to the written information, oral information about the Swedish Research Council's gender equality objectives is also provided to the review panels, sometimes but not always by both the secretary general and by Research Council personnel in conjunction with various forms of preparatory meeting or at the start of the main meeting. For example, personnel taking part in review panel meetings often include an item about the importance of gender neutrality in the review. All personnel undergo in-house training that includes gender equality aspects. ¹³

^{9 &}quot;Statement" refers to the document the researchers receive in response to their application. A statement includes both a numerical grade and text.

Jämställdheten i Vetenskapsrådets forskningsstöd 2011–2012, Vetenskapsrådet 2014 Appendix 1, pp 47–48.
 En jämställd process – en kvalitativ undersökning av bedömningen av forskningsbidragsansökningar, Vetenskapsrådet 2015, p 17, Jämställdhetsobservationer i ett urval av Vetenskapsrådets beredningsgrupper 2012, Vetenskapsrådet 2013 pp 12, 17.

¹² Peer review handbook Medicine and health 2019 p 5.

^{13 &}quot;Knowledge about gender and assessment should increase among all those who contribute to the review process", recommendation in Jämställdhetsobservationer i fyra beredningsgrupper 2011, Vetenskapsrådet, 2012, p 6, Jämställdhetsobservationer i ett urval av Vetenskapsrådets beredningsgrupper 2012, Vetenskapsrådet, 2013, p 14. This

The roles of Swedish Research Council personnel (research officer and senior research officer), chair and review panel members have in several cases been clarified. ¹⁴ In-depth introductions, case-based workshops and similar have been arranged by scientific councils and committees. In several subject areas, the Swedish Research Council has chosen to emphasise the responsibility of the chair for how the meetings are conducted. ¹⁵ Panel members taking part in the Swedish Research Council's review panel meetings are often seated according to a seating plan aimed at creating a good climate for discussions. The recommendations from the 2015 report argue that the seating plan should preferably be strategic. "Strategic" in this context means taking into account gender and other aspects, such as experienced/inexperienced reviewers, the geographic origin of reviewers, and any linguistic/cultural distance.

A critical aspect recognised in previous reports is that individual reviewers share information that is not intended to be part of the assessment with each other ("informal information"). This issue is now raised as an information item, where the Swedish Research Council describes the type of information that shall not be passed on during or in conjunction with meetings. This information is also included in the instructions to the panel members in the review handbooks. This is because informal or unconfirmed information about the applicant or the research team can impact on the assessment. We noted in this year's observation that both the chair and the Swedish Research Council personnel monitor compliance with rules, and react often and quickly when any breach of this principle occurs. ¹⁶ In the 2019 observations, we noted that the rule is applied with varying strictness, and here there may be room for discussion of where to set limits.

"Calibration" of the grades is done ahead of each meeting, by the senior research officer presenting a graph of how the reviewers have used the grading scale ahead of the panel meeting, with the aim being to remind the reviewers that the grading scale is not a tool used in exactly the same way by all reviewers; a recommendation made in the 2013 report.¹⁷

We noted that the Secretary General of Medicine and Health in the oral information to panel members underline that the members shall in the first instance focus on the scientific quality and originality of the research project when assessing applications. Previous gender equality observations have noted that the panel members within medicine and health place great importance on researcher merits, which risks resulting in the gender inequality that applies within academia, with a larger

recommendation was repeated with a slightly different wording in 2015: "The Swedish Research Council should revise the instructions and the information provided to reviewers when recruiting from a gender equality perspective". En jämställd process? – en kvalitativ undersökning av bedömningen av forskningsbidragsansökningar, Vetenskapsrådet, 2015, p 23.

¹⁴Recommendation in Jämställdhetsobservationer i ett urval av Vetenskapsrådets beredningsgrupper 2012, Vetenskapsrådet 2013 pp 14–15. See also En jämställd process? – en kvalitativ undersökning av bedömningen av forskningsbidragsansökningar, Vetenskapsrådet 2015 pp 20, 22.

¹⁵ Recommendation in En jämställd process? – en kvalitativ undersökning av bedömningen av forskningsbidragsansökningar, Vetenskapsrådet 2015 p 22.

Recommendation in Jämställdhetsobservationer i fyra beredningsgrupper 2011, Vetenskapsrådet, 2012 p 6, Jämställdhetsobservationer i ett urval av Vetenskapsrådets beredningsgrupper 2012, Vetenskapsrådet, 2013 p 15. See also En jämställd process? – en kvalitativ undersökning av bedömningen av forskningsbidragsansökningar, Vetenskapsrådet 2015 p 23.

¹⁷Recommendation in Jämställdhetsobservationer i ett urval av Vetenskapsrådets beredningsgrupper 2012, Vetenskapsrådet 2013 p 14. See also En jämställd process? – en kvalitativ undersökning av bedömningen av forskningsbidragsansökningar, Vetenskapsrådet 2015 p 24.

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percentage of male professors, moving into the Swedish Research Council's processes. 18

Overall, the processes have been formalised, which according to previous gender equality observations may contribute to transparency and also equivalent and gender-equal assessment. "Transparency" refers to the assessments being based on clear indicators that create equivalence in the assessment, not on assessments where the indicators are diverging, or even unknown, where different measures are used for women and men, or where informal information is used to assess an application. In previous gender equality observations, we noted that the issue of whether the researcher is independent is more often raised in discussions when women were applying. This year, we did not note any gender differences in this respect.

About gender equality and equality

The focus of this report is gender equality. The aim is to investigate whether men and women have the same preconditions and opportunities to receive research grants. However, this is is not separated from the broader concept of equality. It is not only gender that can influence an assessment process; other relationships of superiority and inferiority between different groups in a society can also impact on assessment. These may be the other statute-controlled grounds for discrimination, which are: ethic background, gender identity or expression, religion or other faith, functional disability, sexual orientation and age. But it may be about other factors, such as academic rank, being part of a certain research discipline or school formation, educational institution affiliation, geographic origin or language. All those mentioned interact with each other, and it is rarely possible to scrutinise one category without taking other categories into account. The project team has been aware of this, and tried in its work to take account of how other categories than gender also can lead to bias in the assessment and/or create hierarchies.

All panel members, irrespective of gender, carry perceptions about gender and other relationships of superiority and inferiority between different groups. Men and women who apply for research grants, and who do not belong to the academic norm (or the standard image of a researcher), could be disadvantaged if such perceptions are expressed in, and influence, the process. This means that all persons taking part in the assessment of applications have a responsibility to contribute to a well-functioning process by adopting a reflective and critical attitude towards their task.

¹⁸ En jämställd process? – en kvalitativ undersökning av bedömningen av forskningsbidragsansökningar, Vetenskapsrådet 2015 p 24. En jämställd process? – Jämställdhetsobservationer i Vetenskapsrådets bedömningsgrupper 2016, Vetenskapsrådet 2017 p 25.

¹⁹ En jämställd process? – en kvalitativ undersökning av bedömningen av forskningsbidragsansökningar, Vetenskapsrådet 2015 p 21.

Another analysis that also emphasises transparent assessment processes is Gender and Excellence in the Making, European Commission, Directorate-General for Research EUR 21222, Luxembourg 2004, pp 29–32. The report makes five recommendations. One general recommendation is to fund research into how different disciplines differ from each other, epistemically, nationally and internationally. A second recommendation is to pay greater attention to multidisciplinary research that implies a gender perspective. A third is to demand gender equality in networks that receive public funding. A fourth recommendation is to conduct training courses on gender equality aimed at the relevant actors, to be designed by experts in the area, and also to develop written documentation on how bias related to gender can impact on assessment processes. A fifth recommendation is to create transparent assessment processes, aimed at minimising bias in relation to gender.

