Evaluation of the Unified Evaluation Procedure and standardised CV format

December 2024

Delivered by CultureBase, Different Angles and SIRIS Academic

For the Swiss National Science Foundation

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Foreword

In 2022, the SNSF introduced the Unified Evaluation Procedure (UEP) and a new narrative CV format, with the goal of harmonizing its evaluation process across funding instruments. The UEP is built on four key elements: individual voting in evaluation panels, a single numeric rating scale, the separation of scientific evaluation from funding decisions, and the option for random selection for proposals of equal quality according to evaluation criteria. The new narrative CV reports on career history, academic age, and achievements, focusing on the content and quality of research rather than quantitative metrics. As such, its narrative format is designed to be more DORA-compliant.

In order to assess the effectiveness of these new measures, the Presiding Board of the SNSF's Research Council commissioned an external evaluation in February 2024, approximately two years after their implementation. The mandate was awarded after a competitive tendering process to a consortium of three consultants, CultureBase, SIRIS Academic and Different Angles.

The consultants were tasked with engaging the full range of stakeholders, including applicants, external reviewers, panel members and Research Council members, and this report summarises the key findings. The SNSF sincerely thanks the external consortium and all participants for their contributions and perspectives.

The Presiding Board acknowledges the high quality of both the work that has been done and of the evaluation report. In addition to providing data and analysis regarding the challenges facing evaluation across the SNSF's portfolio, the report highlights both the strengths of the UEP and the CV format and areas for improvement. The recommendations will now be considered and used to refine the UEP and the CV format. The report will go a significant way in supporting the SNSF's mission of funding excellent researchers and their ideas by allowing it to identify where improvement is needed.

Bern, December 2024

Presiding Board of the SNSF's Research Council

Executive Summary

In 2022, the Swiss National Science Foundation (SNSF) introduced two measures to improve the assessment of research projects. The **Unified Evaluation Procedure** (UEP) implemented a structured process of individual voting, a linear 9-point rating scale, separate scientific evaluation and funding decisions, and random selection for grants that were at the funding line. The **standardised CV format** emphasised quality over quantity, focusing on achievements and avoiding publication metrics as a main evaluative tool. By introducing the UEP and standardised CV format, SNSF is aligning with global initiatives towards reforming research assessment, including the Declaration on Research Assessment (DORA) and the Coalition for Advancing Research Assessment (CoARA).

The purpose of the evaluation reported here was to assess the implementation and effectiveness of these changes. The SNSF engaged CultureBase, Different Angles and SIRIS Academic to study how the UEP and CV were perceived and utilised across three stakeholder groups: described for the purpose of this report as **Applicants, Evaluation Panel Members** and **External Reviewers**. The Evaluation Panel Members include **Research Councillors** and **other Panel Members**. When these two subgroups have divergent opinions, these results are presented separately, otherwise the analysis focuses on the combined Evaluation Panel Members group. The term **Internal Referee**, where it occurs, refers to Evaluation Panel Members – typically two per proposal – who assume the role of referee, responsible for evaluating a given proposal in detail.

The evaluation explores the usability, transparency and effectiveness of the reforms by triangulating three evidence sources – a voluntary survey, interviews and secondary data analysis:

- A **survey** was distributed by SNSF to a total of 8,099 Applicants, 757 Evaluation Panel Members, and 5,889 External Reviewers. Responses were secured from 2,004 Applicants, 175 Evaluation Panel Members (31 Research Councillors and 144 other Panel Members) and 996 External Reviewers, yielding response rates of 25%, 23%, and 17%, respectively.
- **Interviews** were conducted with 13 Applicants, 11 Evaluation Panel Members (3 Research Councillors and 8 other Panel Members) and 3 External Reviewers. The selection process took into account gender, research domain and familiarity with the SNSF procedures, as well as sentiment towards the UEP and the CV.
- **Secondary data analysis** of Evaluation Panel Member scores, funding decision and Applicant characteristics was undertaken on 3,137 proposals submitted to SNSF since 2022, alongside text analysis of 6,756 standardised CVs.

Key insights

Based on analysis of these combined data sources, four key insights emerged:

1. **There was broad appetite for reform, but concerns about implementation.** Stakeholders agreed with SNSF's overarching intentions, especially alignment with the DORA principles and the promotion of fairness. However, many were concerned about how the reforms have been implemented in practice, as summarised in the following two insights.

2. **There were (unfounded) concerns around interconnected issues with the rating scale, Bayesian Ranking and the number of proposals entering random selection.** With the 9-point scale introduced as part of the UEP, stakeholder groups perceived scores to be 'bunching' at the top end of the scale. Evaluation Panel Members expressed concerns that this impacts the effectiveness of the Bayesian Ranking and the number of proposals entering random selection. Our data show these concerns to be largely unfounded, but indicate the need for further engagement with the SNSF community to improve understand of these interconnected stages

3. **There was support for a more contextual CV, but confusion over expectations and a hesitation to evaluate without a publication list.** Stakeholders were divided on whether the standardised CV is achieving its goals. Applicants and External Reviewers were generally supportive of the format, appreciating the ability to showcase achievements overlooked in a traditional CV – though some felt even more could be done to encourage broader recognition. Evaluation Panel Members were less convinced, with many indicating they continue to seek out publication lists in practice. Our data show confusion around what is expected of the CV and a clear need for further clarification on expectations for all stakeholder groups.

4. **Research Council members' views differed from other stakeholders.** Across many of the areas explored in this evaluation, we saw broad alignment in opinions across the stakeholder groups, and across other variables including research domain and gender. However, the group with the most consistently divergent opinions were Research Council members, who were broadly more sceptical about the effectiveness of the reforms.

Recommendations

Based on these insights, we offer six recommendations for SNSF to consider:

Recommendation 1 (UEP) - Nurture a broader understanding of complex UEP elements:

1.1 Make additional efforts to communicate the purpose and benefits of the Bayesian Ranking and random selection stages. In particular, explain: 1) how the Bayesian Ranking accounts for large score variability of a proposal's score and/or limited use of the rating scale; 2) how this relates to the proportion of proposals entering random selection; and 3) how it corrects for other variables (e.g. number of voting panel members).

1.2 Further clarify the relationship between the use of the rating scale, the issue of score 'bunching', and how this may impact the number of proposals entering random selection. While the full dynamic range of the rating scale should not be applied to 'game' the number of proposals entering random selection, a better understanding of how these elements connect might discourage strategic use of a narrow scoring range.

Recommendation 2 (UEP) – Provide additional support for Evaluation Panel Members to arrive at a final score:

2.1 Provide greater clarity on the weighting of the proposal elements and evaluation criteria, including of the standardised CV.

Recommendation 3 (UEP) – Respond to inconsistencies in Applicant feedback:

3.1 Either, address inconsistencies (*high resource option*) by introducing a rebuttal phase for Applicants to respond to External Reviewers.

3.2 **And/or**, share further details from the panel discussions with Applicants (lower resource option), including an explanation of any inconsistencies by requesting that Internal Referees comment on the quality of, and their agreement with, external reviews and communicate level of agreement as part of the feedback to Applicants.

Recommendation 4 (CV) - Clarify expectations of the standardised CV:

4.1 Clarify whether achievements should speak to the profile of the applicant and their value to the community, or to their experience relevant to the discipline of their proposal.

4.2 Update the CV guidance to remove wording that discourages the tailoring of the CV for different grant proposals, to better reflect the preferences of Applicants, and the expectations of Evaluation Panel Members.

4.3 Share examples of how the achievement sections of the CV can be used well, with support directed towards early career researchers in particular.

Recommendation 5 (CV) – Pragmatically address the observed gap between ambition and practice around the omission of the publication list:

5.1 Make it explicit to Evaluation Panel Members, External Reviewers and Applicants that ORCID is the platform of choice in instances where a publication track record is considered as part of the assessment, while setting clear expectations on what data can and cannot be considered (e.g. use of proxies such as Journal Impact Factor and h-index are unacceptable).

5.2 Communicate clearly the expectations around whether each achievement is to be substantiated by referenced journal publications.

5.3 Further engage SNSF's evaluator community in a managed behavioural change programme to strengthen assessment practices in accordance with SNSF evaluation principles. This could include peer-to-peer support with 'evaluation through narratives' as a complement to existing peer-to-peer support for Applicants using a narrative CV (e.g. PEP-CV).

Recommendation 6 (CV) - Encourage the inclusion of broader achievements:

6.1 Revise the presentation of the CV and further clarify to Applicants and Evaluation Panel Members that 'scientific qualifications and achievements' encompass both contributions to knowledge generation and broader achievements.

6.2 Embolden Applicants by communicating the evidence, generated by this evaluation, that including broader contributions in a CV does not disadvantage an application.

6.3 Set out more clearly how Evaluation Panel Members and External Reviewers should balance publication outputs and non-publication achievements when assessing proposals.

6.4 Provide space for each employment entry to specify the proportion of time spent on research, teaching (including supervision and mentoring) and service.

Conclusion

The SNSF's efforts to align with DORA and support fairer, more holistic evaluations have been broadly welcomed across their community of researchers.

However, fine-tuning the UEP, refining the CV's expected content, and clarifying procedural ambiguities could improve perceptions of the reforms among stakeholder groups and boost operational efficiency.

Continued engagement with stakeholders on these issues will be essential as SNSF moves forward with these reforms.

Chapter 1:

Evaluating SNSF reforms in the context of global research assessment reforms

SNSF ambitions to improve research assessment

The way in which research and researchers are evaluated shapes the focus of research and drives the behaviour of researchers. Insights into how citation-based metrics affect the conduct of research[1,2] have led to the primacy of such metrics in research assessment coming under intense scrutiny, with the Declaration on Research Assessment raising awareness of this issue globally since 2013.

More recently, the dialogue around research assessment reform has expanded beyond metric reform, to include the broader recognition of researcher activities and contributions beyond publications. This was driven by the realisation that assessment underpins many other important agendas in the research landscape, including the implementation of open science, strengthening the societal contribution of research and increasing inclusion and diversity. This focus on broader recognition saw increased momentum with the founding of the Coalition for Advancing Research Assessment (CoARA) in 2022.

The Swiss National Science Foundation (SNSF) is among a group of European funders that have taken a leading role in exploring alternative research assessment approaches. In 2022, SNSF introduced a **Unified Evaluation Procedure** (UEP) to improve the evaluation process across their funding schemes, and a **standardised CV format** to encourage a focus on quality over quantity.

The Unified Evaluation Procedure was introduced to ensure consistent quality, transparency and efficiency across SNSF funding instruments.

> ### Key features of the Unified Evaluation Procedure:
>
> **Six stages:** The process includes administrative verification, external review, internal review, evaluation panel discussion, ranking, and the communication of results. Additional steps are added for some schemes.
>
> **Two independent recommendations:** External reviewers provide criteria-based assessments, while referees (Evaluation Panel Members) evaluate the external reviews and provide their independent assessments.
>
> **9-point rating scale:** External Reviewers and Evaluation Panel Members use a uniform rating scale to evaluate applications, with 1 indicating poor quality and 9 indicating outstanding quality.
>
> **Individual voting:** Evaluation Panel Members rate applications individually, with votes only visible after everyone has voted, ensuring independence.

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[1] *de Rijcke, S., Wouters, P., Rushforth, A., Franssen, T., & Hammarfelt, B. (2015). Evaluation practices and effects of indicator use—a literature review. Research Evaluation, 25(2), 161–169.* http://dx.doi.org/10.1093/reseval/rvv038

[2] *Moher D, Naudet F, Cristea IA, Miedema F, Ioannidis JPA, et al. (2018). Assessing scientists for hiring, promotion, and tenure. PLOS Biology, 16(3), e2004089.* https://doi.org/10.1371/journal.pbio.2004089

Bayesian ranking: The Bayesian Ranking method[3] creates a ranked list of proposals, accounting for random fluctuations and uncertainties

Pre-selection for rejection: Proposals with significant weaknesses identified in external and internal reviews may be pre-selected for rejection without detailed discussion.

Separate evaluation and funding decision: The National Research Council sets a funding line based on the proposal ranking and available funding. Proposals scoring above the line receive funding.

Optional lottery: Random selection by lottery may be used for proposals of equivalent quality near the funding line.

For further details on the operation of the UEP, see the SNSF Guidelines[4].

The standardised CV was introduced to increase DORA-compliance and focus on the quality of the applicant's work. The new CV format consists of:

Major achievements with selected works

Net academic age[5]

Education and training

Previous and current employment

ORCID iD number[6]

Understanding the impact of reforms

The SNSF is taking a transparent and evidence-led approach to introducing new measures, including reporting in detail on the Bayesian hierarchical model and random selection elements.[7] The SNSF is part of a wider trend among funding organisations which are evaluating how CV formats with narrative elements are received by their communities (see 'International comparison'). Between 2019-22, the SNSF conducted a pilot to test a new standardised CV format, SciCV.[8]

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[3] *Heyard, R., Ott, M., Salanti, G., & Egger, M. (2022). Rethinking the Funding Line at the Swiss National Science Foundation: Bayesian Ranking and Lottery. Statistics and Public Policy, 9(1), 110–121. https://doi.org/10.1080/2330443X.2022.2086190*

[4] *https://www.snf.ch/media/de/Zp5e2ubmtSKEEYYz/snsfguidelines-for-reviewers-and-referees.pdf*

[5] *Net academic age is the time span between PhD graduation and the submission of the funding application, calculated in full-time equivalents (FTE). https://www.snf.ch/media/en/Of9kzylTRoaTlliN/SNSF_net-academic-age.pdf*

[6] *The ORCID identification number (ORCID iD) is an international identifier that associates a researcher with their research. https://www.snf.ch/en/gKcnwW6aEft4bMPF/page/your-curriculum-vitae-all-about-the-cv-format*

[7] *Heyard, R., Ott, M., Salanti, G., & Egger, M. (2022). Rethinking the Funding Line at the Swiss National Science Foundation: Bayesian Ranking and Lottery. Statistics and Public Policy, 9(1), 110–121. https://doi.org/10.1080/2330443X.2022.2086190*

[8] *Strinzel M, Kaltenbrunner W, van der Weijden I, von Arx M, Hill M. (2022). SciCV, the Swiss National Science Foundation's new CV format. bioRxiv. https://doi.org/10.1101/2022.03.16.484596*

International comparison

A growing number of funding organisations are implementing CV formats with narrative elements. Some, including the UK National Institute for Health and Care Research[9], Luxembourg National Science Foundation (FNR)[10], Science Foundation Ireland[11], Dutch Research Council[12], Health Research Board Ireland[13] and Cancer Research UK[14] have, like SNSF, engaged in evidence gathering to understand the impact of such CVs.

Several organisations share their experiences via DORA's funders group, the Research on Research Institute's programme on 'Narratives'[15]. or the UKRI Joint Funders Group, which developed an evaluation framework[16] for narrative CVs. The specific objectives of the evaluation reported here limited the opportunity for direct comparison to UKRI's shared evaluation questions, nut where possible we compare the SNSF results to similar studies. Based on the characteristics of the funding organisations and data collected, the FNR was often the most appropriate comparator, despite its budget and number of schemes being smaller than SNSF's.

As part of the SNSF's evidence-led approach, CultureBase, in partnership with Different Angles and SIRIS Academic, was commissioned to **evaluate the effectiveness, transparency and usability of the UEP and standardised CV** based on the first two years of implementation.

We note that this study is occurring at an early stage of implementation – especially given the cultural and behavioural shifts being sought – so we urge readers to consider this context when digesting the results, as it was also in the minds of many of those engaged in this study.

> *"I think one should be careful with changing too much. Two years' experience with the new format is a bit short to radically change it. I'd rather go with minor adjustments"*
> Evaluation Panel Member

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[9] *Meadmore K, Recio-Saucedo A, Blatch-Jones A et al. Exploring the use of narrative CVs in the NIHR: a mixed method qualitative study [version 1; not peer reviewed]. NIHR Open Res 2022, 2(38). https://doi.org/10.3310/nihropenres.1115193.1*

[10] *Luxembourg National Research Fund. Narrative CV. https://www.fnr.lu/narrative-cv/*

[11] *DORA. (2020, November 19). Science Foundation Ireland takes an iterative approach to develop a narrative CV. https://sfdora.org/2020/11/19/dora-funder-discussion-science-foundation-ireland-takes-an-iterative-approach-to-develop-a-narrative-cv/*

[12] *Hoogstraat, R. Venturing outside of scientific research is no longer a one-way street. https://recognitionrewardsmagazine.nl/2022/narrative-cv/*

[13] *DORA (2021, April 12). Findings from the Health Research Board Ireland on the Implementation of a Narrative CV. https://sfdora.org/2021/04/12/findings-from-the-health-research-board-ireland-on-the-implementation-of-a-narrative-cv/*

[14] *Cancer Research UK. (2024, May 22). Research careers – changing the narrative for CVs). https://news.cancerresearchuk.org/2024/05/22/research-careers-changing-the-narrative-for-cvs/*

[15] *RORI. The uses and evaluation of researchers' narrative CVs. https://researchonresearch.org/project/narratives/*

[16] *Joint Funders Group, & Alternative Uses Group. (2023). Résumé for Research and Innovation (R4RI)-like narrative CV: Shared Evaluation Framework (2.0). Zenodo. https://doi.org/10.5281/zenodo.8060614*

Evaluation questions and methodology

The evaluation approach was framed against six evaluation questions – three on the UEP and three on the standardised CV:

Unified Evaluation Protocol

1. Have the modules of the UEP delivered an effective evaluation procedure?
2. How do users rate the usability, guidance and transparency of the UEP?
3. What are the strengths and weaknesses of the UEP and what are the facilitators and barriers for its use?