²¹ Diskrimineringslagen 2008:567. Read more at Diskrimineringsombudsmannen (DO)

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Gender equality in academia

The norms, perceptions and prejudices that exist in society are reflected and recreated in social contexts. They can therefore be expected to exist in all types of meetings and be expressed either clearly or more subtly. Some norms and perceptions can be more or less specific for the academic culture, and/or the Swedish context.²² The academic culture may, for example, be coloured by historically male-coded forms for knowledge, language use and subject hierarchies. At the same time, illuminating any gender inequality in academia may challenge the academic self-image of objectivity and meritocracy. The existence of such tensions in academic contexts has been described previously by others.²³

"Research into culture and norms in academia involves primarily the macro-level and analyses the dominant/superior academic cultura and norms from a critical gender perspective. The tension between, on the one hand, academia's hierarchic and male-dominated culture and, on the other hand, the perception of academia as a genderneutral space – or as a culture without a culture – where objectivity and meritocracy prevail, has been studied both nationally and internationally. In Sweden, researchers such as Jordansson and Thörnqvist have used empirical study of the introduction of the Tham professorships to describe how academia resists political attempts to increase gender equality in its own organisation. By comparing this reform with the "alternate women and men" principle in politics, Thörnqvist illuminates one of the fundamentals in academia's self-perception – meritocracy is seen as an objective system that neither favours or disadvantages individuals on the basis of their group affiliation, but instead promotes actual knowledge, merits and intelligence. The results of science – knowledge, explanation, understanding – are also independent of the researcher, and therefore there is no need for equal representation among academia's employees. Attempts to problematise this assumptions encounters resistance, irrespective of whether it comes from academia itself, from the supposedly uncomprehending academic bureaucracy, or from politics."24

The same tension may exist when demands for gender equality are made on assessment processes based on peer review, and where there is a perception that objectivity and impartiality already prevail.

The Swedish Research Council's gender equality strategy underlines that the Swedish Research Council's "primary task is to allocate funding to research of the

²² Dold könsdiskriminering på akademiska arenor: osynligt, synligt, subtilt, Högskoleverkets rapportserie 2005:41 R

²³ "The perception that Sweden is gender-equal, together with the trust in academia's meritocratic system means that women and men do not recognise that their conditions in academia are power-structured" Kokbok för en jämställd akademi, Anna Gatti, SULF:s skriftserie XXXIX p 13.

Svart på vitt – om jämställdhet i akademin Delegationen för jämställdhet i högskolans slutbetänkande, SOU 2011:1 p 98

highest scientific quality and that best promotes innovation. Achieving this objective requires impartial assessment of grant applications. Impartial assessment includes gender neutrality; the Swedish Research Council shall support the very best researchers, regardless of gender." ²⁵ A contrast might exist here between what those involved perceive as impartial and gender-neutral and how norms and perceptions actually are produced and reproduced in the peer review process. We therefore consider that a critical attitude and a gender equality perspective should permeate the whole of the review process, which in turn requires knowledge.

Method

The following section will describe briefly the background and method of the methodological approach used in this analysis. Gender equality observations and their follow-ups and analyses with a statistical focus together provide a broad picture of gender equality and research funding, and form central tools for implementing the Swedish Research Council's gender equality strategy. The observation studies focus more closely on a specific aspect, namely the review panel meetings, which are central to the process that determines which projects receive funding.

In short, the review process starts with a researcher submitting an application for a research grant to the Swedish Research Council. To assess the quality of the applications, the Swedish Research Council engages researchers who are prominent within their respective fields. In the first instance, the Swedish Research Council's scientific councils, councils and committees decide which researchers are to review the applications. ²⁶ The researchers are divided up into groups, known in-house as "review panels". When a review panel meets, the researchers will have read the applications they have been asked to assess according to the Swedish Research Council's instructions (the "review handbooks"). Several subject areas have an initial meeting, where the panel agrees on which applications are of the lowest quality, and which will therefore not be further discussed. These are sifted out after a brief discussion, and the applicants receive a summary numeral grade and a standardised statement. The other applications are dealt with at a further meeting, where the entire panel agree on a statement for each application, which implies both a numeral grade and text. At the end of the meeting, the panel makes a ranking of the applications it wishes to recommend for funding to the Swedish Research Council. The meeting is led by a chair and vice chair, who are both researchers. The other researchers on the panel are members and reviewers of applications. Two persons from the Swedish Research Council take part; one research officer who has administrative responsibility, and one senior research officer who often has a doctoral degree within the subject area. A representative of the scientific council/council/committee also takes part in the meeting as an observer.

²⁵The Swedish Research Council's gender equality strategyhttp://www.vr.se/omvetenskapsradet/styrandedokument/jamstalldhetsstrategi.4.1f599ea412a30327cc f800042.html

²⁵ The members of the Swedish Research Council's scientific councils, councils and committees are appointed using an elector procedure. A secretary general with eminent scientific merits is linked to each scientific council, council and committee. The secretary general is part of the management team of the Swedish Research Council, has scientific responsibility for the scientific council's/council's/committee's activities, and is employed by the Swedish Research Council for a maximum of six years.

²⁶ See for example Latour & Woolgar (XXXX) 2nd ed. Laboratory Life: The Construction of Scientific Facts och Traweek (1992) Beamtimes and Lifetimes: The World of High Energy Physics

Observation as a method

To collect information on how the review panel meetings function, the Swedish Research Council uses the participant observation method. This is an ethnographic method, where the observer studies a group's activities, language, conversation culture and social interaction, in real time. Participant observation of different processes is used frequently in fields such as educational sciences, sociology of science and technology, and technology and science studies.²⁷

Participant observation is a method that makes it possible for observers to capture the discrepancy between what we believe or say that we do, and what be actually do and say. The advantage of the observers themselves observing the interplay in real time is that the material has not been filtered by any other actor, which is the case if, for example, they instead had studied notes taken by meeting participants after the end or the meeting, without being present themselves. There are challenges in using the method: it can be difficult to see patterns in what is usual and familiar, and our perception is also selective. There is also always a risk that the observers make subjective interpretations, or incorrect interpretations.

The observation phase is followed by an analysis phase, when recurring themes in the material collected are identified, but an initial analysis is in progress already during the observation process itself. This is done by the observer taking notes that are not just descriptive, but also reflective. At the final stage, the project management creates a text where identified and recurring themes together form a coherent story.

One of the starting points for the qualitative approach we use when making gender equality observations is that the actions of all actors is dependent on how they understand and ascribe meaning to the instructions and the situation they encounter in their task. For example, the reviewers must interpret the instructions provided by the Swedish Research Council. The individuals' interpretation and use of the grading criteria, and the review panel's dynamics, therefore become central to the outcome.

Implementation

The gender equality observers had instructions for their work. These included the observer presenting the purpose of the observations to the group the observer is to observe, namely to develop the internal processes for achieving the goal of genderneutral allocation of the Swedish Research Council's research grants. The observers thus conducted open observations. Such observations are characterised by the persons who are under observation being aware of this. ²⁸

A disadvantage of open observations is that the persons being observed, in this case review panel members, may be affected by being observed and consequently changing their behaviour. This could, for example, mean that they express themselves more correctly, and take greater account of gender equality aspects than if they had not been observed. However, the observers' perception was that the panel members often appeared untroubled by the observers' presence. This is despite the fact that, in order for the gender equality observers to follow conversations, they had

²⁷ Holme IM & Solvang Krohn B (1991) Forskningsmetodik. Om kvalitativa och kvantitativa metoder.

²⁸ Holme IM & Solvang Krohn B (1991) Forskningsmetodik. Om kvalitativa och kvantitativa metoder.

to be present in the room and normally sit at the same table as the chair, the reviewers, other personnel from the Swedish Research Council and representatives of the scientific council/committee. The seating plan also make it possible for the observers to notice non-verbal communication in the form of body language as well.²⁹

The observer's presence will of course be noticeable for the persons taking part in the meeting and who know they are under observation. We have, however, still chosen to conduct open observations, as the alternative – not informing meeting participants that observations are made – is deemed to be ethically indefensible.

During the course of the observations, the observers were careful not to enter into discussions or make comments on the reviewers' work, as the task is only to observe the process. ³⁰

The gender equality observers used a list or a template, based on previous years' observations, to note their observations. In general, these consisted of capturing the indicators used to assess grant applications and how well the assessment processes worked. To reduce the risk of observers remembering incorrectly, they reviewed their notes and made fair copies as quickly as possible after the review panel meetings.

We make no claim that the observations made in a selection of review panels can be generalised and considered to apply for all groups. Nor is the purpose to prove any causality. The purpose is to develop documentation for discussion and learning about quality improvements to the process.

Sample

During spring and autumn 2019, six gender equality observers monitored the assessment work in 15 of the Swedish Research Council's 56 review panels, which are tasked with assessing applications for research grants. Of the 15 panels observed, seven were in the subject area medicine and health, three were in natural and engineering sciences, two panels in development research, and one panel each in humanities and social sciences, educational sciences, and clinical therapy research. The reason for having more groups for the subject area medicine and health is because this scientific field has had difficulty reaching the goal of gender-neutral allocation of research grants during a number of years. The selection of the other review panels was done with a view to achieving a spread across different subject areas. There were also practical considerations that affected the choice.

The observers participated in all the meeting held by the selected review panels, and also had access to all the documentation (applications, statements, etc.). The material this analysis has been based on consists of this documentation plus the notes made by the observers during the review panel meetings.

²⁹ Fangen Katrine (2005) Deltagande observation.

³⁰ Fangen Katrine (2005) Deltagande observation and Holme IM & Solvang Krohn B (1991) Forskningsmetodik. Om kvalitativa och kvantitativa metoder.

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Integrity and ethics

The review panels members were informed at the start of the review panel meeting of the purpose of the observations (to develop the Swedish Research Council's processes), the type of information to be collected, what this information would be used for, and were promised anonymity.

To maintain the review panels' integrity, details of the review panels and panel members are excluded from this report. Quotes are reported in English so as to not give clues about which panel the quote comes from, and gender is not disclosed, unless it is of importance for the context, by using the pronoun "they" when situations are referred to, instead of "he" or "she".

Measurement method for speaking time

In previous observations, the observers measured speaking times for women and men. This has not been done this time for several reasons, in part practical ones, but also because we noticed that the results of previous measurement did not show any clear gender differences. There are both men and women who find it easier or harder to speak out at meetings.

Gender equality observations in other and similar circumstances

The Swedish Research Council's gender equality observations have been disseminated both within and outside Sweden. The Swedish Research Council has been invited to conferences, both national and international, where the authors have been asked to talk about the results. We have also been asked to meet several research councils and representatives of higher education institutions to talk about the methods we use. We have established that there are today several funding bodies that use, or alternatively recommend, observation studies. The following presents studies published by the Swedish Agency for Economic and Regional Growth and Riksbankens Jubileumsfond respectively, a film about gender-neutral assessment published by the ERC on its website, ³¹ and also a research report showing that more bodies are using or recommending the use of gender equality observers or alternatively re-use results generated by the Swedish Research Council's gender equality observations.

In 2015, the Swedish Agency for Economic and Regional Growth published a report with similarities to the Swedish Research Council's gender equality observations. The object of the study is company financing at public funding bodies, and the method used includes observations of the funding bodies' assessment and decision-making meetings. Just like the Swedish Research Council's studies, the results show that unconscious perceptions of the abilities of men and women can impact on the assessment processes. For example, the assessors have more or less unconscious perceptions that women who run companies are cautious, do not dare to make large

³¹ The European Research Council (ERC) is funded by the EU Commission, and distributes grants for research. The video is entitled "Unconscious Bias in Recruitment Processes", and is produced by the the Catalan Research Centres Institute. The film is uploaded on the ERC's website.
https://erc.europa.eu/thematic-working-groups/working-group-gender-balance downloaded 2019-12-11

investments, only need small amounts of funding, and are active in the "wrong" industries, which cannot be funded and lack growth potential. Men are assumed to dare to invest, need much funding and are active in the "right" industries, which can be funded and have growth potential. In actual fact, there are no differences in size, growth, performance level, financing risk or payment ability.³²

In 2017, Riksbankens Jubileumsfond engaged two researchers to conduct gender equality observations. A representative from the Swedish Research Council's gender equality observations was invited both to a preparatory meeting and to a seminar, where the reports from the Swedish Research Council and from Riksbankens Jubileumsfond were presented. Several of the observations noted in the report from review panel meetings at Riksbankens Jubileumsfond are similar to those previously noted at the Swedish Research Council, which is also explicitly stated in the report from Riksbankens Jubileumsfond. Several of the recommendations are also similar to those made in the Swedish Research Council's reports. For example, the authors of Riksbankens Jubileumsfond's report recommend that it should establish rules for seating plans, and clear rules for how the chair should lead the meeting. The authors also consider that the concept of scientific quality and criteria for what constitutes research of good quality should be problematised, and ask the question whether there are underlying perceptions that affect the assessments, for example underlying gender norms. Other interesting aspects highlighted are the need to clarify different underlying gender patterns in application behaviour, and implicit bias in the assessment of quality.33

The ERC has a film about gender equality and assessments on its website. The film illustrated a recruitment process, but what emerges from the film is applicable also in other assessment processes of academic merits. The Swedish Research Council's reports from 2013 and 2015 are mentioned as sources along with other publications. In the film, a chair is leading a meeting where three persons discuss the merits of applicants. Among the aspects dealt with are the assessment of women's (in)dependence, how women's collaboration can be assessed as a sign of weakness, how informal information can impact negatively on women, and the problem with letters of reference. The chair in the film is aware of the pitfalls for objective assessment, and brings this knowledge into the assessment work in an exemplary way. In this respect, the film provides instruction on how a chair can handle situations that might arise in processes such as these, and in this way provides support for those taking part in the assessment of applications to the ERC.

In a project funded by the EU Commission's seventh framework programme, a team of researchers have investigated recruitment processes within academia from a gender perspective, and one of their proposals is that higher education institutions should conduct gender equality observations. The report from 2015 is formulated as a handbook. Among the recommendation provided by the authors are several that are applicable also for research councils, for example the importance of basing

³² "Under ytan Hur går snacket och vem får pengarna?" Tillväxtverket 2015 pp 1–3.

³³ Liisa Husu och Anne-Charlott Callerstig: Riksbankens jubileumsfonds beredningsprocesser ur ett jämställdhetsperspektiv RJ rapporterar 2018:1

assessments on specific criteria, and that these criteria are used in an equivalent way for all applicants. One recommendation is to create an open discussion environment, where the competences of all meeting participants contribute to a good process. Another recommendation is to include both women and men in review panels. The report differentiates between two types of bias: bias related to the process, and bias related to the criteria. The latter refers to the higher education institution using measures that can create obstacles to women, such as using the measure international mobility. The report recommends the use of gender equality observers in the review processes, and proposes education in gender equality for all persons taking part in recruitment processes. 34 It emerges from an interview with one of the researchers behind the report, Minna Salminen-Karlsson, that a review conducted by her of seventeen positions advertised found various examples of how women had been disadvantaged in the processes. Examples of these are that irrelevant personal information was passed on, without any equivalent in statements about men who had applied for the same position. Statements about women's qualifications also had pure computation errors, scientific publications were called "reports", and the statements included lists of the qualifications that the women were lacking, which was not the case for statements relating to men.35

³⁴ Gender Issues in Recruitment, appointment and promotion processes – Recommendations for a gender sensitive application of excellence criteria. Expert report ER-Festa-2015-002

³⁵ Kajsa Skarsgård "Undvik genusfällor för att få mer likvärdig rekrytering" in Universitetsläraren 2016, No 6 p 19.

Observations

Roles and group dynamics, general description

Of the fifteen groups observed in 2019, the majority function well in general. Many of the panel chairs led the meetings in an adequate manner, were structured and made sure the panel had a good working environment, by running the meeting in a systematic and time-saving manner, which is very important for the contents, quality, results, and process. There were signs of some worry in a couple of review panels that the time would be insufficient, which sometimes led to the chair becoming impatient and interrupting members in conjunction with the processing of applications, but most chairs handled the time aspect in a good way, and the tempo was generally reasonable.

Panel members consisted of both women and men, and the distribution between genders was equal; neither gender represented less than 40 per cent of the members, which complies with the Swedish Research Council's gender equality strategy.³⁶ The role of chair was evenly distributed between women and men, but a larger proportion of women had the role of vice chair. Meetings were characterised by open and constructive discussion, where the group's overall expertise was utilised, which is a basic precondition for good review work. During many discussions, the reviewers carefully made their position known in cases where they perceived themselves as less competent compared to some other member of the review panel. The panel also normally paid greater attention to viewpoints made by the reviewers who had expertise in the area.

We observed some panels led by chairs who assumed a more dominant role, in a positive or negative manner, but also panels where the chairs played a more restrained role. We also saw one case of a chair who acted in a way that could be perceived as less well balanced. This related to a panel where the chair gave greater weight to statements made by male reviewers, and often interrupted female reviewers. This chair also told the panel a gender-stereotyped joke, and used a derogatory tone, in particular towards women. This is behaviour that risks damaging the review process, as it counteracts an open discussion environment where all the reviewers can be heard. Furthermore, reviewers engaged by the Swedish Research Council should be treated with respect when they take part in our processes, and this of course applies irrespective of gender. One meeting had a few conspicuously quiet reviewers and a few who were eloquent, which was not balanced by the chair in a good way. There was also one chair who questioned the reviewers' assessments in an arrogant manner, in a tone that was at times sharp, and the word "rubbish" was

³⁶The Swedish Research Council's gender equality strategyhttp://www.vr.se/omvetenskapsradet/styrandedokument/jamstalldhetsstrategi.4.1f599ea412a30327cc f800042.html

used on several occasions to characterise applications to be assessed. The discussion at the end of the meeting, when the applications were to be ranked, was described as "stormy" by the gender equality observer.