Standardised CV

4. Is the new CV format achieving the desired outputs?
5. How do users rate the usability, guidance and transparency of the new CV format?
6. What are the strengths and weaknesses of the new CV format, and the facilitators and barriers for its use?

These questions were explored from the perspectives of the three major stakeholder groups – **Applicants**, **Evaluation Panel Members** (composed of Research Councillors and other Panel Members) and **External Reviewers**.

Secondary data analysis

For the UEP secondary data analysis, data from the Evaluation Panel Members and External Reviewers scores, funding recommendations from the Bayesian Ranking (funded, random-selection or non-funded) and Applicant/proposal characteristics were combined to analyse: a) the score differences between Evaluation Panel Members and External Reviewers, b) score distribution per proposal and panels and how this affected funding decision and proportion of proposals entering random selection, and c) how the Bayesian Ranking differed from a hypothetical ranking based on score averages given to the proposals by the panel members. The funding calls in scope are detailed in Annex 1.

For the CV secondary data analysis, we reviewed the 19,095 achievements texts of 6,756 CVs, stemming from 4,973 proposals[17] (see funding calls in scope in Annex 1) to understand a) the confidence level expressed in them (measured by sentiment analysis and use of promotional language, see Annex 1), b) if and how often broader contributions (beyond contribution to research and knowledge production) were mentioned in them and c) what work types are referenced in the achievements. Since full anonymisation of CV data was not possible due to identifiable elements (e.g., publications, major achievements), Applicants were

[17] *1188 proposals had one or more co-applicants.*

contacted in advance to obtain consent for sharing their information. Data from Applicants who opted out was not shared.

Survey

Three tailored surveys were conducted to capture the perspectives of Applicants, Evaluation Panel Members and External Reviewers, respectively (see Annex 2).

The voluntary surveys were in the field from June to August 2024, and were distributed by SNSF to a total of 8,099 Applicants, 757 Evaluation Panel Members, and 5,889 External Reviewers. We secured completed responses from 2,004 Applicants, 175 Evaluation Panel Members (31 Research Councillors and 144 other Panel Members) and 996 External Reviewers, yielding response rates of 24.7%, 23.1%, and 16.9%, respectively.

These response rates compare favourably to the typical rate of 10-15% seen for voluntary surveys of this type[18]. The composition of the responses was monitored while the survey was in field, and the final sample reflects the disciplinary and gender mix of SNSF's researcher community. The nature of voluntary surveys presents the challenge of sample bias, but the validity of the results is supported by the large sample sizes and reflective composition of the responses.

Interview programme

Interview candidates were selected from survey respondents who agreed to be invited to the interviews. In total, we conducted 27 interviews – of which 13 were with Applicants, 11 with Evaluation Panel Members (3 Research Councillors and 8 other Panel Members) and 3 with External Reviewers.

Selection of the candidates took into account diversity across gender, research domain and familiarity with the SNSF procedures, as well as sentiment towards the UEP and standardised CV as captured in the survey. More details on the selection as well as the interview protocols are captured in Annex 3.

[18] *For example: Pollitt et al (2024). 'The cost and benefit of research grant funding.' Submitted for publication.*

Chapter 2:

Broad appetite for reform across all stakeholder groups

Key findings

While there are opportunities to clarify the objectives and improve implementation, the SNSF researcher community broadly agrees with the intentions behind introducing the UEP and standardised CV.

> *"I completely agree that the old [CV] format very rapidly puts you in a totally biased position, but maybe I would have had a different approach on what to emphasise [in the new CV format]."*
> Evaluation Panel Member

Support for the intentions behind the reforms

There are many different – and equally valid – interpretations of an effective evaluation system. The desired outcome might be to increase fairness, promote diversity, lower administrative burden (on Evaluation Panel Members, Applicants or both) or generate faster funding decisions.

In reforming the evaluation process, the stated goal of SNSF was to deliver greater fairness and standardisation across funding decisions and align SNSF evaluation practices with DORA principles.

Across our survey and interviews, we built up a clearer picture of how each stakeholder group views these intentions behind SNSF's reforms, and perspectives on how well the reforms are delivering these goals.

Delivering a fair and efficient evaluation

The perceived fairness of the UEP was broadly positive across the stakeholder groups, but with some notable differences between Evaluation Panel Members and External Reviewers, compared to Applicants.

Perceptions of the UEP were strongly positive among External Reviewers and Evaluation Panel Members, with 84% (n=834) and 70% (n=123) respectively saying they had confidence in the UEP supporting a fair evaluation – a sentiment also echoed in interviews.

> *"Overall, I must say I was pretty satisfied with the whole procedure and I think it's quite a thorough process."*
> Evaluation Panel Member

Almost two-thirds (63%, n=111) of Evaluation Panel Members felt the UEP supports a time-efficient evaluation of research proposals, though this view was slightly lower among Research Councillors (58%, n=18) than other Panel Members (70%, n=93).

In contrast, Applicants harbour more concerns, with just over half (52%, n=1,033) feeling confident in the fairness of the process. Notably, we saw a positive

correlation between concerns about fairness and an Applicant's exposure to the UEP – suggesting that greater engagement may further undermine confidence.

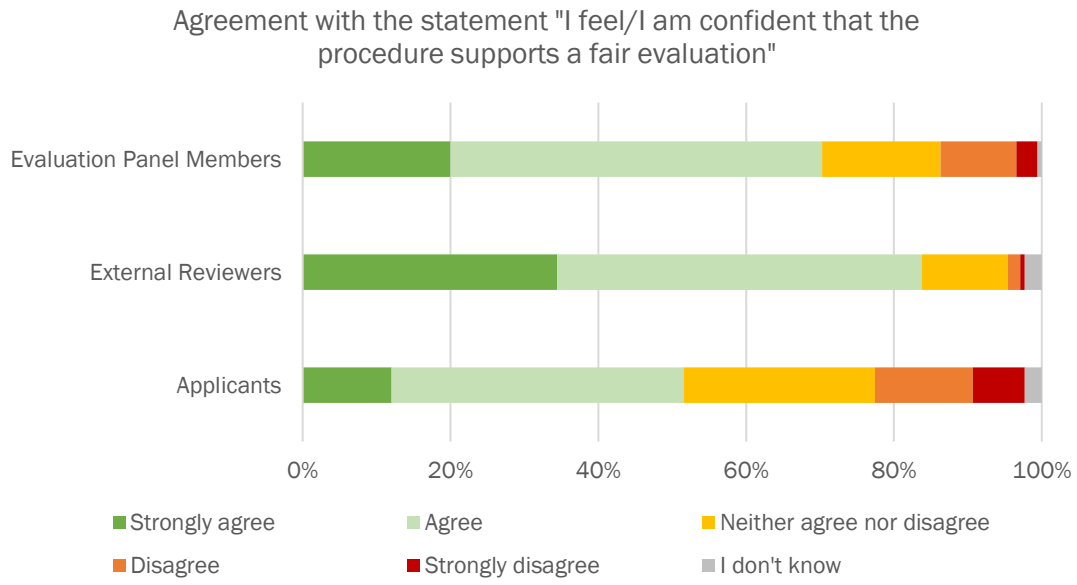

Figure 1. Percentage of each stakeholder group which agree/disagree with the statement "I feel/I am confident that the procedure supports a fair evaluation"

However, the interviews indicated that an improved understanding of the UEP may help lessen concerns about fairness among Applicants.

> *"The process has been designed thoughtfully to address a number of biases, but before doing the effort of talking to [SNSF Evaluation Panel Members] I didn't have evidence that this was the case"*
> Applicant

Delivering increased DORA compliance

Interviews indicated support across all three stakeholder groups for the removal of publication metrics from the CV, aligning with SNSF's intentions to de-emphasise publication metrics and align with the DORA principles.

> *"Stopped the powerful being funded based on reputation"*
> Evaluation Panel Member

> *"…present achievements instead of a list of publications to counteract the dysfunctionality of the system"*
> Applicant

> *"My experience tells me that evaluating just by numbers gives very poor results. So, I'm confident that this can only get better"*
> Applicant

These strongly positive views align with those from the pilot of a previous version of the CV: "*The results of the extensive analysis by the research group of CWTS Leiden showed that SciCV as a whole was well received by applicants and reviewers and that most stakeholders saw value in this new CV format.*"[19] It also reflects the broader research community's support for moving away from the predominance of journal metrics (see 'International comparison' in Chapter 1).

However, opinions on whether the new SNSF CV format is achieving this goal differ across the stakeholder groups – with Applicants and External Reviewers being more broadly positive, and Evaluation Panel Members being less convinced.

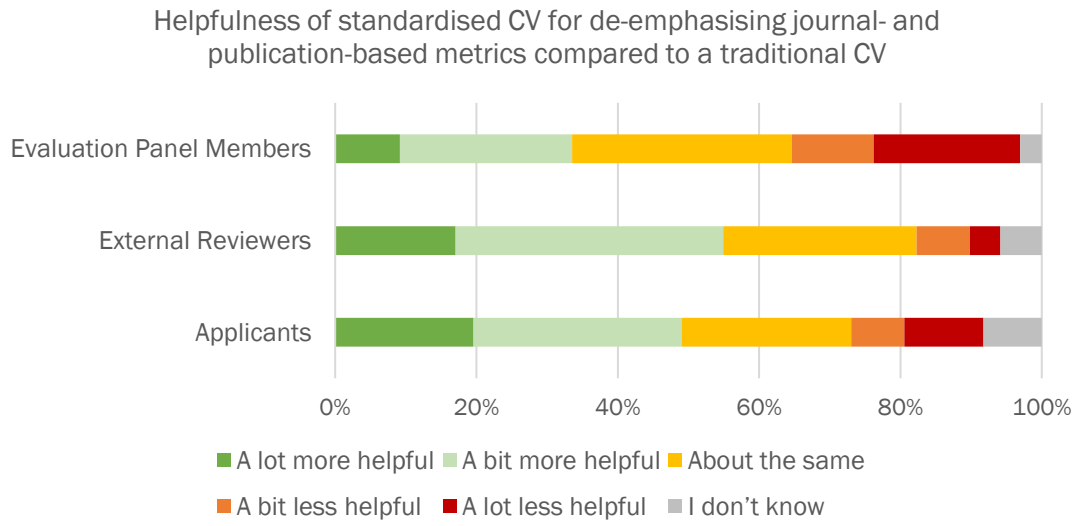

Figure 2. Perceived helpfulness of standardised CV for de-emphasising journal- and publication-based metrics compared to an application with a traditional CV

Among Applicants, just under a half (49%, n=915) felt the new CV format was better at de-emphasising journal and publication metrics versus a traditional CV, with 19% (n=349) feeling it was inferior to a traditional CV. Interviews indicated that many supported the intention of increased DORA compliance but were sceptical about the reforms being genuinely followed in the evaluation process.

> *"The commitment to DORA principles is highly commendable, but far too many key players (e.g. External Reviewers and SNSF Evaluation Panel Members) do still not really adhere to it."*
> Applicant

> *"It is difficult to push people to ignore metrics that are relevant for them"*
> Applicant

[19] *Strinzel, M., Kaltenbrunner, W., van der Weijden, I., von Arx, M., Hill, M. (2022). SciCV, the Swiss National Science Foundation's new CV format. bioRxiv. https://doi.org/10.1101/2022.03.16.484596*

However, our survey asked Applicants about the achievements they are selecting for their standardised CV, and this data suggests that the new format is indeed discouraging traditional metrics (e.g. citations, Journal Impact Factor), and encouraging impact-related achievements. Within this result, we saw little difference between successful and unsuccessful Applicants.

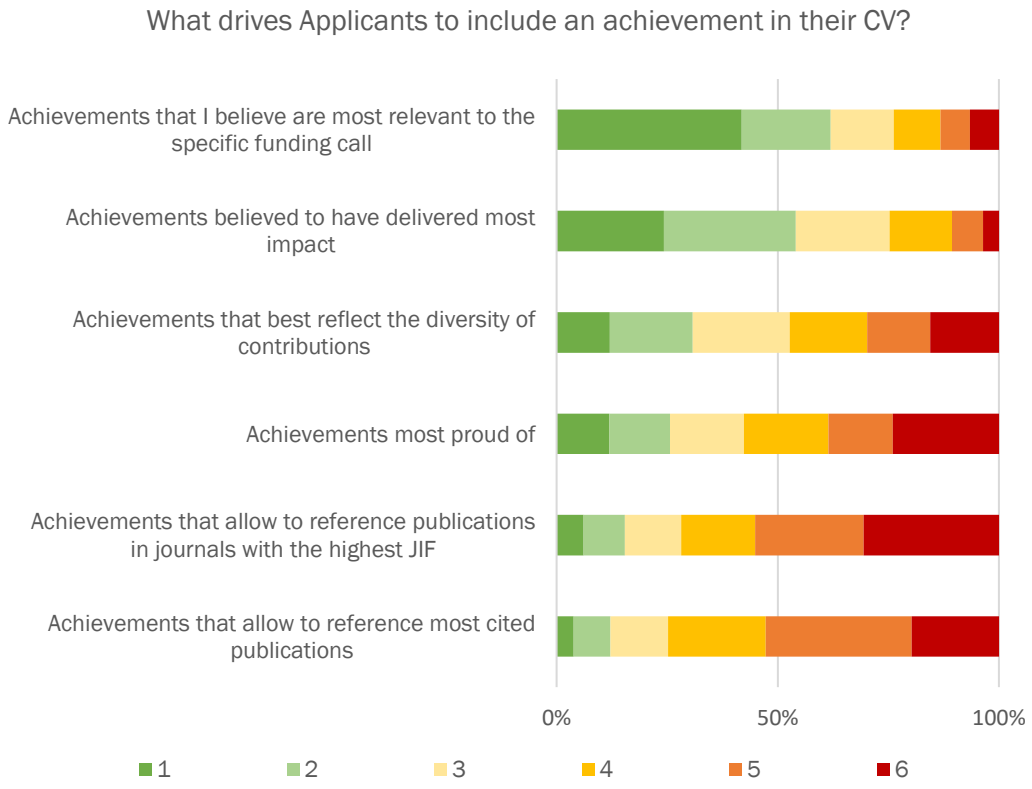

Figure 3. Elements which best reflect (1) to least reflect (6) Applicants' rationale for including achievements in their standardised CV.

Among External Reviewers, we saw a similar result with over half (55%, n=412) feeling that the new CV format was better at de-emphasising journal and publication-based metrics versus a traditional CV, with a further 27% (n=205) feeling the new format performed "about the same" as the traditional format.

Among Evaluation Panel Members, many were unconvinced that the new format was driving the intended change. Only around a third (34%, n=55) felt the new CV format was better than a traditional format at de-emphasising publication-based metrics. Chapter 4 explores how this dissatisfaction may stem from how Evaluation Panel Members are using the standardised CV – specifically the hesitation to evaluate without consulting a publication list, which is omitted from the new CV format. This tension was reflected in the interviews, where the few supportive voices were outweighed by those concerned about the CV format.

> *"I was sceptical [about the new CV format] at the beginning and my experience confirmed that in the end"*
> Evaluation Panel Member

Delivering greater standardisation

In interviews, the standardisation of the evaluation procedure did not emerge as a significant topic – where it did come up, opinions were generally positive.

When exploring the standardisation of the CV format in the survey, we saw mixed opinions. Almost three-quarters (71%, n=538) of External Reviewers welcomed the standardisation of the CV, compared to less than half (44%, n=74) of Evaluation Panel Members. In interviews, some linked the more sceptical view of Evaluation Panel Members to their greater engagement with decision-making.

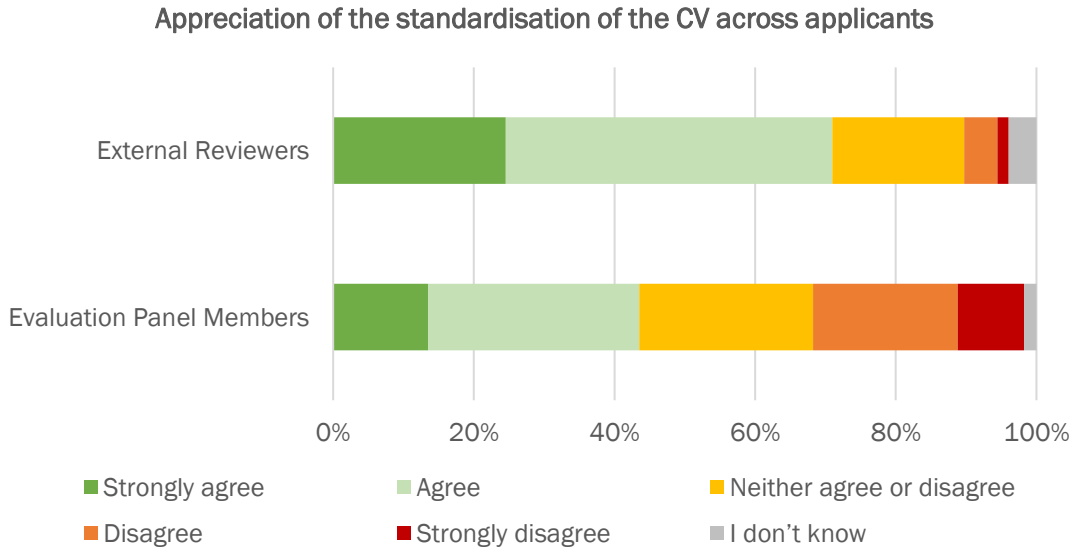

Figure 4. Appreciation of the standardisation of the CV format across applications.