At a couple of meetings, one of the reviewers became dominant and directing in the processing of certain applications. At one of these, the chair spent time and attention on finding out what the various panel members actually thought about the applications. This was done in a very methodical, calm and democratic manner. All members were allowed to speak in turn. This reduced the influence of the engaged, but slightly too dominant, panel member. In a similar situation in another panel, the chair made no attempt to intervene, which resulted in the influence on the discussion of the applications being unequally distributed between the members.

In some of the panels observed, the chair served in two roles; they acted as both chair and reviewer. This means that they both led the meeting by means of asking members to speak and summarising discussions, and in parallel acting as one of several reviewers for a number of applications, and arguing for how they should be assessed. The gender equality observer perceived this to be difficult to handle; a circumstance that had already been noted in a previous observation report. As before, we noted that the chair took up a relatively large share also in the discussion about the individual applications, probably because of their authority as chair, even though they were at that particular time acting as a reviewer. In one case, the chair was perceived as being biased in relation to the applications for which they had acted as rapporteur.

The grading and the ranking of applications at the end of the meeting can be compared to a negotiation, where members with differing areas of expert knowledge may have differing ideas of which applications should be recommended for grant award by the Swedish Research Council. The meeting dates are used to discuss for and against the members' assessments, and at the end the review panel shall have reached an agreement. The process requires the panel members to have good argumentation ability, but also a willingness to compromise. The latter may be unequally distributed among the various panel members, where some are more inclined to change their assessments, while others are more unwilling. The discussion may result in applications that have received high marks in the panel members' individual assessments before the panel meeting moving up or down the ranking order during the meeting – sometimes from a high ranking with high marks to low ranking with low marks, and vice versa.

A representative of the Swedish Research Council's scientific council or committee takes part in the panel meeting.³⁷ The attitude differed between individuals; from the

³⁷ Scientific councils and committees https://www.vr.se/om-vetenskapsradet/organisation/vetenskapsradets-styrelse/sa-utses-ledamoter-till-styrelsen-och-amnesraden.html downloaded 20-12-2019 The members of the Swedish Research Council's scientific councils, councils and committees are appointed using an elector procedure. A secretary general with eminent scientific merits is linked to each scientific council, council and committee. The secretary general is part of the management team of the Swedish Research Council, has scientific responsibility for the scientific council's/council's/committee's activities, and is employed by the Swedish Research Council for a maximum of six years.

representative of the scientific council or committee only listening and taking notes, to being an active participant in the discussions. In between were those who actively informed and reminded the panel members about conditions and working methods. The representatives of scientific councils and committees are skilled and well-informed.

The role of the secretary general and administrator respectively is to be knowledgeable about the Swedish Research Council's rules and guidelines in order to answer questions and provide help when problematic situations arise. How they act is of great importance for the Swedish Research Council's review processes. The gender equality observers have seen how skilled personnel have contributed in a professional manner to ensuring the review process maintains high quality. We did, however, note one or two cases where they refrained from speaking or reacting to relevant questions or events. It is not always easy to intervene; here, factors such as knowledge, experience/habit, personality and educational background play a role. It is an advantage if the personnel taking part in meetings (administrator and secretary general) have strengths that complement each other. The Swedish Research Council's in-house training is important in this context, as are experience and habit. The Swedish Research Council has a department that primarily works with the research funding process. Personnel from this department usually staff the review panels, but some personnel is lent by other departments. The latter usually have less experience and knowledge about the review process, which might contribute to reduced activity in some situations.

In general, the Swedish Research Council personnel provided introductory information to the review panels to clarify the process, and this allowed issues about gender equality to be raised in a good way. It was also positive that the Swedish Research Council personnel emphasised issues such as equal speaking time, respect between members and group interaction as important factors for creating good processes.

We noted that there were review panels that only received brief information about the "gender equality goals" at a morning meeting with the secretary general, at which several review panels participated. These were not given any in-depth information by the senior research officer at the review panel meeting that followed soon after.

Seating plan in the room

The Swedish Research Council personnel often use a seating plan at review panel meetings in order to create a good discussion environment. Women and men are normally placed on alternate seats, but other aspects also direct the seating plan, such as HEI affiliation and geographic origin. In the groups observed, seating plans were used.

Member status

The status of different members can vary, even though many have the title of 'professor' in common. They come from different HEIs and represent research fields that may vary in status, and as a result of personal characteristics they may also be more or less dominant during the meeting. If the members' status or personal characteristics impacts on the process, for example by some persons dominating the meeting while others have difficulty making their views heard, this might mean that the competences of the whole group are not utilised, and that consequently the assessments are of a lower quality. In some cases, the observers could see that there was a risk of a worrying imbalance appearing, due to one or another member becoming too dominant. The chair was often able to deal with this, although in some cases it required a noticeable effort. In some cases, the assessment of the applications may have been affected more by some members than by others. In one group, a member from an English-speaking country had read all the applications, not just the ones they were allocated. A pattern developed in the review panel to refer to this person, in particular if the three reviewers responsible for the assessment of an application were not in agreement.

Evaluation of an application and of the applicant

Each application for a research grant is assessed according to four basic criteria: novelty and originality; scientific quality; merits of the applicant; and feasibility. A seven-grade scale is used, except for the feasibility criterion. Feasibility is assessed using a three-grade scale. The assessment of these subsidiary criteria forms the basis for a summarising grade for each application, and this too uses a seven-grade scale. These criteria and grading scales are used by all scientific councils and committees. Instructions about the weight each criterion and grade should be given in relation to each other for the summarising grade differs between subject areas. A common feature is that the majority emphasise that the summarising grade is not an average value or a simple summation of the subsidiary grades, but an overall assessment. For some calls, specific additional criteria area also assessed, such as relevance. The specific criteria are normally not weighted into the summarising grade.

The instructions to reviewers within humanities and social sciences, development research, and educational sciences respectively emphasise that the relative weight of the criteria can differ between applications.³⁸ The instructions to reviewers within medicine and health state that in normal cases, the focus shall be on assessing the project's scientific quality. An exception is made for grants for employment as a researcher in a clinical environment, where the criterion merits of the applicant shall be given greater weight in the summarising grade.³⁹ In natural and engineering sciences, it is recommended that scientific quality and merits of the applicant shall be given the greatest weight. At the same time, the reviewers shall also take into

³⁸ Beredningshandbok för humaniora och samhällsvetenskap 2019, Vetenskapsrådet 2019 p. 13. Beredningshandbok utbildningsvetenskap 2019, Vetenskapsrådet 2019 p. 12.

³⁸ Peer review handbook Medicine and health 2019, Vetenskapsrådet 2019 p 20.

³⁹ Beredningshandbok naturvetenskap och teknikvetenskap 2019, Vetenskapsrådet 2019 p. 15.

account novelty and originality in the summarising grade, without giving this criterion the same weight at scientific quality or merits of the applicant.⁴⁰ The Committee for Clinical Therapy Research considers that the scientific quality of the proposed research, together with the value of the research from a patient perspective, shall form the focus of the assessment.⁴¹

The gender equality observers noted that the reviewers in the panels observed were usually deeply engaged, and strove actively to create a fair system while the meetings were in progress. Below follows a description of how they handled the task they were asked to carry out.

Bias

In the review panels observed, discussions were rarely held on the subject of possible bias in the assessment, even though the senior research officers raised the issue in their introductory presentations by providing examples of what bias might include. In the general presentation material that senior research officers bring with them to the review panel meetings, there is also a link to a short film (a few minutes) from the Royal Society concerning "unconscious bias". It is good that information about unconscious bias is provided, but there are opportunities here to raise awareness further. One recommendation is to also give the review panel members the opportunity to discuss and reflect on concepts such as gender equality, objectivity and bias.

On some occasions, we heard the issue of bias being raised in various ways by review panel members. In one review panel, the issue of bias was discussed in connection with the discussion of the place of one application after the applications had been ranked. The situation was that there was one application from a woman that lay within the scientific field of one specific member. The member assessed the application as being of high quality, but they did not get support for this from other members, and for that reason the application was not included in the top section of the ranking list. The member then stated that they thought it was a problem that the reviewers came from such differing scientific fields, and therefore had differing views on scientific quality. In this way, the member indirectly questioned the quality of the process, as the review panel did not apply discipline-irrelevant criteria, or respected the member's intradisciplinary expertise to a sufficient extent. As far as the gender equality observers have been able to assess, the principle of respecting each reviewer's intradisciplinary expertise is normally strongly held in the review panels. Here, both the applicant and the member of the review panel were women, which might have been of importance for the member's reaction.