In the survey, the consistent introduction of the context-focussed elements to the new CV format were well-received by Applicants, with 55% (n=1,042) holding a positive view about each individual component, and only a minority (~12-20%, n=226–373) holding negative opinions. These opinions varied minimally by gender, seniority or research domain, with SSH applicants and female applicants being marginally more positive across the board.

Notably, female respondents were more positive about the inclusion of net academic age in the CV compared to male respondents, with 69% (n=484) and 53% (n=601) respectively appreciating its inclusion.

> *"I've been working 70% because I have two daughters that I am taking care of. In that sense, it has been good to have the academic age. I don't know what is the impact though, but for me it is important to show that I have less time in research than people I'm competing with"*
> Applicant

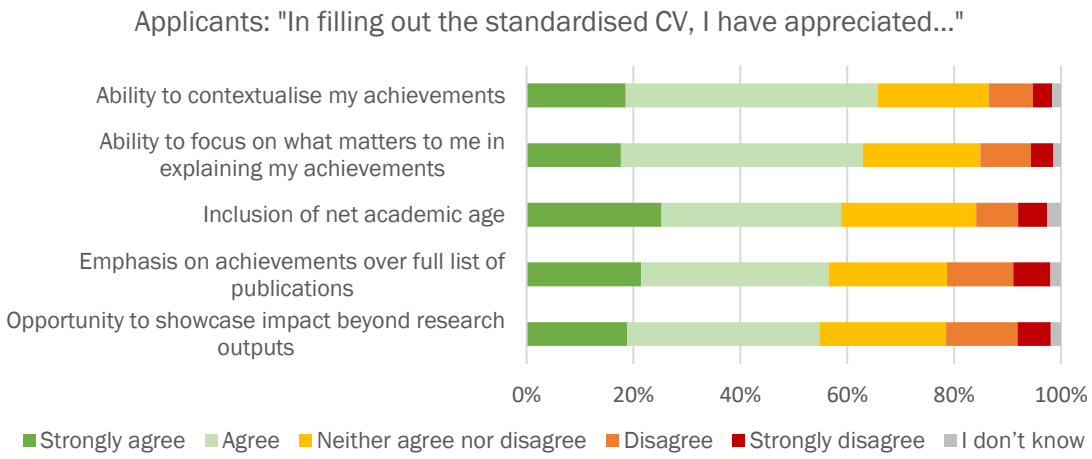

Figure 5. Applicant agreement with the statement "In filling out the standardised CV, I have appreciated {range of potential options}"

The interviews highlighted a small number of concerns about over-standardisation within the new CV format, and the lost opportunity to convey a personal style.

> *"more standardisation does not necessarily make it fairer"*
> Applicant

> *"rearranging your own CV gives an idea of the person and their capacity"*
> Applicant

A broadly shared experience of the UEP and new CV

Our survey and interview data indicates that variables including gender, seniority and research domain are not major drivers of perceptions or behaviours around the UEP and new CV format. Across a wide range of topics, we see little variation in responses, with some notable exceptions such as the stronger support among female respondents for the inclusion of net academic age. As such, we have only drawn attention to these variables where we observe notable differences.

This aligns with comparable data sources on narrative CVs – FNR split their data by gender and research domain, revealing limited differences in responses.[20]

Instead, we observe one group with consistently different opinions towards the UEP and CV – Research Councillors. Across a range of measures, this group shows greater dissatisfaction with the reforms, even if their support for the intentions broadly aligns with other stakeholder groups. Interviews suggest that the more critical perspective of this group may be driven by their greater role in the evaluation decision, and proximity to the reforms.

[20] *Luxembourg National Research Fund. Narrative CV.* https://www.fnr.lu/narrative-cv/

Chapter 3:

Better understanding of its interconnected elements may strengthen confidence in UEP

Key findings

Dissatisfaction with the UEP centres on interconnected concerns about the implementation of the rating scale, the Bayesian Ranking, and the number of proposals entering random selection. Our analysis suggests these concerns are largely unfounded or driven by inconsistencies in external and panel feedback.

> *"The motivation for going for [the] 1 to 9 scale is OK, because in theory it should give you the fine graining now over the entire scale. [...] So that was a good idea, but in reality we didn't really gain more fine graining. In fact, I think we even lost some."*
> Evaluation Panel Member

A positive user-experience, but mixed overall views

Evaluation Panel Members were asked about their opinion of the UEP when it was first presented to them, and their opinion now. Overall, we see that views on the UEP have polarised over time, predominantly in a negative direction.

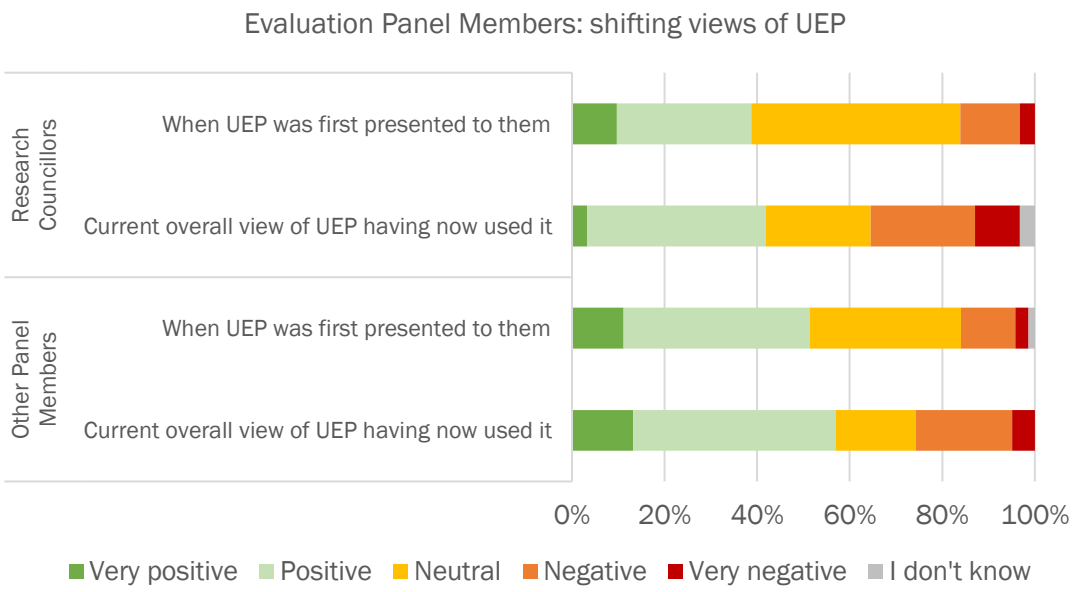

Figure 6. Opinions of the UEP among Research Councillors and other Panel Members when the UEP was first presented to them, versus opinions now having used it.

Across the two sub-groups, other Panel Members started with a marginally more positive view compared to Research Councillors, but both groups contain many individuals who felt ambivalent towards the UEP. Over time, we see a polarisation of opinion for both groups – with a substantial drop in the neutral group, a small increase in positive opinions, and a larger increase in negative opinions. The negative shift is particularly pronounced among Research Councillors.

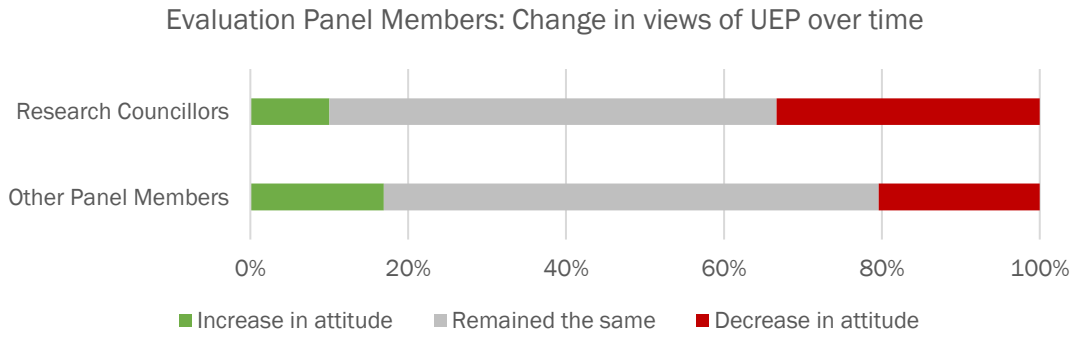

Figure 7. Direction of change in views of the UEP over time, for Research Councillors and other Panel Members. Note, excludes three respondents who indicated 'I don't know' to their first or current views.

When we examine the data, we see that SSH Evaluation Panel Members were slightly more likely to increase their opinion of the UEP over time (22%, n=13), and female Evaluation Panel Members were substantially more likely to increase their opinion of the UEP over time compared to male Evaluation Panel Members (22%, n=14, versus 10%, n=10, respectively).

Notably, when Evaluation Panel Members were surveyed about their "user experience" of the UEP, rather than their overall opinions of it, the results showed substantially greater levels of satisfaction. Almost three-quarters (73%, n=128) of Evaluation Panel Members felt positive about their experience using the UEP. Interviews suggested that this stemmed from Evaluation Panel Members having a higher regard for the elements of the UEP they were directly involved with (and therefore experienced as a user), but that overall opinions were dragged down by concerns about the elements they were least involved with.

Overall, External Reviewers were very satisfied with the UEP, with 84% (n=837) being satisfied with their experience – a result which remained largely consistent with increased exposure to the new procedure.

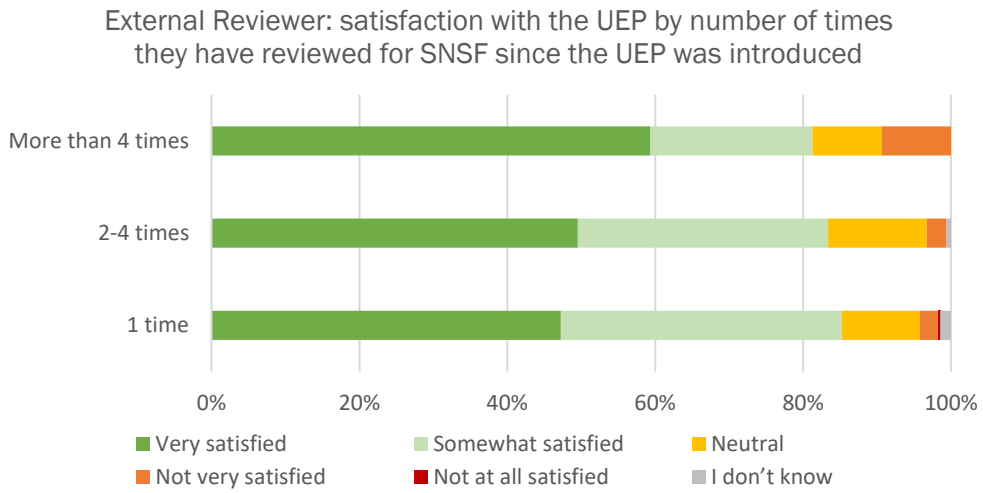

Figure 8. Satisfaction levels with the UEP among External Reviewers, split by the number of times they have reviewed for SNSF since October 2022.

Our engagement with Evaluation Panel Members and Applicants highlighted a high degree of satisfaction with the logistical aspects of the evaluation process. In interviews, Evaluation Panel Members praised the thoroughness of the process, the organisation of panels, and the environment created for evaluating.

> *"The support from the SNSF should be underlined. I really appreciate the environment and the attitude"*
> Evaluation Panel Member

Similarly, several Applicants praised the usability of the new process.

> *"much better than French, Italian and Japanese application systems in terms of usability and interaction"*
> Applicant

Lower understanding and confidence for evaluation stages outside Evaluation Panel Members' control

External Reviewers and Evaluation Panel Members report a high level of understanding of the evaluation procedure. For External Reviewers, 92% (n=914) felt they understand the overall procedure, and 79% (n=783) felt they understood how each individual stage contributes to a funding decision.

The vast majority (93%, n=163) of Evaluation Panel Members feel they understand the overall UEP, and understanding of the individual stages is relatively good – with 96% (n=167) saying they understand the (Internal) Referee assessment stage very or reasonably well, down to a low of 62% (n=108) saying they understand the Bayesian Ranking very or reasonably well.

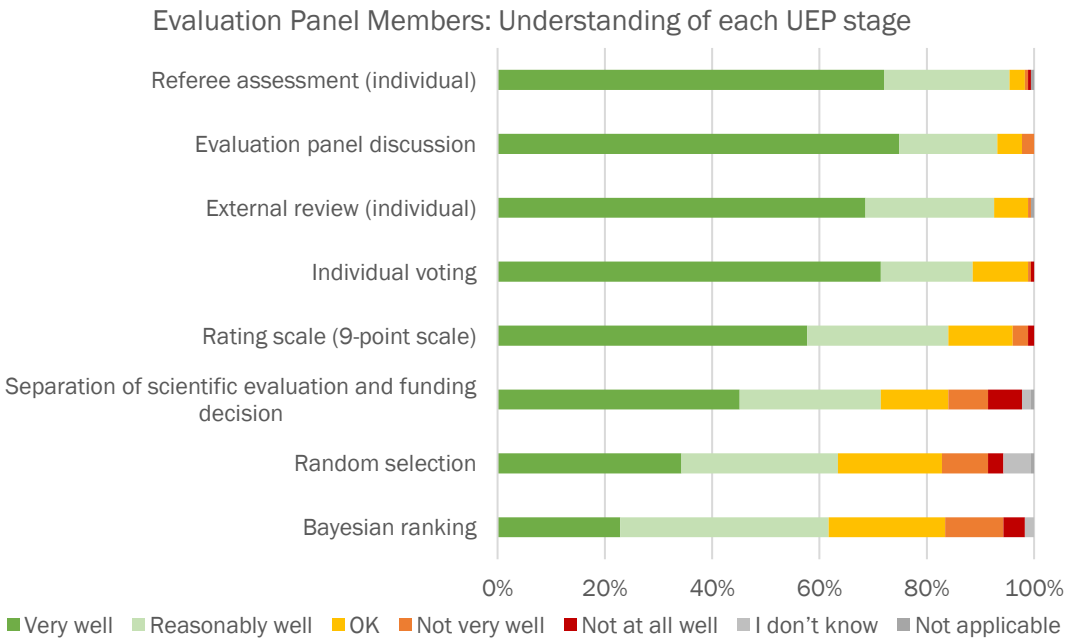

Figure 9. Reported understanding of each individual UEP stage among Evaluation Panel Members.

Across the individual stages, we see that the least well-understood are those introduced to the UEP in 2022. These are also the stages outside of the control of individual Evaluation Panel Members – namely the Bayesian Ranking, random selection, separation of the scientific evaluation and funding decision, and the 9-point rating scale.

We see a correlation between the stages which are least understood by Evaluation Panel Members, and those in which they have the least confidence. While 70% (n=123) of Evaluation Panel Members feel confident in the overall UEP supporting a fair evaluation, we see substantial variation for individual components of the UEP.

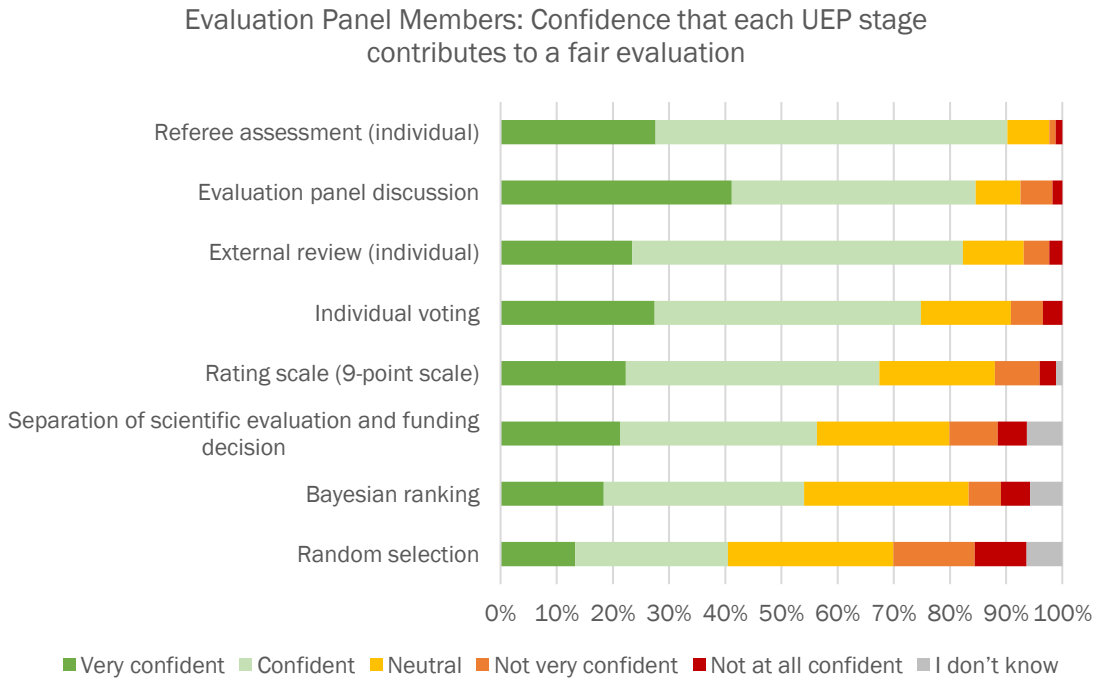

Figure 10. Confidence among Evaluation Panel Members that each UEP stage contributes to a fair evaluation.