It could possibly be objected here that there is a right of cognitive bias, or 'cognitive particularism', steering the review panel if the person representing a particular discipline is given great influence over the assessment. In simple terms, the concept of cognitive bias implies that a researcher will see higher quality in research that

⁴⁰ Beredningshandbok klinisk behandlingsforskning 2019, Vetenskapsrådet 2019 p. 11.

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resembles their own. For an external observer, it is difficult to spot cognitive bias, as it requires detailed knowledge about the research field. A counter argument against cognitive bias is that it is specifically the reviewer's expertise and specialisation in a field that forms the basis for their view of scientific quality, and that this does not constitute bias. ⁴²However, the question is not without complications. In one of the review panels, the chair stated that they had put a low grade on an application, as it was within their own research field. A high grade could have been perceived as the chair being biased, this chair considered. On one occasion, when reaching the end of the ranking stage, one chair stated that they perhaps were biased towards a woman's application, given that so few women figured in the top section of the ranking list. Another expression of bias in the assessment was illustrated by one chair who stated that too many applications had been let through at the sieving meeting, due to one member of the review panel having followed their feelings rather than assessing scientific quality.

At the end of the meeting, when the ranking list is beginning to be formed, there were several instances of women members who alerted the other members and the chair about the issue of gender-equal assessment. The women's often guarded remarks might possibly reveal a worry about being perceived as biased. It could, after all, be interpreted as the women acting as representatives for their gender. In one review panel, an example arose that showed a positive solution to such a situation. A talkative and strongly engaged male reviewer had a number of applications with men as the main applicant that he was keen to increase the grades for and mover higher up in the ranking list. Two female members raised various factual arguments to show that applications promoted by the male reviewer in several respects were of lower quality than applications from one or two women, who had been given similar grades. For the others on the review panel, it might have seemed that they acted as representatives for women's applications. In this case, the situation was solved by the chair, who intervened actively to engage the whole of the review panel, and acted in a way that benefited the goal of gender-equal approval rates.

In another group, the gender equality observer noted that a female reviewer appeared to be particularly tough in her assessments of applications from women. This is reminiscent of a phenomenon that has been described in literature — namely that women working within a male-dominated discourse about gender neutrality may perceive a need to signal to the world around them that they are liberated from loyalties to other women.⁴³

A report from the Swedish Research Council focusing on research into peer review of scientific quality describes how the vagueness of the quality concept makes it

⁴² Lena Gemzöe Forskning om kollegial bedömning av vetenskaplig kvalitet, report to the Swedish Research Council's expert group on gender 2010 p 26

⁴³ Drude Dahlerup Jämställdhet i akademin – en forskningsöversikt. Delegationen för jämställdhet i högskolan 2010 pp. 18, 22. Fredrik Bondestam och Louise Grip: Fördelning eller förfördelning? Forskningsfinansiering, jämställdhet och genus – en forskningsöversikt 2015 p. 39. Marina Ranga, Namrata Gupta and Henry Etzkowitz: Gender Effects in Research Funding 2012 pp. 15, 31.

difficult to show that bias exists in the review process.⁴⁴ This can be illustrated with an example from this year's observations:

In one review panel, the gender equality observer noted something that could be perceived as a pattern, namely that the applications that had a woman as the main applicant were discussed with a more critical tone. It cannot be determined whether this was justified in relation to the scientific quality of the applications and lacked a connection to the gender of the applicant, or whether it was a perception of women's supposedly lesser capacity and inferior abilities that impacted on the assessment. The outcome of the assessment in the panel in question was in line with the discussions, and the review panel did not recommend any grant award for any application with a woman as the main applicant.

Whose merits should be assessed?

When researchers apply for grants for research that will be carried out by someone else, it is difficult to assess the application, in the opinion of several panel members. They raised the issue during review panel meetings we observed within humanities and social sciences and education sciences respectively. The question was asked whether the great merits of the main applicant were of relevance to the research project if the research is going to be conducted mainly by someone with a postdoc position, by a doctoral student who is not always named, or by another researcher. In humanities and social sciences, and also educational sciences, both doctoral students and researchers often work independently with a research task. The project leader does not direct the research in the same way that perhaps happens more often in larger research teams in some other fields. As the reviewers indicated, the supervisor/project leader within humanities and social sciences, and within educational sciences, does not act as a guarantor ensuring that the research project and its result will be of the highest quality. The problem is not just associated with humanities and social sciences and with educational sciences; in previous years, gender equality observers have heard the same question asked also by members of review panels in other scientific fields.

Here, the question could be asked whether this practice benefits certain applicants and disadvantages others. Who has access to the good names of better qualified researchers? The practice may mean that informal structures and personal bias influences which researchers are, by extension, awarded grants by the Swedish Research Council.⁴⁵ There is no guarantee that these processes are gender-neutral, in particular as the highest level at our HEIs, from a career point-of-view, is heavily dominated by men.

⁴⁴ Lena Gemzöe: Forskning om kollegial bedömning av vetenskaplig kvalitet, report to the Swedish Research Council's expert group on gender 2010

⁴⁵ Rickard Danell and Mikael Hjerm: Career prospects for female university researchers: Event history analysis of career trajectories at Swedish universities

Proceeding of STI 2012 Montreal: 17th international conference on science and technology indicators: 228-235. The authors argue that when men and women are allowed to compete for resources and networks on an informal level, the women lose out.

Special condition

The review panels we observed did not discuss positive discrimination in "specific condition" cases, although there were times when this could have been justified. The "specific condition" states that applications from the under-represented gender shall be prioritised when several applications are assessed as being of equal quality. But there were occasions when the question was discussed. One was when the proposal was raised in a group where the top section of the ranking list was dominated by female applicants. A male member proposed that the special condition should be used to end up with a more gender-neutral proposal. This led to the panel reviewing the gradings, and where applications were considered to be of equal quality, the under-represented gender was prioritised. In another panel, the special condition was applied for applicants with the same grade when reserves were to be ranked. In a further panel, the chair reminded the panel members of the special condition, but even so it was not used.

During the gender equality observations, we noted that in several cases female panel members raised the issue of gender equality at the end of the meeting, when the applications were being ranked and it was becoming clear that few female applicants would be recommended for a grant award. It can be uncomfortable for a female panel member to raise the issue of why the ranking list includes few or no women, as this might be perceived as an expression of possible bias (bias towards female applicants). It can also cause the panel member's role on the review panel to be questioned, in particular if the assessment of scientific quality by the rest of the review panel is otherwise perceived as being free from all forms of bias.

Here are two examples that show situations where the issue of positive discrimination was raised and could have been raised respectively, at review panel meetings in natural and engineering sciences and in medicine and health.

A female member raised the issue of the gender-unequal ranking list and proposed a change to make it more gender-equal. There was one application with a female main applicant that she considered had been graded too low, and she wanted to bring this up for renewed assessment. A male member expressed that he did not want to reopen the discussion "based on gender". The vice chair, who led the meeting, said that it would be "difficult to bypass Applicant X", that is, the male applicant who was last on the ranking list. Following a brief discussion, the review panel decided to use the special condition after the vice chair had made repeated checks with both Swedish Research Council personnel and the observer from the scientific council. This slightly elaborate procedure could be interpreted as meaning the special condition was associated with a lack of experience in its use, or possibly even some unwillingness. This interpretation is possibly confirmed by one review panel within natural and engineering sciences, which expressed satisfaction that the gender equality goal in the ranking of applications had been achieved without using the special condition; the female applicants "got there themselves" as the expression was. For the same panel, however, the gender equality observer noted that there were attempts at strategic placement of women in conjunction with the ranking, but somehow it appeared that the panel members did not really want to admit as much.

Among the applications with the highest ranking, there was none with a female main applicant. Reviewer 1 (woman) asked what the gender equality outcome would be. Reviewer 2 (woman) proposed a concrete change. There was one applicant (woman), whose application received a similar number grade as the one ranked the lowest among those to be recommended for a grant award. She therefore proposed that these two applications should switch places. She was supported by reviewer 3 (man). He had previously recommended a significantly higher grade for the application from X, but not received support for this from the review panel. Reviewer 4 (man) objected that "if we are to discuss these two, then we must discuss all". Reviewer 2 then quickly apologised to the panel, and said that she should have raised the issue much earlier. This ended the discussion; the question of the special condition was thus not discussed as a possibility.