These sentiments were replicated in interviews, where we saw strong criticism of specific aspects of these UEP components and their implementation.

Interconnected issues with the rating scale, Bayesian Ranking and number of proposals entering the random selection

The triangulation of our evidence sources highlighted an interconnected set of behaviours and perceptions that represent a challenge for the UEP. These relate to the 9-point rating scale and use of the Bayesian Ranking to determine the proportion of proposals entering random selection. Although the source of this problem is complex, targeted actions may help to alter perceptions of the UEP.

Support for the Bayesian Ranking and random selection in principle

Across each of the three stakeholder groups, a majority were supportive of the use of random selection at the funding line, if implemented well.[21] Random selection was seen as a fairer approach, with stakeholders recognising that the marginal difference in proposals immediately above and below the funding line cannot be objectively assessed through expert review, and such differences are often explained by variations in evaluation practices (e.g. generosity of scoring).

> *"I like Bayesian stuff [...] It's not the fundamental criticism on the methodology but it's sometimes a little bit poor understood"*
> Evaluation Panel Member

> *"[without a lottery] you are really going to invent arguments to reject and that's not fair"*
> Evaluation Panel Member

However, interviewees suggested that more could be done to deepen understand of the Bayesian Ranking stage, and a minority of Evaluation Panel Members felt uncomfortable with the lottery – viewing it as an abdication of responsibility for the funding panels to leave a funding decision down to "luck".

> Background: **How the use of Bayesian Ranking changes the proposal funding decision, compared to a means-based ranking**
>
> Since the Bayesian Ranking (BR) was introduced, 0-12% of projects discussed by the panels have entered random selection (see Supplement 3). To explore the effects of using the BR to make a funding decision or direct a proposal towards random selection group, we compared the actual rankings and funding decisions against a hypothetical scenario in which rankings were determined by the mean of the panel member scores.
>
> **Methodological note**
>
> The funding line for a given panel in the mean-based ranking was defined as the *number of proposals* funded in that panel; this is a simplification stemming from the fact that we are not aware of the *actual* funding line.
>
> The hypothetical selection process may also include random selection groups, whenever several proposals had a rank coinciding with the funding line. Therefore, we explored the discrepancies between the actual results obtained from the BR and the hypothetical results, considering three categories: *(directly)* funded proposals, *(directly) not funded proposals*,

[21] *The funding line is determined by the funds available, and represents the cut off point for determining what is funded..*

and *proposals undergoing random selection*. In the table below, the ranges per funding instrument and research domains are in brackets.

		All funding instruments / research domains			
		Ranking based on means			TOTAL
		Not Funded	Random Selection	Funded	
Bayesian Ranking	Not Funded	51.3% (39.6% - 65.9%)	0.01% (0% - 0.1%)	0.2% (0% - 0.8%)	51.5%
	Random Selection	3.7% (0% - 9.6%)	1.2% (0% - 5.8%)	3.3% (0% - 7.4%)	8.2%
	Funded	0.04% (0% - 0.1%)	0.05% (0% - 0.4%)	40.2% (24.6% - 53.2%)	40.3%
TOTAL		55.0%	1.3%	43.7%	

Compared to means-based ranking, the BR does not dramatically alter the proposal ranks (see Supplement 3), but does impact the size and selection mechanism of the random selection groups close to the funding line. This is important to note, as the main objective of introducing the BR was to account for variability in scoring behaviours.[22]:

- 99.8% of proposals (40.2% out of the 40.3% funded proposals) which were directly funded through the BR would have also been directly funded through the mean-based ranking.

- 99.6% of proposals (51.3% out of the 51.5% non-funded proposals) would have also not been directly funded in a mean-based ranking.

- 14.6% of proposals which entered random selection (1.2% out of the 8.2% proposals entering random selection) would have also done so in the mean-based ranking (mainly driven by the interval size around the funding line, which was set at 0 in this mean-based simulation).

[22] *Heyard, R., Ott, M., Salanti, G., & Egger, M. (2022). Rethinking the Funding Line at the Swiss National Science Foundation: Bayesian Ranking and Lottery. Statistics and Public Policy, 9(1), 110–121. https://doi.org/10.1080/2330443X.2022.2086190*

Concerns about the proportion of proposals entering random selection

While the use of random selection around the funding line was supported in theory, a substantial proportion of Evaluation Panel Members – especially Research Councillors – expressed concerns about how it operates in practice. Principally, there was a perception that 'too many' proposals are being directed into random selection, which was felt as leading to unfair outcomes.

> *"Having a lottery between proposals that are around the cut is not a bad idea, however, we have 6 or 7 proposals that overlap in terms of standard deviation and if we separate the first half and the second half, there's a big difference."*
> Evaluation Panel Member

In interviews, several Evaluation Panel Members described 5-10% as a suitable target for the number of funded grants being determined by random selection, but reported that current rates could be 25-33%. They felt that the Bayesian Ranking should be rethought if it was unable to deliver an outcome within that target range, and suggested alternatives such as using pre-selected criteria.

Based on the secondary data analysis, the average proportion of proposals entering random selection is 6% of all submitted proposals, and varies between 0% (SOR4D) and 12% (Agora) across funding instruments (see Supplement 3 and Annex 1 for funding calls analysed). The average proportion of proposals entering random selection is therefore not as high as perceived, and lies within the target range suggested by Evaluation Panel Members in the interviews.

The perceived overuse of random selection may be stemming from a) the variability in the number of proposals entering random selection across individual panels and b) from different ways Evaluation Panel Members might be calculating the proportion of random selected proposals. While we were not able to explore this first possibility, we did explore how the proportion entering random selection would vary when, for example, only considering the proposals discussed by the panels, while disregarding pre-selected proposals – which could result in a higher perceived proportion. Additional data on random selection and funding decision per funding instrument and panel are provided in Supplements 3 and 4.

In interviews, we heard concerns that a high proportion of proposals entering random selection – where experienced at the individual panel level – could be a consequence of the bunching of scores at the funding line within that panel. Although we did not observe high proportions on average, our analysis explored how bunching affects the proportion of proposals entering random selection. We note that since the Bayesian Ranking was designed to address scoring variations, certain affects are to be expected.

Perceived bunching around the funding line

In interviews, most Evaluation Panel Members expressed dissatisfaction with the implementation of the 9-point rating scaling. The primary concern was that evaluators were not using the full dynamic range of the scale (e.g. 1-9), with scores "bunching" towards the top of the scale (e.g. 7-9). Many interviewees felt this problem had increased as the rating scale had been in use longer, meaning that its introduction was not having a positive impact on scoring granularity.

Some Evaluation Panel Members described the scale as an improvement if used as intended, but felt the bunching of scores represented a failure. This was illustrated by several examples given by Evaluation Panel Members in interviews (see quotes below), describing the scoring behaviours that drove bunching.

> *"But to score a 0, 1, 2, 3... I mean, I find that quite offensive for all the effort that people are putting into it."*
> Evaluation Panel Member

> *"You start from a 5 and so you go from 5 to 9. I think most people still give a 7, unless it's really terrible [...] so if you want to get funded, you try to justify giving it a 9, basically."*
> Evaluation Panel Member

In interviews, some Evaluation Panel Members indicated that proper use of the rating scale was hindered by confusion on how to weight different elements and criteria, and that greater clarity on this might help drive fuller use of the scale.

> *For me, it's completely unclear the weight of the different aspects of the evaluation overall; how they contribute to that final grade you give."*
> Evaluation Panel Member

Several Evaluation Panel Members felt that the bunching of grades was having a negative impact on the Bayesian Ranking – increasing the breadth of credible intervals, and therefore the proportion of proposals entering random selection.

We explored this perceived bunching in the use of the rating scale across funding instruments. To do so, we defined score bunching as the proportion of projects with a mean score close to the funding line. Depending on the funding instrument and research domain (see Supplement 5), 37-90% of the proposal mean scores were within ±1 point of the funding line, and 16-57% within ±0.5 points of the funding line [23]. While voting behaviour is certainly one driver of bunching in some cases, there is also a clear correlation between bunching and a lower proportion of proposals being discussed by the panel, due to higher proposal pre-selection (see Supplement 5), which prevents proposals at both extremes of the score range entering the panel discussion stage.

[23] *Defined by the lowest mean score of the funded proposals*

We also looked at the panel member scores for 3,137 proposals in 55 panels of 6 funding instruments passing through one-phase evaluation[24] and observed that 55% of the 39,998 individual votes were a 7, 8 or 9 [25]. However, this analysis only includes proposals discussed by the panels, excluding pre-selected proposals, with this proportion varying across funding instruments (see Supplement 7).

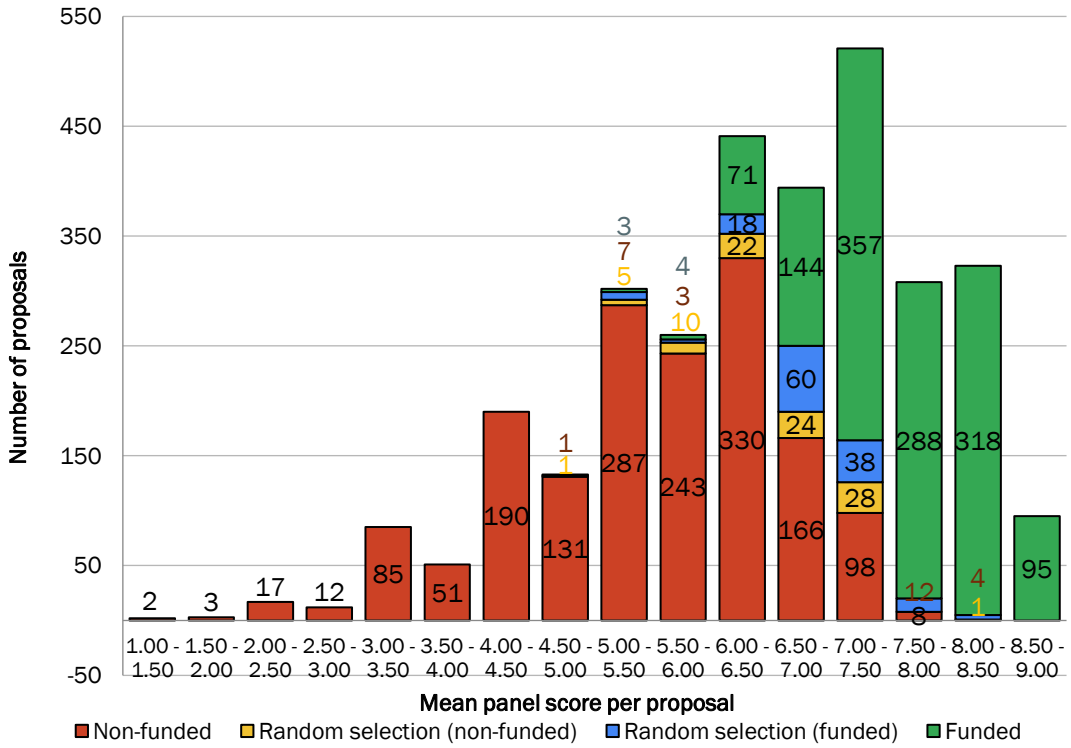

Figure 11. Mean proposal score distribution and funding decision across all analysed funding calls.

Impact of score distribution per proposal and across panels on sending proposals into random selection

We also explored how scoring variations at an individual proposal level, and within a panel, correlate with the proportion of proposals entering random selection. Given that the Bayesian Ranking and random selection were introduced to account for scoring variations at individual proposal level and within a panel, such correlation would suggest that this goal was being achieved. In Figure 12, scoring variations at the individual proposal level are represented by the credible interval of the proposal's rank, and bunching within a panel by the proportion of proposals ±0.5 score distance from the funding line mean score. These two variables are plotted with the share of proposals discussed by the panel entering random selection. Note that the values presented are for the proportion among discussed proposal, rather than among total proposals considered by a panel.

[24] *Analysis of 2-phase evaluations panels were omitted, as only 48% of proposals were evaluated in the second phase, in which the mean panel score grew by 0.8 on average in the second phase and the standard deviation of the score distribution reduced from 1.3 to 1 (see Supplement 6), so taking only proposals analysed in phase 2 would introduce a bias in the data, when comparing with one-phase evaluations.*

[25] *For proposals entering 2-phase evaluation, 57% of the 54,028 scores that were examined were given a 7, 8 or 9.*

This analysis shows that for higher bunching (x-axis) and larger score distribution at proposal level (y-axis) it becomes more likely that a higher proportion of proposals enters random selection. The previous section explains that higher bunching can be the result of limited use of the rating scale, but more often will be a consequence of high pre-selection of proposals.

> **Example:** A panel on Postdoc.Mobility - SSH had 57% of average proposal scores at ±0.5 points of the funding line (e.g. high bunching) and an average credible interval size of 14%, which led to 29% of proposals discussed by the panel entering random selection.
>
> For Project funding - SSH, there was a panel with just 12% of average proposal scores at ±0.5 points of the funding line (e.g. low bunching) and the score distribution per proposal was small, with 4% of average credible interval size, which led to only 1% of proposals discussed by the panel entering random selection.

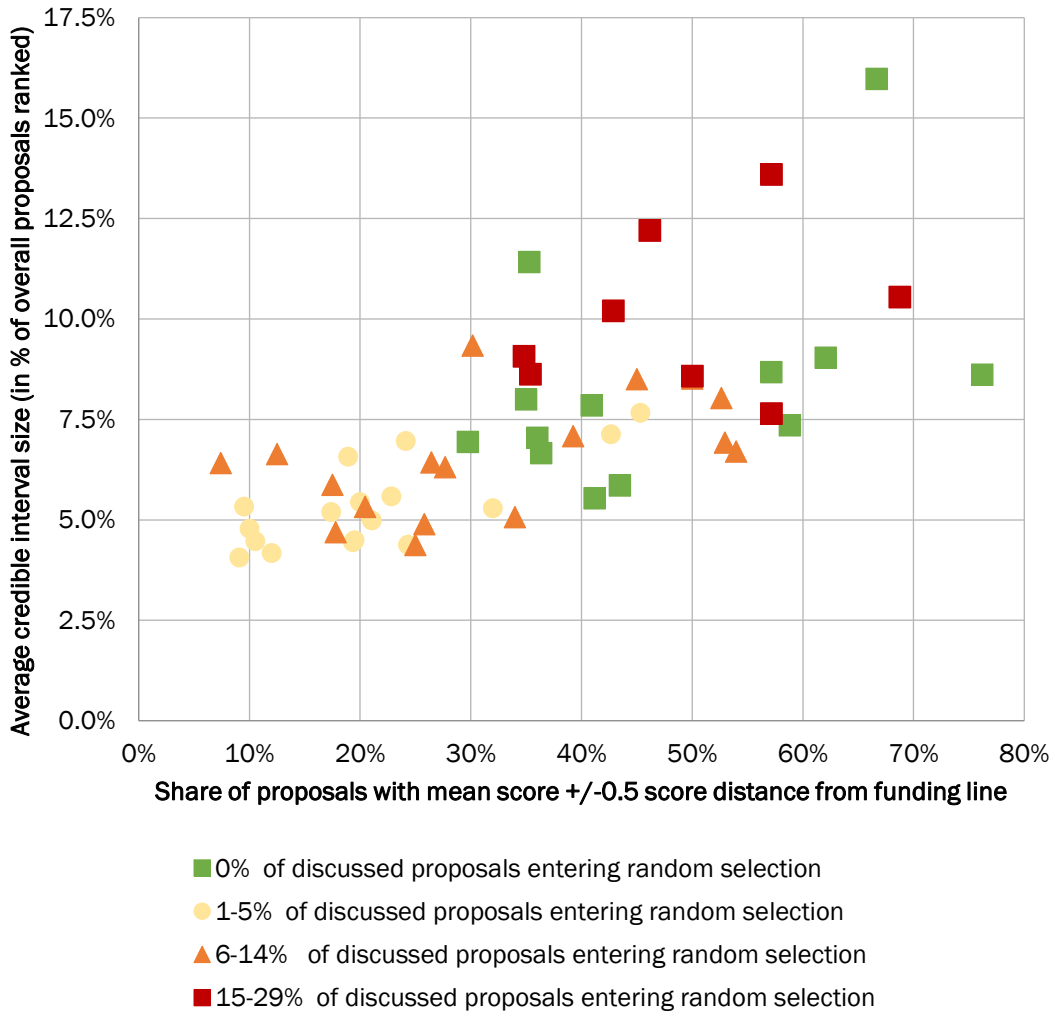

Figure 12. Correlation between the score bunching on panels (proportion of proposals with mean score ±0.5 score distance from the funding line), score distribution per proposal (average credible interval size) and the proportion of discussed proposals on each panel entering random selection. Each data point represents a panel (see Supplement 3)

This analysis[26] confirms a relationship between bunching and the proportion of proposals entering random selection. More importantly, it shows that the implementation of the UEP and Bayesian Ranking are effective where bunching occurs, and where there are high levels of disagreement on a proposal's score:

- Where bunching occurs, it is difficult to differentiate the quality of proposals given that score differences between them are very small. In those cases, it makes sense to let random selection make the funding decision, and data from the UEP confirm that there is a higher probability for proposals to undergo random selection in panels with high bunching. However, it also leads to a reflection on the utility of the panel when there is score bunching behaviour.