The examples can be seen as an expression of how panel members need to be given the opportunity in conjunction with the review process to discuss concepts such as gender equality, objectivity, and bias, as the goal of gender-equal assessment otherwise may be perceived as challenging fundamental assumptions about the peer review.

We recommend that the Swedish Research Council shall emphasise to all chairs that they need to take responsibility for the issue of gender-equal approval rates, and that they use the special condition when it is justified. It could help if the chair and the Swedish Research Council personnel continuously monitor aspects relating to the goal of gender-equal approval rates during the review panel meeting. The review panel can then be given the opportunity to reflect on and discuss the issues at an earlier stage, which might in turn lead to a more gender-equal result.

Focus on the research project or the merits?

It emerges from previously completed gender equality observations that discussions about competence and merits take up more room at the meetings where applications within medicine and health are discussed compared to those in other scientific fields. As stated in the introduction, the Swedish Research Council has drawn similar conclusions from studies such as a quantitative analysis from 2009, which established that the subsidiary grade for competence was given greater importance for applicants within medicine (now medicine and health). ⁴⁶ A bibliometric analysis confirmed the report authors' result. ⁴⁷ Against this background, a possible recommendation would be for the Swedish Research Council to analyse how assessment of researcher competence impacts on the distribution of research grants for women and men respectively, in particular within the subject area medicine and health, and perhaps also within educational sciences, which has had greater difficulty than other subject areas to achieve the goal of gender-equal distribution of research grants.

⁴⁶ Kvinnor och mäns framgång med projektansökningar inom medicin, Vetenskapsrådets rapportserie 2009:4.

⁴⁷ Pilotstudie av effekter av Vetenskapsrådets jävshantering, Vetenskapsrådet 2010, D.nr 354-2010-1038.

At the meeting held for all reviewers within medicine and health, which is held on the same morning as the review panels hold their meetings, the secretary general starts the meeting with information. A fact noted by the gender equality observer was that they instruct the review panels to focus on the criteria "scientific quality" and "innovation" when assessing applications for research grants. It appears that the panel members do this to a large extent, but to an equal or possible even greater extent discuss the applicants' merits in some of the panels we observed, often based on the number of publications and the journals in which the articles had been published. Among bibliometricists, there is criticism against funding bodies and others using the JIF values⁴⁸ of journals to measure research quality. Even if a journal with a high JIF value publishes articles with high average citation figures, it is uncertain whether an individual article published in the same journal will be, or is, highly cited. This is because the citation frequency for individual articles in a journal display a great range and skewed distribution. A few articles are highly cited, while the majority are cited a little, or not at all. 49 One of the chairs was probably aware of this, as they on several occasions tried to reduce the influence of one panel member, who liked to dwell on applicants' journal publications in particular. But more usually, the reviewers emphasised the researcher's merits when they assessed the applications, and "track record" became synonymous with publications in highly ranked journals, and where the applicant was the "senior author" of these articles. In some cases, the importance of the publications being from the last few years and not older was also highlighted. Other merits that were sometimes emphasised was supervision of doctoral students. One review panel within another scientific field questioned why merits should be graded at all. "If an application is of high scientific merit, then you would really have to trust that they can implement the project," was the view of one panel member.

In one review panel within medicine and health, many applications from women had been sifted out at the "sifting meeting". The applicants consisted initially of 45 per cent women and 55 per cent men, but after the sifting the balance was 29 per cent women and 71 per cent men. The chair justified this as due to the women being at the start of their careers, and therefore having less good merits, while the men were older and had better merits. After the review panel meeting had proceeded for a while, the question was asked whether the review panel should not take career age into account. Once this question had been recognised, the reviewers several times took this aspect into account. It was unclear whether the reviewers had taken career age and active research time into account in their assessment of merits ahead of the sifting stage, but given the chair's statement above, the impression was that this had not been done. According to the instructions in the review handbook, "the applicant's academic qualifications and achievements [shall] relate to his or her career stage and active time for research".

48 Journal Impact Factor in simple terms expresses that the journal has published articles that many researchers have cited.

⁴⁹ Gustav Nelhan's "Vetenskaplig kvalitet ska bedömas, inte mätas" in Curie debatt 2016-11-22. The article has several references to research supporting Nelhan's argument. See also Sara Nilsson "Så används impactfaktorer i forskarvärlden" in Curie 2016-09-29, and Sara Nilsson "Måttet som styr forskarkarriärer" in Curie 2016-09-28.

We observed that several review panels within medicine and health and within natural and engineering sciences respectively accepted a lower publication volume or fewer citations for persons who had been on parental leave, sick leave or cared for a sick child, which is in line with the Swedish Research Council's guidelines for assessment. The impression gained was that this was referred to more often this year compared to previous years.

Is it a merit to have grants from other funding bodies?

We observed that there is uncertainty whether the fact that an applicant had a grant from another funding body should be considered a merit or a problem, and that this uncertainty can contribute to different review panels handling this aspect in different ways. In one case, the senior research officer stated that the fact that the project already had received funds from another funding body should not be taken into account in the assessment. This did not happen in the other cases. One project, led by an applicant (woman) who was described as an "extremely competent researcher" was discussed as difficult to assess and problematic, due to the project already having been awarded a highly prestigious grant. This application was later not prioritised. In another case, two applications were discussed in conjunction with each other. For one of these project, special emphasis was placed on the external grant, of relatively high prestige, as a good merit for the applicant (man). For the other project, where the applicant was a women, the research grant she was receiving from the same funding body was mentioned very briefly, and was not given the same importance in the evaluation of merit. Here, a clarification from the Swedish Research Council could have been of value for the goal of equivalent and gender-equal assessment.

When the competence of the review panel is not enough

When reviewers are to assess applications for subjects in which they are not experts, the focus often ends up on merits in the form of previous publications, feasibility, whether the application is well written, and the organisation and/or competence of the research team, as the scientific quality appears more difficult to assess. This becomes particularly apparent in review panels that span larger fields. In several cases, worries were expressed that the lack of competence in the review panel could entail a risk of applications with potential not being captured. Also in panels that did not bring up the issue explicitly, it emerged that panel members sometimes found it difficult to assess, due to lack of competence. In these panels, comments of the type "this is not my area of expertise", "this is far from my field", and "you would know more about this than me" were more common. One panel member stated that the panel did not have the correct knowledge to assess applications within a certain area, and that there were "islands of knowledge" that sometimes lacked connection to each other. The panel member was worried that applications within areas where the panel lacked expertise might be disadvantaged. This type of failings can be handled by using external reviewers, but it is a reminder that is not always easy for the review panels to make an assessment of which applications are of the greatest scientific quality.

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Informal (irrelevant) information

Previous gender equality observations have highlighted that there are panel members who bring up informal information about the applicants, that is to say information that is not connected to the application, such as unconfirmed information about the applicant. The fact that the reviewers shall not pass on informal information is stated in the instructions, and stated orally by the Swedish Research Council personnel. Examples mentioned are, for example, the applicant's private life, rumours about the applicant or the applicant's workplace, and speculations about the application.

An impression gained from the observations is that this has become an established issue in the review processes. When informal (or irrelevant) information is brought up by someone, in most cases the Swedish Research Council personnel or alternatively the chair will react, by pointing out in direct conjunction that this information shall not be used in the assessment. In the odd case where a reviewer continues to provide information that is not relevant to the application, we have seen examples of personnel and the chair continuing to repeat or discuss the arguments, until everybody is clear about the rules that apply for the assessment.

There is, of course, a question of where the borderline between relevant and irrelevant information should be drawn. The review handbook for medicine and health has a description that should work well: "Irrelevant information can sometimes be difficult to distinguish from expertise in the field. Examples of irrelevant information are details of the applicant's private life, various types of rumours, such as lack of research ethics or assumptions that someone else might have written the application."

Is there greater trust in men's abilities?

The gender equality observers noted that reviewers on several panels within natural and engineering sciences and within medicine and health used concepts and expressions that differed for women and for men respectively when speaking about their skills and personal abilities, and that the reviewers more often expressed greater trust in men's competence and capacity.

This raises the question whether there exists a perception of women's supposedly lesser capacity and inferior abilities that impacts on the assessment. Or the opposite: is there a perception of men's supposedly higher capacity and better abilities that impacts on the assessment? The documentation is limited, but signals that there is a difference in how women's and men's competences and capacities are described in some review panels. This difference is considered to be a fundamental problem in research in this field, which means that the tendency that we have found in some of our review panels is not unique; it has been described before and in other contexts.⁵⁰

⁵⁰ Fredrik Bondestam och Louise Grip: Fördelning eller förfördelning? Forskningsfinansiering, jämställdhet och genus – en forskningsöversikt. 2015 p. 43. Marina Ranga, Namrata Gupta and Henry Etzkowitz: Gender Effects in Research Funding 2012 pp. 26–27. This research review mentions Christine Wennerås' and Agnes Wold's study from 1997 that established that only the most productive group of female applicants were assessed as being equally competent as the least productive group of male applicants, by reviewers at what was then the Swedish Medical Research Council.