- Where panel members do not reach agreement on the score of a proposal, leading to a broad score distribution and high credible interval of the rank, it is difficult to understand the true quality of a proposal. In those cases, it makes sense to let random selection make the funding decision, and data from the UEP show us that a bigger credible interval leads to bigger probability of the proposal entering random selection.

Impact of number of votes on proportion of proposals entering random selection

One further concern that was explored in the secondary data analysis was whether the number of votes cast had any impact on the score distribution. This also was raised in the interviews by Evaluation Panel Members, who were concerned about unfairly disadvantaging proposals that receive less votes (for example when panel members abstain due to a conflict of interest).

> *"And then you have the case where 2 candidates basically get identical votes, but in 1 case there is a panel member less - this could be because of conflict of interest or something like that - but actually has sometimes a detrimental influence on the confidence interval. The Bayesian method does not know right?"*
> Evaluation Panel Member

However, this is situation where the Bayesian Ranking should help make the evaluation fairer, by accounting for differences in number of voting panel members. As illustrated in Figure 13, we could confirm that there is no impact from the number of voting panel members on the score distribution per proposal (credible interval size).

[26] It is important to note here that the analysis is based on raw scores – not on ranked position – and thus we would recommend that the SNSF run simulations to illustrate how the bunching of scores impacts on the Bayesian Ranking and how this in turn impacts the number of proposals entering the random selection.

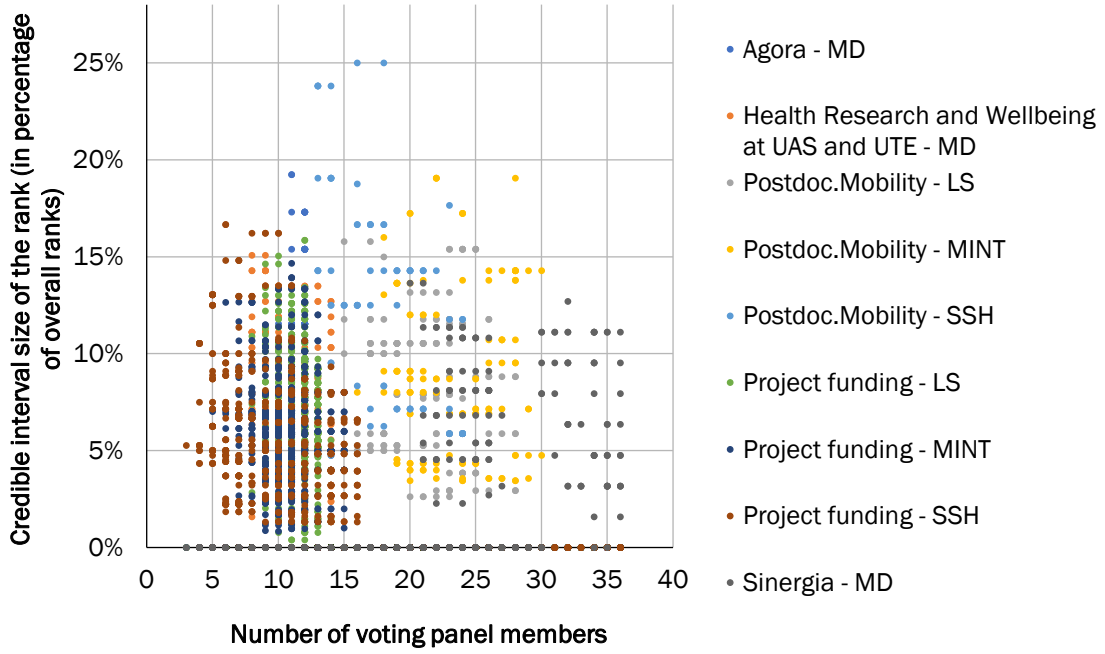

Figure 13. Influence of number of voting panel members on score distribution per proposal (measured by the credible interval size of the rank as a proxy)

Nurture a broader understanding of complex UEP elements

Our data indicate that while the BR is effective in increasing fairness in the UEP, this is not well understood by Evaluation Panel Members. Firstly, there are misconceptions, particularly around the number of proposals entering random selection. Secondly, the complex interplay between certain UEP elements has led to low levels of understanding of their operation, which presents a barrier to boosting confidence among evaluators. Poorly understood elements include:

- Actual score distributions for individual proposals, and across panels
- How scores vary with the proportion of pre-selected proposals
- How the Bayesian ranking accounts for distributions and variations
- How these factors impact the number of proposals entering random selection

Given the widespread view among evaluators that the Bayesian Ranking and random selection elements are dysfunctional, versus the data demonstrating the effectiveness of these elements, we recommend that the SNSF takes further action to deepen understanding of these UEP elements among evaluators, as a route to boosting confidence in the UEP:

Recommendation: **Make additional efforts to communicate the purpose and benefits of the Bayesian Ranking and random selection stages. In particular, explain: 1) how the Bayesian Ranking accounts for large score variability of a proposal's score and/or limited use of the rating scale; 2) how this relates to the proportion of proposals entering random selection; and 3) how it corrects for other variables (e.g. number of voting panel members).**

Recommendation: **Further clarify the relationship between the use of the rating scale, the issue of score 'bunching', and how this may impact the number of proposals entering random selection. While the full dynamic range of the rating scale should not be applied to 'game' the number of proposals entering random selection, a better understanding of how these elements connect might discourage strategic use of a narrow scoring range.**

While our data indicate that the BR is contributing to the aims of introducing the UEP, it is clear that the choice of the BR credible interval relates to some of the concerns held by Evaluation Panel Members. Therefore, the SNSF may want to explore the size of the credible interval based on analysis in this report and potential further analysis by the SNSF. Increasing the size of the credible interval would better accommodate the distribution of scores per proposal, and increase the proportion of proposals entering random selection. However, reducing the size of the credible interval would better differentiate bunched proposals, and reduce the proportion of proposals entering random selection.

Provide greater clarity on the weighting of criteria

External Reviewers and Internal Referees evaluate proposals based on several evaluation criteria, for Career funding instruments accompanied by a recommended – but not binding – weighting from the SNSF. In interviews, we observed a broadly-felt confusion around how to translate these assessments into a single, final score. Based on our knowledge of approaches used by other funding organisations – ranging from per panel agreement on weighting, to strict percentage rates per criteria – we recommend that the SNSF provides additional support for Evaluation Panel Members to arrive at a final score, and continues to monitor the impact of this support over time:

Recommendation: **Provide greater clarity on the weighting of the proposal elements and evaluation criteria, including of the standardised CV.**

Inconsistencies in external and panel feedback

During interviews, it was clear that most Applicants were not familiar with the details of the UEP, and based their perception of the process on their experience being evaluated, and the coherence of the feedback received.

When asked in the survey, Applicants felt the transparency of the UEP was broadly good - both for the process overall (almost 80%, n=1,573 felt they understood the process), and how the inputs informed the final funding decision (68%, n=1,360). Results remained consistent with increasing exposure to the evaluation process.

However, interviews revealed some targeted concerns, including about "unwritten rules" (at SNSF and within the Swiss context) within the evaluation system, biases

within the process linked to seniority, discipline and institution, and lack of coherent feedback. This latter point was mirrored in the survey responses from Applicants, which show appetite for more information from SNSF on the final funding decision - with this appetite growing with exposure to the procedure (almost 30%, n=569 are not satisfied with the information they received from SNSF explaining the funding decision, rising to 48%, n=23 for Applicants who submitted to SNSF more than 4 times since 2022).

> *"Even though it was clear why [the panel] rejected it, it wasn't clear why they felt differently than the reviewers. And I took the comments on board for the next application, but it was very hard to navigate the lack of clarity on these different viewpoints"*
> Applicant

In interviews, several Applicants and Evaluation Panel Members expressed concerns around the transparency of External Reviewer selection, variations in the quality of external reviews and how this was accounted for, and the lack of a rebuttal opportunity for Applicants.

> *"I find it strange that we are asked to say something about the quality of the review reports but that in the end it doesn't have an impact on the process."*
> Evaluation Panel Member

One Evaluation Panel Member expressed concern about assessing proposals further from their area of expertise and would welcome the ability to indicate this during the process. Meanwhile, some Applicants felt that referee coverage across sub-disciplines could be a problem, especially for interdisciplinary proposals.

> *"The panels are imbalanced so it means that some fields will be inherently evaluated more adequately"*
> Applicant

We examined the consistency of internal and external scoring as part of our secondary data analysis (see Annex 1 for details on the funding calls analysed). Our data show that funded grants tend to have similar Internal Referee and External Reviewer scores, suggesting consistency at both phases. For 58% of funded grants, the Internal Referees and External Reviewer have a score difference within ±1 (see Figure 14). This is the case for 39% of non-selected proposals, where 25% had score differences between Internal Referees and External Reviewer within ±3. This indicates more variability in the difference between internal and external scores for non-funded proposals.

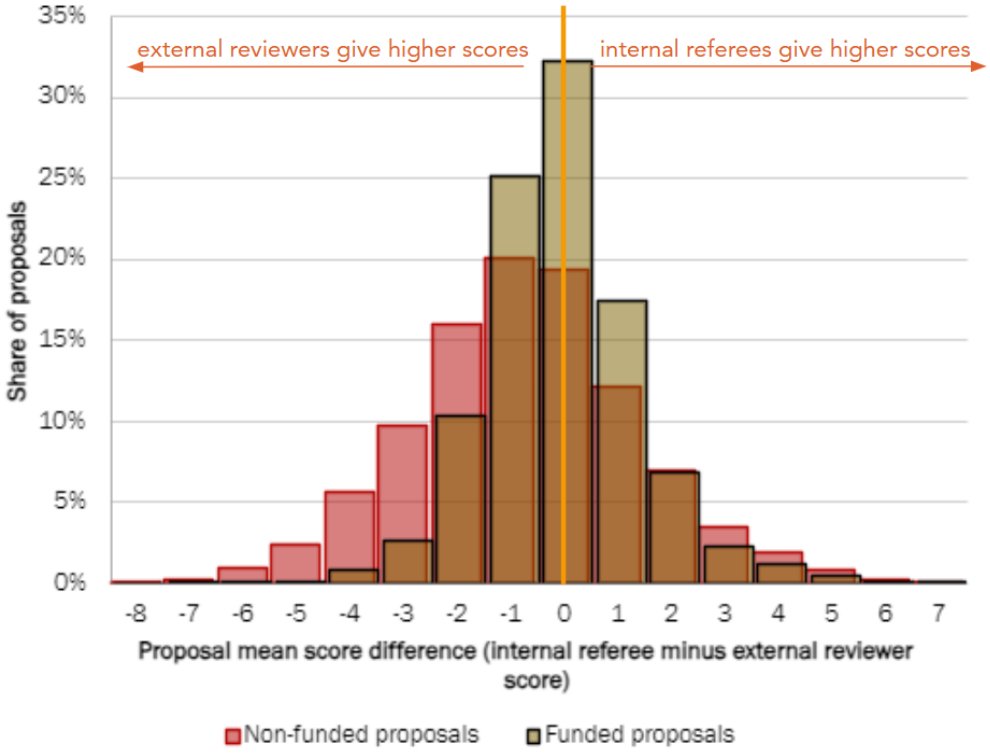

Figure 14. Distribution of the mean proposal score difference between the scores given by the internal referee and the external reviewers

When examining the score difference distribution, as the average differences per criteria, we observed that Internal Referees tend to score lower than External Reviewers (see Table 2).[27] The highest score differences were observed for:

- Non-funded proposals
- Humanities and Social Sciences
- Evaluation criteria on (1) Project Feasibility and Implementation, (2) Innovation and Impact (3) Scientific Relevance and Originality

We did not observe score differences based on gender or proposal duration.

[27] *The difference of the mean scores of the Internal Referees and External Reviewers was calculated by taking the mean of all scores under the criteria of analysis (per project all scores from the different evaluation criteria and evaluators were considered), and subsequently taking the difference between the external and internal evaluation mean score.*

Funding decision	Number of Proposals	Mean score difference internal Referee minus External Reviewer score
Non-funded Proposals	3030	-0,8
Funded Proposals	1705	-0,1
Research domain	**Number of Projects**	**Mean score difference Internal Referees minus External Reviewers**
SSH	1260	-0,8
LS	1641	-0,6
MINT	1473	-0,4
Sinergia	365	-0,4
Evaluation Criteria	**Number of Projects**	**Mean score difference Internal Referees minus External Reviewers**
Project Feasibility and Implementation	4484	-0,8
Innovation and Impact	590	-0,7
Scientific Relevance and Originality	4184	-0,6
Scientific Approach and Methodology	559	-0,5
Collaborative and Interdisciplinary Research	620	-0,5
Applicant Competence and Track Record	4613	-0,4
Social Impact and Inclusion	108	-0,3
Career Development	13	-0,2
Proposal Quality and Theory of Change	130	-0,2

Table 2. Mean proposal score difference between the scores given by the Internal Referee and the External Reviewer, according to funding decision, disciplines and evaluation criteria. A negative value indicates that the internal referee scores lower than external reviewer.

These data suggest that there are instances where score differences between External Reviewers and Internal Referees could translate into perceived inconsistencies between external reviews and the final funding decision. This appears to be especially relevant for non-successful applications.

In interviews, Applicants offered a range of suggestions to improve the transparency of the procedure, focusing on what is reported to them and to what extent this helps them improve their proposal and understand their progress:

- More transparency on how External Reviewers are selected;

- Provision of Internal Referee reports (typically shared by other funders), potentially including argumentation on why External Reviewer views were accepted or rejected, or how they were perceived by the funding panel.
- Support with navigating conflicting feedback, both within the initial evaluation or after resubmission, to avoid what one Applicant described as "being ping-ponged".

Evaluation Panel Members also offered suggestions to improve transparency, including communicating the weight of External Reviewer comments in the discussion, introducing a rebuttal phase for Applicants, and asking Internal Referees to declare how confident they are assessing the domain.

These suggestions have informed our recommendations.

Respond to inconsistencies in Applicant feedback

Our data indicate that in some instances, the feedback received by Applicants may be conflicting and negatively impact their understanding of the strengths and weaknesses of their proposal.

Drawing on the suggestions offered by stakeholders during our interviews, and our knowledge of practices among other funding organisations, recommend that the SNSF explores avenues to address and/or explain inconsistencies:

Recommendation: **Either, address inconsistencies (*high resource option*) by introducing a rebuttal phase for Applicants to respond to External Reviewers.**

Recommendation: **And/or, share further details from the panel discussions with Applicants (*lower resource option*), including an explanation of any inconsistencies by requesting that Internal Referees comment on the quality of, and their agreement with, external reviews and communicate level of agreement as part of the feedback to Applicants.**

For context, we note that several funding organisations have implemented a rebuttal element within their evaluation process (e.g. UKRI). This stage adds cost and complexity to the process, though this can be kept relatively modest – one recent study suggests this would be a maximum of 12% of costs.[28]

[28] *Pollitt et al 2024. The benefits and burdens of peer review. To be submitted).*

Chapter 4:

Clear expectations must underpin the implementation of a standardised CV

Key findings

Despite general agreement on the importance of increasing DORA-compliance and recognising broader achievements, the SNSF community is confused about what is expected within the standardised CV format.

> *"Sometimes, these achievements don't have publications, but I think they still require at least one publication per achievement? And so maybe it discourages to get achievements that don't rely on publications."*
> Applicant

Agreement on motivations, but disagreement on the utility and sufficiency of the new CV format[29]

Surveyed Applicants were broadly positive about the new CV format, with 50% (n=960) saying it was fully or mostly sufficient for demonstrating their achievements. Only 25% (n=468) felt it was insufficient to some degree, a proportion which remained largely consistent across research domains and genders, but increased with the seniority of Applicants (from 16%, n=54 for applicants within 5 years of their PhD, rising to 30%, n=252 for applicants finishing their PhD more than 15 years ago).

In interviews, many Applicants were positive about the opportunity to describe their achievements narratively, and welcomed the chance to showcase non-published work and information not easily captured in a traditional CV.

> *"That's really the first time I did it with this structure, the major achievements and I must say I really liked it."*
> Applicant

> *"I like it because I can talk about what else I do besides publishing articles, which is only one part of the research"*
> Applicant

However, we also heard a small number of reservations about the new format.

> *"The old structure was well balanced (quanti-quali)"*
> Applicant

[29] *Survey results on the standardised CV excluded the 102 Applicants who indicated they had never provided CV formats with narrative elements as part of SNSF funding applications,, as well as 5 Evaluation Panel Members and 238 External Reviewers who selected that they never reviewed applications with a CV format with narrative elements as part of SNSF evaluation calls. Figures and percentages provided here also exclude respondents selecting the option "Not Applicable' at select questions, but these generally only account for 1% or less of responses, and never exceed 3.5%.*

External Reviewers are firmly positive about the new CV format. Almost three-quarters (73%, n=556) feel the standardised CV format is useful, with only a minority (8%, n=58) considering it to be not useful, while almost three-quarters (74%, n=560) felt the new format was sufficient to demonstrate the scientific relevance of an Applicant's achievements.