The reason the observers "mark words" in this way is because it is a way of capturing subtle signals and making visible the bias that we are often not aware of ourselves, and therefore rarely recognise when it is expressed in a room.

In one panel, discussions about an applicant's character was justified because the review panel had to assess whether they could trust the person receiving a grant. It was more often men who were trusted by the panel; they were more often described as having the characteristics and talents required. The gender equality observers noted that male applicants were described as possessing almost unique competences. "He can do it", "He is the guy", and "If anyone can do it, it's him", or "He will become one of the leaders in Sweden". Men were described as "One of the top researchers, really fantastic", "A master", "Excellent", and "This guy is a genius". Men were also considered to have good strategies for those they chose to collaborate with. Male applicants were also commented on based on their leading a strong team, having built up a strong team, or otherwise showing good leadership ability.

For women, such arguments were used more sparingly. Instead, female applicants were often spoken about as members of a team; they were spoken of as "they" instead of "she". It also appeared to be harder to convince the review panel of the abilities of women: "Is she really a world leader?", and "I'm not sure she can do it". Positive assessments were also made, but they were not as strong as those relating to men: "She follows her own line, despite all the collaboration", "She works hard to be visible internationally", "This candidate doesn't appear to be excellent, but good", "She seems to be a competent person", and "She is a well-known applicant".

Women's applications were more often characterised as nice and ambitious, or even over-ambitious. On one occasion, the word ambitious was used for an application from a man, with subsequent laughter: "the word is ambitious", the review panel laughed. "Ambitious" had been used several times previously, about applications from women, without anyone laughing.

In one review panel, there was a tendency to describe women's applications in positive, but relatively lame terms: they were nice, ambitious, well-written. For men's applications, stronger expressions were used: they were either exciting, pioneering, and innovative, or the opposite: "Beneath contempt", "Worst applications I have ever read", "Terribly poor application", and "Respectless, outrageously bad".

In one review panel, the gender equality observer tried counting how many times positively charged concepts were used for women's and men's applications, and noting the concepts used. By this measure, a tendency emerged for the reviewers to use more often concepts that are commonly used within the research system, that is concepts that we could expect to be used, when talking about men's applications, while the concepts used for women's applications were often less typical for the research system, and had a slightly more general character (see the table below). Two of the concepts noted as being used for women's applications were also of a

more doubtful strength ("very well written" and "quite novel"). The panel had 31 per cent women applicants and 69 per cent men applicants.

The number of times a concept was used for men's and for women's applications.

	Men	Women
Excellent	5	2
Novel	3	0
Quite novel	0	1
Brave	1	1
Potential	1	0
Exceptional	2	0
Outstanding	1	0
Original	1	0
Top application	1	0
Solid	0	1
Very well written	0	1
Great	0	1
Brilliant	0	1
Fantastic	0	1
Innovative	0	1

	Men	Women
Impressive	0	1

On a couple of occasions, it was registered that review panels within different subject areas appeared to see failings in the applicant's personal character. In one case, there were more applications from women who were ranked higher than applications from men. The chair explained this result as being due to men being "arrogant and lazy", and therefore producing more carelessly written applications compared to women. In another case, the well-merited applicants (men) were described as "conceited". The panel member presented their own assessment of the application as having been led astray by these "conceited" researchers. In another review panel, we also heard a statement of a similar character. Here, one applicant was criticised for having an application that was too "American", by which was meant that the applicant's own merits were highlighted in too obvious a manner.

Well-known researchers

In previous reports, we have found that it can be difficult for the review panels to remain objective towards applications from highly merited researchers within the panel members' own fields. This was the case in a couple of review panels this year too. An established researcher had submitted an application that was assessed as mediocre. For reasons of merit, the review panel considered that it could not overlook this researcher, and in one case a discussion was held as to whether a researcher of this eminence could be allowed to write a more summary application. Some panel members thought that this was "An excellent applicant, but the application...", "He is a unique researcher", and "We can trust him to implement this", while other panel members asked whether the panel should not set the same requirements for scientific quality for all applicants. In one case, the chair asked the panel member to read the application again, and to try to disregard who had written it, and asked the question "What grade would the research plan get then?". The panel member chose to lower the grade after re-reading.

When the Swedish Research Council appoints many Swedish researchers to the review panels, the risk increases that their professional networks play a role.⁵¹ The networks are not gender-neutral, as gender inequality prevails within many research fields, both horizontally (different disciplines dealt with in the same review panel have differing status) and vertically (the gender balance becomes increasingly skewed higher up in the academic hierarchy).

Independence

In previous gender equality reports, we noted that the issue of whether the researcher is independent is more often raised in discussions when women are applying. According to previous observation documentation, women were more often also

⁵¹ En jämställd process? – en kvalitativ undersökning av bedömningen av forskningsbidragsansökningar 2014, Vetenskapsrådet 2015 p 12.

assessed as dependent than men were. On the occasions when the reviewers discussed independence, this was with a few exceptions in relation to a grant form aimed at junior researchers. This year, we did not see any gender differences; instead, independence was discussed to approximately the same extent and in a similar way for all applicants in the review panels we observed.

Awareness of gender equality and gender issues

If the Swedish Research Council's gender equality goal is realised in the process, this often occurs during the sifting of applications, when decisions are made to sift out the applications assessed as lacking the high quality required for the review panel to recommend a research grant. At the sifting, the Swedish Research Council personnel and the chair shall together check that there is a reasonable proportion of women and men going forward in the process, that is to say, the proportions at the starting point shall if possible be maintained. In the review panels we observed, the sifting process meant that the proportion of women applicants decreased in around half of the panels, while it increased in just under half of the review panels studied. The differences between the proportion of applicants before and after sifting were generally not large, but in a couple of cases they were marked, to the detriment of women. It happened that chairs refrained from sifting out applications from women, in order to ensure the review panels had a reasonably proportional selection of applications to discuss and assess. Often, these applications from women had relatively low grades, but as mentioned earlier, it did happen that the assessment of the applications' scientific quality changed in conjunction with the review panel's discussions, so this might be a good method.

Several subject areas emphasise the Swedish Research Council's goal of gender-equal approval rates in their written instructions (review handbooks), and this was also highlighted during the oral information to the reviewers in one subject area. On one occasion, the oral information was brief, and it was perhaps not entirely clear how the review panels were to achieve the goal of gender-equal approval rates, even if the goal itself was clearly worded. At the same meeting, the special condition was highlighted, which is good for the gender equality goal, but it might have been a good idea to say that it should, and not just "can" be used, given that many review panels rarely use it.

When a review panel reaches the ranking stage and discovers that it will not be able to deliver a list that fulfils the goal of gender-equal approval rates, it is too late to make changes to how they assess the scientific quality of applications. In previous reports, we established that there are both differences in the instructions and variations between the review panels in terms of how the panel members shall interpret, and do interpret, the concept of scientific quality. When observing review panels within medicine and health, we noted that many panel members place greater emphasis on the applicant's competence compared to review panels within other scientific fields. The publication list is the primary tool used by panel members to

measure competence. ⁵² It is reasonable to assume that the persons with the greatest competence among the applicants are men, as relatively few women are professors. The fact that review panel members within medicine and health emphasise the competence criterion highly may be a reason why medicine and health is having more difficulty than other scientific fields to achieve the goal of gender-equal allocation of research grants. This does not exclude there being other reasons too, such as bias in the assessment.

In one review panel we observed, the chair made it clear that they did not understand what was meant by the instruction that they should handle the Swedish Research Council's gender equality goal, as if they had neither read the review handbook nor listened to the oral information. Another review panel chair answered the question about lack of gender equality in conjunction with the sifting process by saying that Sweden "is a dream country" in terms of gender equality. This is, of course, not relevant as an explanation of any lack of women applicants after the sifting process, but can be interpreted as an expression of the view that gender inequality is not relevant in a Swedish context. The official view is that we already have gender equality, which can make it more difficult to problematise questions about gender equality in the research system. ⁵³ In one review panel, a reviewer asked the secretary general why so few women had applied for grants this year. The secretary general, the observer from the scientific council and the chair speculated on this issue. The gender equality observer felt that these three key persons would have needed greater knowledge about the issue in order to answer the question correctly.