Two-thirds (65%, n=495) of External Reviewers feel that the new CV format provides them with greater contextual information about the Applicant, compared to the typical CV format, with only 12% (n=89) feeling it provides a narrower view. In interviews, all three External Reviewers were positive about the narrative CV.

In contrast, Evaluation Panel Members were less supportive of the new CV format. When surveyed, just over a third (37%, n=63) felt the new format was useful for evaluating Applicants, while around half (49%, n=83) felt it was not useful. Notably, the utility of the CV was marginally higher for MINT Evaluation Panel Members (44%, n=23 compared to 29%, n=14 and 32%, n=19 for other research domains). These views differed between Research Councillors and other Panel Members, with Research Councillors being more negative (19%, n=6 find the standardised CV useful or very useful, while 71%, n=22 find it not so useful or not at all useful) than other Panel Members (41%, n=57 find the standardised CV useful or very useful while 44%, n=61 find it not so useful or not at all useful).

Overall, more Evaluation Panel Members felt the new CV narrowed (43%, n=74), compared to broadened (38%, n=65), their view of an applicant's qualifications. Our engagement indicates this is largely driven by the omission of a publication list in the new CV format, a result which is explored later in this chapter.

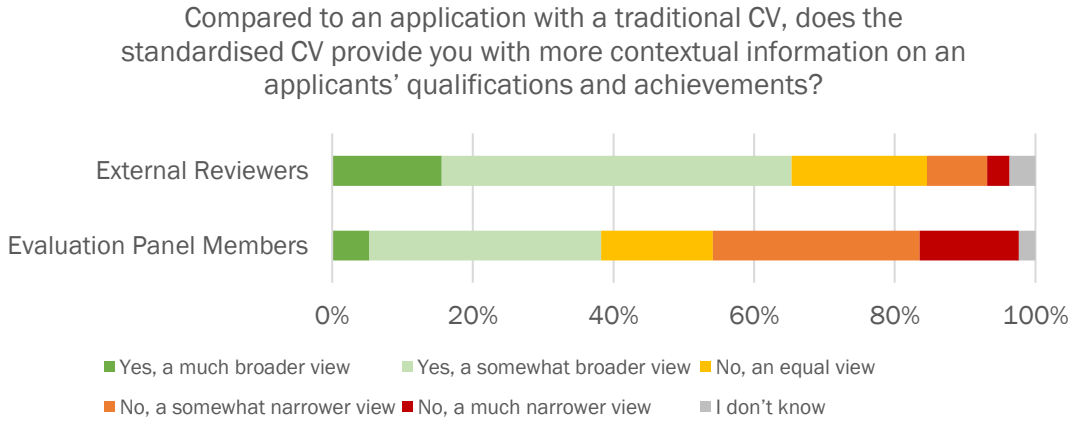

Figure 16. Opinions among Evaluation Panel Members and External Reviewers on whether the standardised CV format offers more contextual information on an applicant's qualifications and achievements, versus a traditional CV

Only around a third (32%, n=54) of Evaluation Panel Members felt the CV was sufficient, while about half (51%, n=86) felt it was not. Male Evaluation Panel Members were more likely than female Evaluation Panel Members to view the new CV as insufficient (55%, n=55, versus 44%, n=28), and multidisciplinary Evaluation Panel Members were substantially more likely to say the new format

was sufficient (60%, n=6), followed by MINT Evaluation Panel Members (42%, n=22), with LS and SSH lower at 24% each (n=12 and n=14, respectively).

In interviews, several Evaluation Panel Members and External Reviewers felt that the narrative approach provides a more nuanced framing of the applicant, but others expressed concerns about the sufficiency of the CV even though most were positive about the intentions behind introducing it.

> *"I think that the CV worked quite well I must say. You got a fair impression I believe of the various candidates."*
> Evaluation Panel Member

> *"We have something more uniform but I think it's lacking."*
> Evaluation Panel Member

To help benchmark these findings, we explored whether a similar divergence between External Reviewers and Evaluation Panel Members had been observed by other funders. However, to our knowledge, no other funder has published data which distinguish between their external and internal reviewer types. Two years after implementing their own narrative CV format, the FNR asked their combined reviewer community about the usefulness of the narrative CV in their evaluation, with 68% of reviewers responding positively, 26% neutrally and 6% negatively. FNR also asked whether the narrative profile allows for broader achievements to be demonstrated and valued, with 62% of their reviewers responding positively, 23% neutrally and 15% negatively.[30] As part of this study, the team engaged with the FNR, who noted that their reviewer pool consisted predominantly of external reviewers, with only a small number of panel members. These results are broadly in line with the responses from External Reviewers in this study.

Confusion around expectations of the standardised CV

For Applicants, 50% (n=963) said they felt able to understand how their CV is used, while 19% (n=367) said they did not. Additionally, more than a quarter (27%, n=518) responded neutrally ("neither agree nor disagree"), suggesting there are substantial opportunities to increase engagement with Applicants to better convey how their CV is used by the SNSF.

There was minimal variation in this result between successful and unsuccessful Applicants, or by gender or research domain - except for MINT Applicants who were slightly more likely to say they felt unable to understand how their CV would be used, compared to Applicants from other research domains.[31]

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[30] *Luxembourg National Research Fund. Narrative CV. https://www.fnr.lu/narrative-cv/*

[31] *Successful applicants included applicants who responded being "Successful" on a single application or "Successful once" or "Successful several times" on multiple applications, while unsuccessful applicants included those who were not successful on a single application or "Unsuccessful" on multiple applications.*

In interviews, Applicants expressed a lot of uncertainty about what to include in the achievements section of their CV. This was driven by a lack of clarity on the expectations of evaluators, and a broadly-held perception that only knowledge generation achievements (e.g. traditional research outputs), are ultimately valued – although data in this chapter indicate this perception is misguided.

> *"What you value as more important may be different from what the evaluator does and that can be disadvantageous and impact the rest of the evaluation"*
> Applicant
>
> *"It could be clearer if the achievements will be just to evaluate the researchers' competencies as a researcher or in the field of the grant"*
> Applicant

We also heard confusion about how to properly substantiate written claims and worries that information might "get lost" in the narration.

> *"the narration has the risk of nice writing without tangible evidence or track record attached to the corresponding claims [...] several achievements are of quantitative nature or can be covered through keywords, and the current format does not allow to add them"*
> Applicant

SNSF guidance on the standardised CV suggests that *"achievements do not have to be directly associated with the current application"* and that a CV can be written once and reused with small adaptations for other applications.[32] However, in interviews most Applicants felt it remained important to tailor their CV to each grant application, with some compiling a database of achievements to draw from.

Several Evaluation Panel Members also felt expectations were unclear, with some feeling that the new CV format is often not used well, especially by early-career researchers, and that a badly-used narrative CV is more disadvantageous than a badly-used traditional CV.

> *"For some candidates, it does not do them a favour to standardise the CV"*
> Evaluation Panel Member

In interviews, several Evaluation Panel Members also described a broad expectation that Applicants adapt their CV for each grant application.

> *"the parts of the narratives that are closer to the proposal are most relevant [for assessing]"*
> Evaluation Panel Member

[32] *Swiss National Science Foundation. Your curriculum vitae – all about the CV format.* https://www.snf.ch/en/gKcnwW6aEft4bMPF/page/your-curriculum-vitae-all-about-the-cv-format

> *"[the CV] is the only place to understand whether right person for the project"*
> Evaluation Panel Member

Throughout the interviews, several suggestions were offered as ways to help clarify expectations and these have informed our recommendations.

Clarify expectations of the standardised CV

Our data indicate that there is considerable confusion around what is expected in the standardised CV and, in some cases, misalignment between expectations set by the SNSF and how the CV is being assessed in practice.

Therefore, we recommend that the SNSF further clarifies what is expected in the CV, and ensure that guidance aligns with real-world practices:

Recommendation: **Clarify whether achievements should speak to the profile of the person and their value to the community, or to their experience relevant to the discipline of their proposal.**

Recommendation: **Update the CV guidance to remove wording that discourages the tailoring of the CV for different grant proposals, to better reflect the preferences of Applicants, and the expectations of Evaluation Panel Members.**

Recommendation: **Share examples of how the achievement sections can be used well, and direct support towards early career researchers in particular.**

A noted absence: omission of the publication list

There were strongly divergent opinions towards the omission of the publication list from the new CV format, and confusion on expectations around referencing.

In interviews, Applicants broadly welcomed the removal of publication lists, with some noting that, while being overall positive, they did struggle with the changing expectations of researchers in research assessment.

> *"evaluating just by numbers gives poor results, this can only get better"*
> Applicant

> *"It's also a bit working against me in a sense, because I've been lucky enough to do lots of publications in the past"*
> Applicant

While being positive about the change, several Applicants suspected that External Reviewers and Evaluation Panel Members might still consult external publication lists during their assessment, and would still expect to see a publication as

evidence of any achievement. Some Applicants felt that the publication list was still *de facto* active for early-career researchers with fewer than ten publications.

> *"I didn't include this achievement in the SNSF application because I couldn't link a publication"*
> Applicant

This perceived need to evidence achievements with a publication aligned with interview comments from an Evaluation Panel Member. This individual felt it was discouraging that references needed to be drawn from ORCID, as this could suggest that each major achievement had to be supported by a journal publication (we note that this Evaluation Panel Member seemed to assume that ORCID exclusively supports journal publications, which is not the case).

> *"I think they are allowing the list of references to be seen as achievements, even though it's not intended to have just 10 publications as major achievements"*
> Evaluation Panel Member

In contrast, several Applicants mentioned positively the possibility of retrieving all information from ORCID, though one noted that it is very demanding to keep all sources that Evaluation Panel Members might use as well as their CV up to date.

Secondary data analysis of the references used in standardised CVs confirms that Applicants predominantly use the references to cite journal articles. Over 30% of CVs used all the allowed citations slots to refer to journal articles, and over 60% of CVs used at least 80% of their references to cite journal articles (Figure 17).

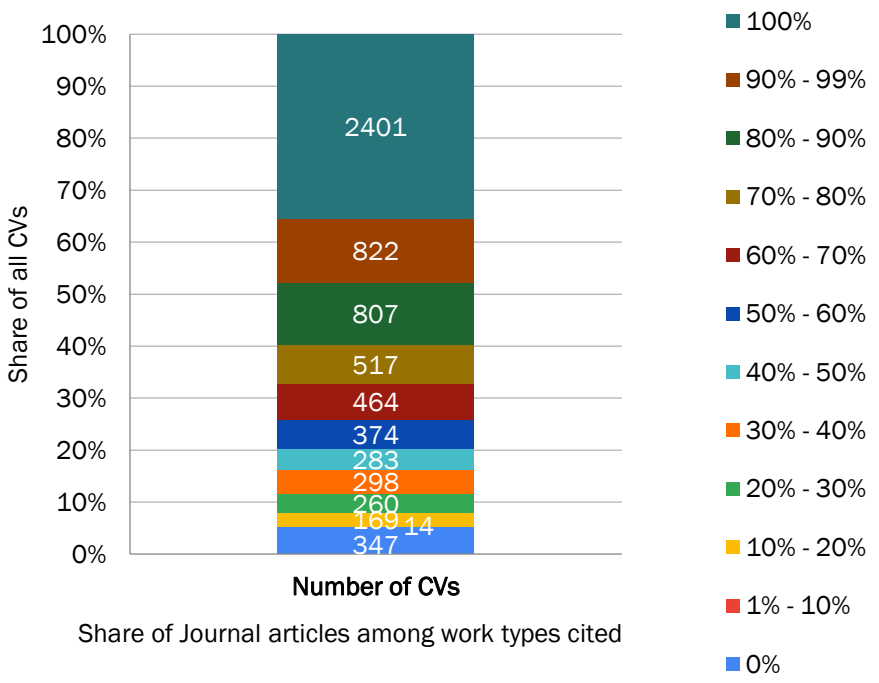

Figure 17. Distribution of proportion of journal articles among work types cited across all CVs

Table 3 shows that journal articles make up 78% of all work types cited in the achievements, followed by book chapters (4%), conference papers (4%) and books (3%).[33] The only non-academic work types which make up at least 0.5% of work types cited, are online resources (0.7%), websites (0.6%) and patents (0.5%). Just 5% of CVs (347 total) did not cite any journal articles, but analysis showed that half of the work types cited were still academic works, namely conference papers, books or book chapters.

Work Type Category	Work type	Number of work types cited	Proportion of all work types cited
Academic Works	Journal Article	45,734	77.4%
Academic Works	Book Chapter	2,592	4.4%
Academic Works	Conference Paper	2,547	4.3%
Academic Works	Book	1,970	3.3%
Academic Works	Preprint	841	1.4%
Other	Other	636	1.1%
Academic Works	Report	459	0.8%
Academic Works	Dissertation Thesis	440	0.7%
Academic Works	Conference Abstract	428	0.7%
Academic Works	Edited Book	426	0.7%
Creative Works	Online Resource	388	0.7%
Creative Works	Website	331	0.6%
Academic Works	Working Paper	329	0.6%
Intellectual Property and Standards	Patent	324	0.5%

Table 3. Top 14 (of 42) worky types cited in the achievement sections of the CVs.

Evaluation Panel Members and External Reviewers were both concerned about the omission of the publication list, which aligns with the findings from the pilot of a previous version of the CV: "*Other aspects, however, especially the metrics and the omission of the publication list, were perceived more critically.*"[34] In interviews, some Evaluation Panel Members felt that removing publication lists went beyond the DORA focus on de-emphasising metrics.

> *"They wanted to enforce a little bit more the DORA guidelines but I think maybe they went a little but too far."*
> Evaluation Panel Member

[33] *In total 42 different work types were cited. The work type categorisation followed the ORCID nomenclature.*
[34] https://www.biorxiv.org/content/10.1101/2022.03.16.484596v1.full

Overall, Evaluation Panel Members held substantially stronger views – just under half (46%, n=351) of External Reviewers found the omission of the full publication list to be challenging, compared to more than three-quarters (78%, n=132) of Evaluation Panel Members.

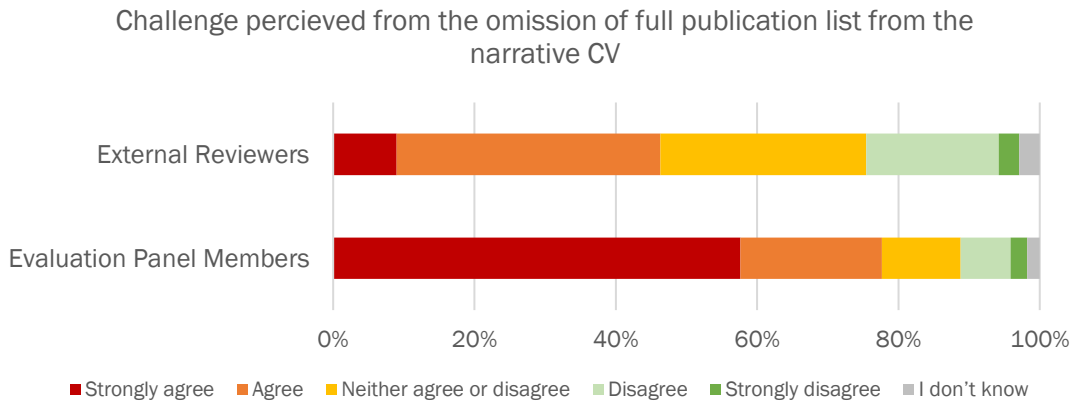

Figure 18. Agreement of Evaluation Panel Members and External Reviewers with a statement that they found the omission of the full publication list challenging when assessing applications with the standardised CV

Similarly, almost three-quarters (74%, n=560) of External Reviewers felt the new CV format was sufficient to demonstrate the scientific relevance of achievements, compared to only a third (32%, n=54) of Evaluation Panel Members. When those who felt the CV was not fully sufficient were asked what was missing, both groups primarily cited publications/citations, followed by grants acquired.

These findings suggest that, although the alignment with DORA is welcomed by the SNSF community, there is persistent appetite for a full publication lists as part of the evaluation process. In this regard, Evaluation Panel Members and External Reviewers may have insufficient information of the biases inherent to scientific publishing (e.g., inequalities,[35,36,37] unrecognised impact[38] etc) and the impact that over-valuing publications can have on research practices.[39] This suggests a need for further support for External Reviewers and Evaluation Panel Members on how to evaluate through narrative, and the benefits of this approach.