There are also examples of chairs and panel members who in the discussions express their view that gender inequality exists in academia and in the research system. For example, one panel member mentioned that the "gender aspect" might explain why one applicant (woman) did not have any "senior authorship". It was pointed out that she had many "first", that is to say she had done the major work input. Here, the panel was prepared to give a high grade, despite the lack of senior authorship, which is otherwise given great weight in the assessment. In another review panel, the competence within the area is high, and gender aspects appear to be self-evident. For example, one rapporteur brought up the fact that a project has four male researchers, with an advisory group consisting only of men, and acidly commented that it appears that the "otherness" that is to be identified by the project might consist of what it is like to be a woman. In yet another review panel, a discussion was held on how the issue of sex and gender aspects should be handled. One panel members thought that the issue of biological sex always was relevant to be commented on for reasons of gender equality, while another considered that this was not about gender equality, but about bad or good research. "It is bad research if all studies are conducted using male rats, it is not about gender equality."

⁵² This is supported by previous gender equality observations, by the report Kvinnor och m\u00e4ns framg\u00e4ng med projektans\u00f6kningar inom medicin, Vetenskapsr\u00e4dets rapportserie 2009:4, and also by Pilotstudie av effekter av Vetenskapsr\u00e4dets j\u00e4vshantering, Vetenskapsr\u00e4det 2010, reg. No 354-2010-1038.

⁵³ See Drude Dahlerup: Jämställdhet i akademin – en forskningsöversikt. Delegationen för jämställdhet i högskolan 2010 p. 82.

In one review panel that we observed, any discussion of the Swedish Research Council's gender equality goal was lacking, both during the sifting and the ranking of applications. The senior research officer handled this issue independently on behalf of the review panel. The question about the outcome was asked by the chair only after the review panel meeting had ended. The top-ranked applicants were then 36 per cent women and 64 per cent men, but given that the overall applicants were 58 per cent women and 42 per cent men, this meant that male applicants to this review panel had a significantly better outcome, while female applicants had a much worse outcome.

Gender equality shall be taken into account at every stage

Previous gender equality observation reports have emphasised the importance of taking gender equality into account at every stage. For the review panels, there are two items that constitute clear stages in the process. One is that the instructions state that the applications that remain after the sifting process should reflect the number of applicants of each gender. 54 The majority of the review panels we observed follow this instruction. If the chair does not raise the issue at the sifting meeting, the Swedish Research Council personnel usually does so. Another item, or stage, where the gender equality goal should be realised is the ranking of applications at the end of the meeting. Here, it is less clear who is responsible for raising the issue. As previously mentioned, on several occasions it was female panel members who pointed out to the panel that the top part of the ranking list was dominated by male applicants. At several meetings, the issue was hardly discussed at all, despite a ranking list that did not correspond to a gender-equal outcome. It appeared sometimes as if the review panels did not perceive this to be something they could direct. This is logical, on condition that the panel members perceive the scientific assessment they have done as being the best possible result, given the discussion they have had, and that this assessment is free from bias. In such a case, the result would of course be difficult to discuss or to change.

In order for the review panels to take gender equality into account during each stage, the Swedish Research Council may use review panel meetings to ensure the processes become part of their development work. Knowledge of how perceptions of gender are recreated in discussions about the assessment of applications cannot be assumed to be known by all the researchers taking part in the review work. The Swedish Research Council should strive to provide panel members with the tools they need to assume a more reflecting approach during the complex process that a gender-equal peer review constitutes. To contribute to increased reflection, we recommend that review panel members are given the opportunity to discuss and reflect on concepts such as gender equality, objectivity and bias. Swedish Research Council personnel should continue to be given the opportunity to break down and problematise the concepts. Achieving a deeper understanding is central, as the Swedish Research Council's work towards increased gender equality is about creating the same opportunities for female and male researchers. This is not

⁵⁴ Peer review handbook Medicine and health 2019, Swedish Research Council 2019 p. 5.

necessarily always synonymous with equal outcome, which is the measure that the review panels are to relate to at present.

Recommendations

The recommendations indicate development opportunities within a couple of areas. They are based on in-house work that has been ongoing for several years by the Swedish Research Council's scientific councils and committees, and by the Department of Research Funding.

All the recommendations do not apply for all subject areas or all review panels. This is partly due to the Swedish Research Council's processes differing to some extent between the different scientific fields, and also between different grant forms.

The text below aims the recommendations generally to the Swedish Research Council, although many issues are in fact handled by the Swedish Research Council's scientific councils and committees, and by the Department of Research Funding.

Make room for reflection on central concepts

Let preparatory meetings and review panel meetings include the opportunity for review panel members to reflect jointly on the concepts of gender equality, objectivity and bias. For Swedish Research Council personnel, similar opportunities should continue to be arranged so that they can support the review panels.

In conjunction with the review of applications for project grants, the Swedish Research Council provides information on the importance of gender equality in the assessment of applications to all participants in the Research Council's review processes. This information is communicated both in writing and orally to the chair and members of the review panels that carry out the assessment of applications for research grants. The Swedish Research Council has also worked systematically to achieve impact on the issue of gender-equal assessment. However, there is development potential in terms of increasing opportunities for panel members to develop the tools they need to maintain a reflecting approach during the complex process that a gender-equal peer review constitutes.

One possibility could be to give review panel members the opportunity to discuss concepts such as gender equality, objectivity and bias; concepts that today have a relatively prominent place in the information pack produced by the Swedish Research Council, and that are communicated to the review panels at the beginning of the meeting. However, the concepts are rarely discussed or problematised during meetings by those who have to relate to them, which might be interpreted as the review panels needing room to discuss how these concepts, which are central for the Swedish Research Council, can be implemented in practice. The Swedish Research Council personnel should also continue to be given the opportunity to break down

and problematise the concepts during the mandatory training courses arranged every year, for example by discussing and reflecting on more in-depth examples.

Inform about the Swedish Research Council's gender equality goal at an early stage

It is important the the information on the Swedish Research Council's gender equality goal reaches all panel members before they start reading and assessing the applications. The information is today included in the written instructions to the panel members (in the "review handbook"), but if the opportunity exists, it is good if it is also provided in other ways.

Increase vigilance of gender equality in the assessment

According to the observations, in several cases female panel members take the initiative of raising the issue of gender equality at the end of the meeting, when the applications were being ranked and it was becoming clear that few female applicants would be recommended for a grant award. At that point, it is difficult for several reasons to problematise how the review panel has worked with the assessment, and to make any changes to the way of working.

To avoid having the review panels end up in this situation, the panel chair and Swedish Research Council personnel should be encouraged to increase vigilance during review panel meetings of aspects relating to the goal of gender-equal approval rates. The review panel can be given the opportunity to reflect on and discuss the issue at an earlier stage, which might in turn lead to a more gender-equal result.

In this context, all chairs can be reminded that they are responsible for the issue of gender-equal approval rates, and that they use the special condition when it is justified.

Continue to highlight the issue of assessment of competence and merit.

The Swedish Research Council shall give support to basic research of the highest scientific quality within all fields of science. We have noted that there are variations between review panels in terms of how the panel members shall evaluate researcher competence. When observing review panels within medicine and health, we previously noted that many panel members place greater emphasis on the applicant's competence compared to review panels within other scientific fields. This is still often the case today, even though panel members are instructed to assess the scientific quality and the novelty value of the research in the first instance.

The Swedish Research Council should continue to clarify how researcher merits shall be assessed, and also investigate whether the indicators used by many panel

members to assess merits impact on the gender-equal allocation of research grants. An important question is whether men, in their capacity of more often having a professorship, also more often are "senior authors" and research leaders of large teams that produce many articles. If so, how should this be handled in relation to the gender equality goal?

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Since 2012, gender equality observations have been carried out regularly by the Swedish Research Council. The observations aim to scrutinise, from a gender equality perspective, the meetings where subject experts discuss applications for research grants received by the Research Council. These meetings are a central part of the Swedish Research Council's process for allocating research grants; a process that aims to allocate funds for basic research of the highest quality.

Gender equality in the allocation of research grants requires a long-term approach and continuity. The Swedish Research Council has built up knowledge over a number of years about how the work towards increased gender equality in conjunction with research funding can be conducted. One tool used by the Swedish Research Council is gender equality observations. This report is based on observations during meetings held by fifteen review panels in 2019. It provides good documentation for the Swedish Research Council's continuing discussions and contributes to the work on further improving the quality of the Swedish Research Council's processes.

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