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[35] *Macaluso, B., Lariviere, V., Sugimoto, T., & Sugimoto, C. R. (2016). Is Science Built on the Shoulders of Women? A Study of Gender Differences in Contributorship. Academic Medicine, 91(8), 1136-1142. https://doi.org/10.1097/ACM.0000000000001261*

[36] *Liu, F., Rahwan, T., AlShebli, B. (2023). Non-White scientists appear on fewer editorial boards, spend more time under review, and receive fewer citations, Proceedings of the National Academy of Sciences. 120 (13). https://doi.org/10.1073/pnas.2215324120*

[37] *Ramírez-Castañeda, V. (2020). Disadvantages in preparing and publishing scientific papers caused by the dominance of the English language in science: The case of Colombian researchers in biological sciences. PLOS ONE 15(9): e0238372. https://doi.org/10.1371/journal.pone.0238372*

[38] *Lebel, J., & McLean, R. (2018). A better measure of research from the global south. Nature, 559, 23-26. https://doi.org/10.1038/d41586-018-05581-4*

[39] *de Rijcke, S., Wouters, P. F., Rushforth, A. D., Franssen, T. P., & Hammarfelt, B. (2015). Evaluation practices and effects of indicator use—a literature review. Research Evaluation, 25(2), 161-169. https://doi.org/10.1093/reseval/rvv038*

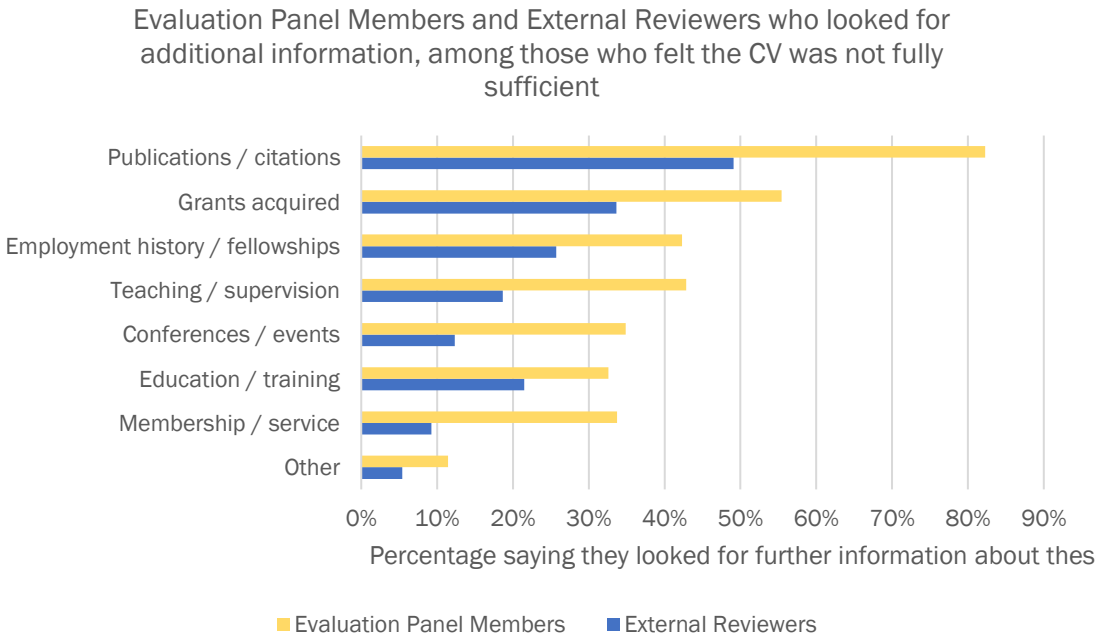

Figure 19. Percentage of Evaluation Panel Members and External Reviewers who sought additional information beyond the material provided. Only includes respondents who did not select "Fully sufficient, I did not seek any further information" when asked how sufficient the CV was in demonstrating the scientific relevance of achievements.

In our survey and interviews, members from both groups reported turning to a mixture of Google Scholar, ORCID and applicant's own websites as supplementary sources of information. This was mirrored in interviews, where several Evaluation Panel Members said that the omission of the publication list had created more work as they now searched for publications on external databases – noting that this was unfair on Applicants as they had no control over what source would be used. We note here that research on research has shown that the use of different sources of information by referees may bring different results and may bias against authors publishing in non-English languages.[40]

> *"first thing you do, Google Scholar, everybody"*
> Evaluation Panel Member
>
> *"personally I also look at the Internet and I look at the candidate, typically in Google Scholar"*
> Evaluation Panel Member

> *"fairer to ask applicants to include in CV the things evaluators will look for"*
> Evaluation Panel Member

When interviewed Evaluation Panel Members were asked what they sought from a publication list, they made it clear that it was not for "bean counting" but for wider

[40] *Reichmann, G., Schlögl, C., Boric, S., & Nimmerfall, J. (2024). The usefulness of personal publication lists in research evaluation. The Journal of Academic Librarianship, 50(4), 102881.* doi:https://doi.org/10.1016/j.acalib.2024.102881

context. However, it might be challenging to fully disconnect the use of publication lists from the metrics they capture.

> *"to verify CV claims and to look at the diversification of topics worked on, or experience in different disciplines"*
> Evaluation Panel Member

> *"to understand level of independence of a post-doc"*
> Evaluation Panel Member

Similar points emerged from the open text responses within the survey, with several Evaluation Panel Members viewing publication lists as crucial inputs for a fair evaluation, and expressing concerns about the new approach.

> *... not all applicants use the ORCID in the same or optimal manner. The result is that the evaluation process is more difficult and less fair as those with a good ORCID page may have an advantage.*
> Evaluation Panel Member (open text response from survey)

> *"The narrative of his/her achievements cannot substitute the [publication list], because it is highly subjective and under the pressure to score well, applicants tend to oversell their achievements and hide their weaker points."*
> Evaluation Panel Member (open text response from survey)

The continued reliance on publication lists has also been noted in studies from other funding organisations. The FNR 2023 report stated that: *"Publications remain an important part of the evaluation, and reviewers would like easier access to this information."* However, this demand from reviewers seemed to come through less strongly for the FNR, potentially due to a clearer route for reviewers to consult applicant's publication list, with the FNR guidance specifying that lists of outputs, funding acquired, and academic affiliations are expected to be featured and consulted via the ORCID profile.

A number of Evaluation Panel Members also highlighted the US (National Science Foundation) system of having 5-10 "relevant" publications with a short narrative explaining why they are relevant for the grant application, although it was noted this could bias against early career researchers.

Limited change in evaluation approach

The introduction of a new CV format in itself cannot be expected to generate different outcomes unless it is accompanied by behavioural change in how the CV is used in the evaluation process.

In our survey, we asked Evaluation Panel Members and External Reviewers whether the introduction of the standardised CV had changed their assessment

approach. Again, we saw differences in opinion between the two groups – with 54% (n=406) of External Reviewers and 44% (n=74) of Evaluation Panel Members saying it had changed their approach, versus 39% (n=297) of External Reviewers and 49% (n=83) of Evaluation Panel Members saying it had not.

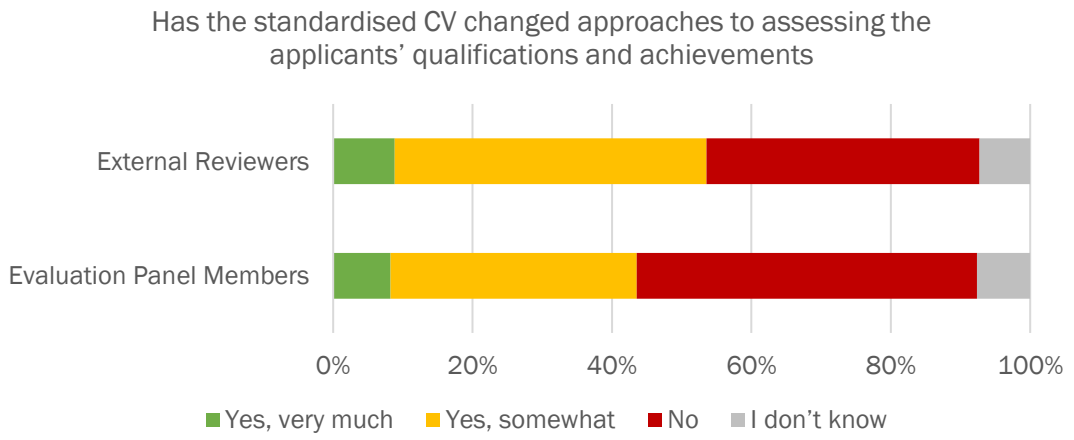

Figure 20. Opinions among Evaluation Panel Members and External Reviewers on whether the new CV format had changed their approach to assessing an applicant's qualifications and achievements.

Both stakeholder groups appear to give due attention to Applicants' major achievements, with 70% (n=533) of External Reviewers and 74% (n=125) of Evaluation Panel Members indicating that they read through the achievement sections fully, with a further 23% (n=173) of External Reviewers and 19% (n=33) of Evaluation Panel Members reporting they read most of them, and only 6% (n=47 and n=10, respectively) skim-reading through achievements sections.

These results suggest that the lack of change in evaluation approach may relate more substantially to the omission of the publication list, rather than the use of narrative elements in the CV. Notably, the removal of the publication list does not seem to have resulted in a shift in behaviours, but rather the replacement of this publication list by consulting external sources.

This aligns with results from the pilot of a previous version of the CV – that the CV alone has a limited effect on the reliance of evaluation panel members on traditional indicators.[41] It remains the case that additional measures will be needed to see a more substantial change in assessment practices.

[41] *Strinzel M, Kaltenbrunner W, van der Weijden I, von Arx M, Hill M. (2022). SciCV, the Swiss National Science Foundation's new CV format. bioRxiv.* https://doi.org/10.1101/2022.03.16.484596

Pragmatically address the observed gap between ambition and practice around the omission of the publication list

Our data indicate that while the SNSF Evaluation Panel and Reviewer community gives reassurance that they are moving away from the use of metrics, their evaluations in practice still often include consulting external publication lists.

The omission of the publication list from the CV has led to evaluators consulting different external sources, and has left Applicants unsure on whether publication lists are still considered and through which platform. Some Applicants are hesitating to use the major achievements section for non-published works, and may feel emboldened to include broader achievements in their CV if a publication list was also available.

Therefore, we recommend that the SNSF provides further clarity on expectations around the use of publications – recognising this as a transition phase where practices are shifting – and works with its evaluation panel and reviewer communities to ensure this reflects how CVs are being evaluated in practice:

Recommendation: **Make it explicit to Evaluation Panel Members, External Reviewers and Applicants that ORCID is the platform of choice in instances where a publication track record is considered as part of the assessment, while setting clear expectations on what data can and cannot be considered (e.g. proxies such as JIF or h-index are unacceptable).**

Recommendation: **Communicate clearly the expectations around whether each achievement is to be substantiated by referenced journal publications.**

Our data further suggest that while Evaluation Panel Members agree to the 'direction of travel' with the standardised CV, the pace of change is creating challenges as practices adapt to new expectations. Meanwhile, Applicants support the reform, but not if the omitted publication list is simply substituted for an undetermined external source. A full move away from publication lists in practice will require further buy-in from the SNSF's evaluator communities.

Therefore, we recommend that the SNSF introduces additional measures if further change in assessment practices is desirable:

Recommendation: **Further engage SNSF's evaluator community in a managed behavioural change programme to strengthen assessment practices in accordance with SNSF evaluation principles. This could include peer-to-peer support with 'evaluation through narratives' as a complement to existing peer-to-peer support for Applicants using a narrative CV (e.g. PEP-CV).**[42]

[42] https://pep-cv.mariecuriealumni.eu/

Including broader achievements does not disadvantage nor advantage a proposal during selection

As previously noted, interviewed Applicants were unclear on what to include as achievements in their CV – driven by uncertainty about the expectations of Evaluation Panel Members and a persistent belief that only knowledge generation was ultimately valued. Some Evaluation Panel Member interviewees shared the perception that their colleagues might value knowledge generation contributions over other types, even if this was not their own view, and indicated they understood why Applicants might focus on these achievements to 'play it safe'.

Our secondary data analysis examined the major achievement texts in submitted CVs. Initial analysis of the achievement texts by topic modelling (see Annex 1 for methodology), led to topics which largely map to scientific disciplines. Re-running the topic modelling using only achievements from within scientific disciplines yielded similar results, but with greater granularity.[43]

To identify wider contributions, we built a controlled vocabulary to identify achievements beyond those linked to research and knowledge production. This explored three categories (see Annex 1 for methodology):

- Personal career achievements (e.g. skills, career gaps, background)
- Contribution to the wider research community (e.g. beyond academic outputs - culture, practices, complementary activities)
- Contribution to broader society (e.g. public engagement, dissemination)

Examples extracted from the text included:

> **Personal career achievement:**
>
> "I submitted my package within the official 5-year period while giving birth to three of my four children during these 5 years without the need to add extra time to my tenure clock for maternity leave or the covid year."
>
> "My first major career achievements come from my time as a bachelor student (age 18-22). Together with like-minded people, united and driven by curiosity and passion about plant biodiversity, we created an association with which we could apply for small government grants and get funding to execute projects."
>
> **Contribution to wider research community:**
>
> "I also developed analytic understanding of these results. Given their originality and experimental implications (changing the detection prospects

[43] *e.g.: Social Sciences ('politics', 'migration', 'democracy',) or Cancer studies ('cancer', 'tumor', 'oncology')*

> of the axion), my findings had a dramatic impact on the whole particle physics community and led to a profound rethinking of previous studies."
>
> "In the lectures i emphasise the importance of transparency and openness in research. These smaller inputs are time-consuming, sometimes uncompensated [...] but i am convinced that these contributions can add up and have a greater impact on the research culture as a whole."
>
> **Contribution to broader society:**
>
> "The results of both projects have been featured in the main Swiss news show on TV on the day of the press release and have resulted in numerous additional interviews in TV and radio"
>
> "This work has also enjoyed significant media attention (e,g, BBC, Bloomberg, Washington Post), which has allowed me to further develop my media communication skills and build an extensive network of media contacts, which I can use to leverage the public impact of future research"

Our analysis revealed that 26% of all the achievements referenced – and 38% of CVs – include broader contributions beyond knowledge generation and research-related outputs.[44] However, as it would be expected, most achievements were not targeted through the vocabularies (74% of all achievement, 62% of the CVs), so they were presumably connected to research and knowledge production.[45]

Of the broader achievements (beyond knowledge generation), the majority correspond to individual career achievements and 30% speak about more than one type of recognition (see Figure 21).

Type of achievement	Number of Achievements	Proportion of Achievements
Contributions to research and knowledge production	12,856	74%
Wider contributions (targeted)	4,610	26%
Contribution to broader society	1,598	9%
Contribution to the wider research community	1,206	7%
Personal career achievements	3,908	22%

[44] *Each CV includes three narrative achievements.*
[45] *Methodological note: while false positive checks were conducted, there was no false negative check, as the relevant target for the analysis was the 'Wider contributions'.*

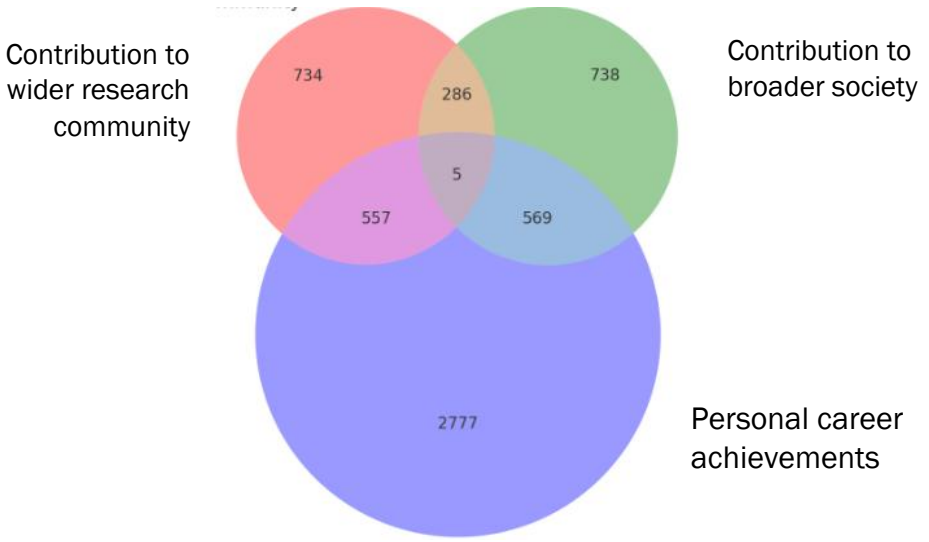

Figure 21. Distribution of type of achievements across 3 categories of wider contributions beyond those linked to research and knowledge production.

Importantly, our analysis indicated that Applicants who choose to emphasise their broader achievements do not seem to be advantaged, nor disadvantaged, in the evaluation process.

This suggests that perceptions among some Applicants and Evaluation Panel Members that knowledge generation contributions carry greater value appear to be unfounded, and Applicants do not benefit from 'playing it safe' and deprioritising their broader achievements.

Proposal approval	TOTAL % Broader Contributions	% Contribution to broader society	% Contribution to the wider research community	% Personal career achievements
Non-funded Proposals	48%	15%	15%	35%
Funded Proposals	45%	17%	14%	33%

Table 4. CVs mentioning wider achievements according to funding decision

Early career Applicants had a higher tendency to include broader achievements, especially those linked to personal career, compared to senior peers. When comparing research domains, SSH Applicants tended to include more broader achievements. Looking across the demographics, we see that young female Applicants are proportionally the most likely to include contributions to broader society and, typically, female Applicants have a slightly higher percentage of achievements mentioning wider contributions than male Applicants.

Applicant profile	TOTAL % Wider Contributions	% Contribution to broader society	% Contribution to wider research community	% Personal career achievement
Female [academic age 0 - 5y]	61%	26%	16%	45%
Female [academic age 6 - 15y]	53%	19%	17%	40%
Female [academic age 16-30 y]	46%	14%	17%	34%
Female [academic age > 30y]	34%	16%	3%	19%
Male [academic age 0 - 5y]	48%	15%	14%	37%
Male [academic age 6 - 15y]	46%	14%	14%	34%
Male [academic age 16-30 y]	37%	10%	14%	25%
Male [academic age > 30y]	32%	8%	11%	22%

Table 5. CVs mentioning wider achievements according to applicant profiles

Missing elements towards achieving broad recognition

We have no baseline to indicate whether the percentage of CVs including broader contributions (38%) is higher or lower than in other CV formats, including the SNSF formats before reforms. However, interviews with Applicants highlighted some barriers that were felt to be hindering progress towards broadening the range of contributions captured.

The main barrier was the lack of specific entries to include wider contributions to the academic community, such as supervision, service (e.g. peer review, editorial work, hosting conferences), prizes and other recognitions. Applicants also mentioned a desire to include links to preprints, and details on previously funded grants, the commercial potential of research, and case volume (for clinicians).

This was coupled with the previously described perception that contributions to knowledge generation and research outputs were valued higher by Evaluation Panel Members. In interviews, this perception could be seen in how some Applicants referred to the narrative section in conversation, labelling it “scientific breakthroughs” or “spectacular research achievements”.

> *“I would be afraid to include this [mentoring contribution] as a major achievement because of a potential perception that I do not have enough scientific achievements.”*
> Applicant

These concerns, together with the fact that a certain level of track record would be needed to include three achievements, led Applicants to worry that this disadvantaged early career researchers and those applying to career funding schemes where track record carried more weight.

> *"the multifaceted aspect of a researcher contributions would appear masked [...] which for unknown names and career fellowships could be challenging"*
> Applicant

> *"The wording 'scientific achievement' may be problematic, as they may not have enough"*
> Applicant

Suggestions to improve the inclusion of broader achievements included SNSF being more explicit about what is – and is not – expected in the achievements section, or reserving one achievement for a broader achievement as a standard. An alternative idea was to have a single box to cover different achievements, to accommodate the limited track record of early career researchers

Recognition of supervision, teaching and mentoring

The most cited 'missing elements' for Evaluation Panel Members and External Reviewers who felt the new CV was insufficient, were publications/citations and grants acquired. In contrast, Applicants wanted to mention teaching and supervision experience – a feeling that was mirrored strongly in the interviews.

> *"[supervision] touches on team-leading skills and successes of your students/team members."*
> Applicant

> *"If you are submitting for project funding it is because you want to hire workforce so showing experience in mentoring paints a picture."*
> Applicant

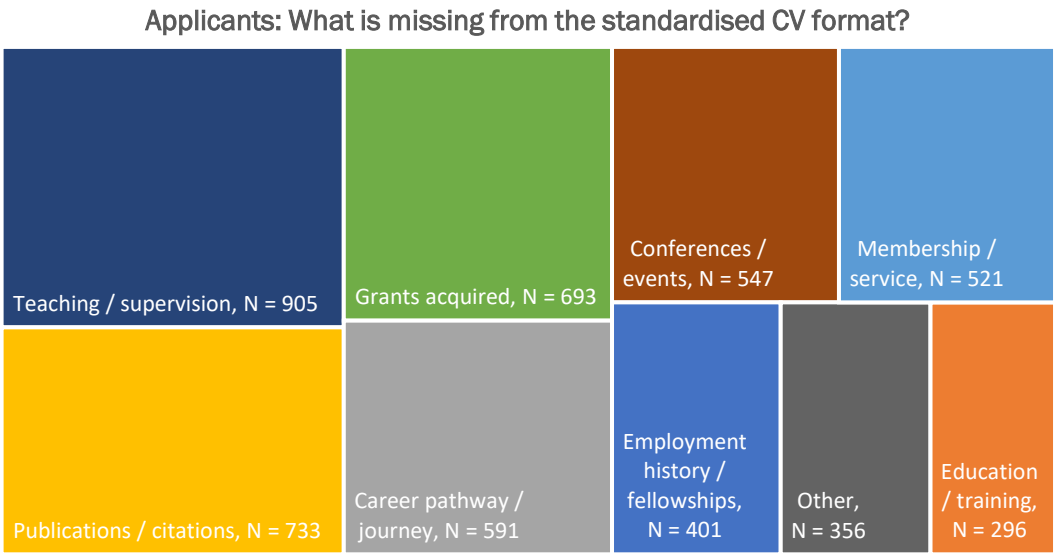

Figure 22. Among Applicants who rated the standardised CV as not fully sufficient for demonstrating their relevant scientific qualifications and achievements, these were the elements they felt were missing.

We note that Applicants' opinions towards "Teaching" were slightly more mixed than "Supervision", with several interviewees feeling that teaching didn't apply to them or was not relevant to their proposal. However, several Applicants and Evaluation Panel Members felt it was unfair to judge applicants without clarity on their time allocation between research, teaching and service. This currently presents an inconsistency with the use of the net academic age, which explicitly captures applicants' 'exposure' to be able to do research by considering time away from work.

> *"There is a large part of a researcher's career that I would call service which includes supervision but also peer review and you dedicate time to these things that of course you don't dedicate to doing research"*
> Applicant

Suggestions to improve the visibility of supervision, teaching and service included allowing for each employment to indicate percentage typically spent on teaching and adding an open text box to describe service to the community.

There may also be insights that can be drawn from the experience of other funding organisations. The SNSF CV introduced a narrative element through three major achievement sections, with Applicants left to use their judgement to choose their most relevant material to include. In contrast, most funding organisations are using a format adapted from the Royal Society Resume for Researchers.[46]

This format provides space for defined types of contributions, broadly characterised as contributions to 1) the generation and communication of ideas and knowledge 2) the development of research teams and individual researchers (incl. teaching, mentoring and supervision), 3) to the wider research and innovation community (including service to the community such as peer review) and 4) to impact, knowledge translation, patient engagement and broader society.

We observe less dissatisfaction during the introduction of these more structured CV formats, which may reflect the more explicit provision of space for broader types of contributions.

While it is our understanding that the intention of SNSF is for the major achievements section to be available for such broader contributions, the 'scientific qualifications and achievements' terminology used in the CV seems to be interpreted, especially by Applicants but also Evaluation Panel Members to some extent, to primarily relate to contributions to the generation and communication of knowledge.

[46] *Aubert Bonn, N., Stroobants, K., Sapcariu, S., & Morris, J. P. (2024). Data on the implementation of Narrative CV captured ahead of the 2023 Recognition and Rewards Festival (Version 1). figshare. https://doi.org/10.6084/m9.figshare.25146155*

Encourage the inclusion of broader achievements

Our data indicate that the SNSF community holds persistent perceptions about the types of achievements that are most valued. A section of the community would value more explicit inclusion of how much of their time is allocated to research, teaching and service, in accordance with the rationale for including the net academic age.

Therefore, we recommend that the SNSF makes additional efforts to encourage the inclusion of broader achievements, and work to actively debunk misconceptions around their value and any disadvantage from utilising the freedom of the CV to include broader contributions:

Recommendation: Revise the presentation of the CV and further clarify to Applicants and Evaluation Panel Members that 'scientific qualifications and achievements' / 'major achievements' encompass broad contributions.

Recommendation: Embolden Applicants by communicating the evidence, generated by this evaluation, that including broader contributions in a CV does not disadvantage an application.

Recommendation: Set out more clearly how Evaluation Panel Members and External Reviewers should balance publication outputs and non-publication achievements when assessing proposals.

Recommendation: Provide space for each employment entry to specify the proportion of time spent on research, teaching (including supervision and mentoring) and service.

Where experienced, added burden is linked to the first use of the CV for Applicants, and the omission of the publication list for Evaluation Panel Members

Our survey included questions on the burden of using the new CV format. A strong majority of Applicants (over 80%) found it easy or OK to fill out the different CV sections, but this proportion dropped below 80% (n=1,483) for the 'major achievements with selected works' section, which proved the most challenging.

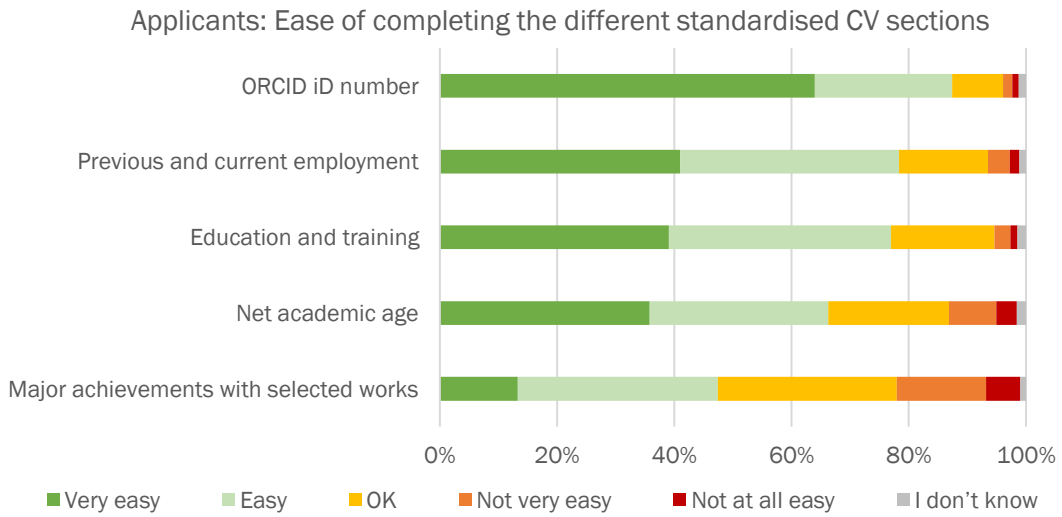

Figure 23. Ease of completing the different standardised CV sections, across Applicants.

Many Applicants saw the benefit of the new CV format, but also felt there was a time and difficulty hurdle when completing it the first time. Just under half (41%, n=780) rated the new format as harder to complete than a traditional CV, largely driven by the major achievements section, and around half felt it took more time to complete. In interviews, Applicants reiterated the effort needed to create the CV, but acknowledged this was a one-off task with longer-term benefits.

> "The CV takes a lot of work upfront but then once you've made it the first time it becomes a little bit easier, similar to the traditional CV"
> Applicant

> "[The new CV format] requires more time, but it allows actually to provide a different vision"
> Applicant

> "It was hard at the beginning to transform my CV, but now I like it a lot"
> Applicant

In the survey, two-thirds (66%, n=1,246) of Applicants highlighted the CV's limited space as a challenge, while being far more positive about the navigability of the SNSF platform, and the need to articulate the CV in good written English (only 19% (n=359) and 26% (n=499) seeing those as a challenge, respectively). In interviews, one Applicant advocated for doubling the word limits, while other interviewees were very positive about the shorter format and commented that space limitations were always a challenge for academics.

> "In academia we always struggle with the word limits. But then again it makes sure everyone has the same amount of space [so] I think it's important to have the word limit"
> Applicant

The interviews also highlighted concerns that the CV format could be a barrier for international and non-academic collaborations, with a suggestion to relax requirements in these cases. Another Applicant mentioned that the format aligned with Swiss employment practices, but could be harder to complete for international applicants with more complex employment histories – we note that the National Institute for Health and Care Research narrative CV evaluation led to a recommendation to not request a narrative CV for all co-applicants.[47]

> "One thing I found difficult was to list all of your employment in academia. For many people in Switzerland that's just having a PhD position but my PhD was not fully funded so I had teaching assistantships and research assistantships that would change every term."
> Applicant

Finally, although navigability of the SNSF platform was praised, further refinements were suggested including accommodating character counting mistakes for applicants using LaTEX, and the ability to keep several CV versions on the SNSF online platform. The latter point relates to the previous observation in this report, that Applicants and Evaluation Panel Members often expect a tailored CV for each application. Relevant to this is the recommendation received by the Health Research Board Ireland from applicants it surveyed to develop "a single CV repository, like Brazil's Lattes platform, to reduce time spent repeatedly reformatting the same CV for different funding organisations".[48]

For External Reviewers and Evaluation Panel Members, the survey data again showed substantial differences in opinions – on both the difficulty and time needed to evaluate a standardised CV. While 17% (n=130) of External Reviewers found the new format more difficult to assess, this rose to 65% (n=110) of Evaluation Panel Members for applications close to the panel members' expertise.

When asked about the time required to review the new CV format compared to a traditional CV, External Reviewers were split – with a plurality (41%, n=308) feeling it was about the same between the two formats, 31% (n=231) feeling it took longer, just under a quarter (23%, n=174) saying it took less time. More than half (53%, n=89) of Evaluation Panel Members found the new format more time consuming to review than a traditional CV.

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[47] *Meadmore, K., Recio-Saucedo, A., Blatch-Jones, A., Church, H., Cross, A., Fackrell, K., Thomas, S., Tremain, E. (2021). Exploring the use of narrative CVs in the NIHR: a mixed method qualitative study [version 1; not peer reviewed]. NIHR Open Research. 2(38).* https://doi.org/10.3310/nihropenres.1115193.1

[48] *DORA (2021, April 12). Findings from the Health Research Board Ireland on the Implementation of a Narrative CV.* https://sfdora.org/2021/04/12/findings-from-the-health-research-board-ireland-on-the-implementation-of-a-narrative-cv/

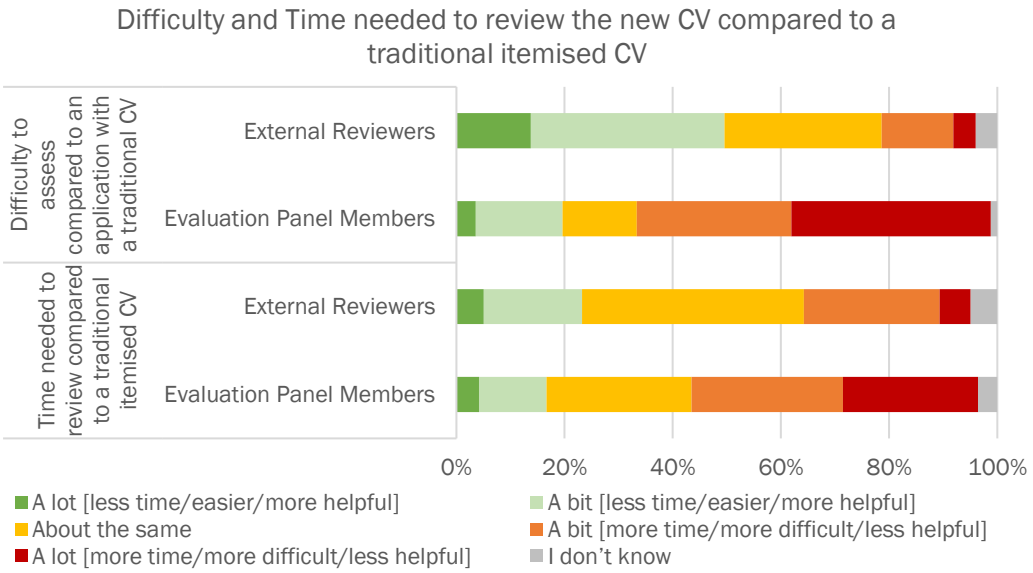


Figure 24. Difference in the difficulty and time needed to assess an application with the standardised CV compared to one with a traditional itemised CV.

In interviews, Evaluation Panel Members said they were investing a substantial amount of time looking for information that wasn't included in the standardised CV, such as looking up publication lists. This may account for at least part of the additional burden experienced.

Several other funding organisations have explored the question of burden, with reviewer communities (a combination of External Reviewers and Evaluation Panel Members) generally finding the use of a narrative CV similar in terms of difficulty, but somewhat more time-consuming. In a 2023 report, the FNR indicated that 29% of its reviewer community found it more difficult, 42% about the same and 29% less difficult to assess the FNR narrative profile compared to a traditional CV. In terms of time commitment, 31% found it more time-consuming, 53% about the same and 14% less time-consuming.

Insights from the Health Research Board Ireland indicate their reviewers found its narrative CV sufficient but more difficult to use, and Dutch Research Council reviewers have indicated that (unsurprisingly) it took more time "than comparing h-indexes and other metrics". In contrast, Cancer Research UK reported that just 7% of its reviewers found evaluating with its narrative CV more time-consuming.

Hardly any use of 'boosting' language

In the interviews, some Evaluation Panel Members expressed concern that the narrative format could favour people who could "sell themselves" or "put lipstick on their proposal", while a number of Applicants in interviews described the narrative format as a "sales pitch".

Our secondary data analysis tried to understand whether those concerns were reflected in reality, by exploring the use of promotional, and positive sentiment,

language in the achievements across a subset of SNSF standardised CVs (see Annex 1 for methodology).

Our analysis showed that promotional language was rarely used across all achievements analysed, and detected a low occurrence of positive language. Where such language was identified, there was no consistent selection advantage for proposals with positive sentiment language, with 7% of non-funded proposals using such language, versus 6% of funded proposals (see Supplement 7).

Chapter 5:

Summary of recommendations

Clarifications and additional guidance can go a long way

The SNSF guidance and training for the UEP and new CV format are generally very well-received, across all three stakeholder groups. However, our wider findings suggest that further, targeted improvements to the guidance – including greater clarity on expectations – could yield substantial improvements for the implementation and perceptions of the UEP and standardised CV.

Other evaluations of narrative CVs (see 'International comparison' in Chapter 1) have also highlighted the importance of clear expectations, and power of guidance and training to deliver behavioural change in research assessment. As a result of its own study, the National Institute for Health and Care Research made reviewed current practices to better align with the funding organisation's assessment principles, for example to "Determine what contributions to wider research are considered important, to explicitly state how these will be assessed and to encourage their use during decisions."[49]

UEP

We recommend that the SNSF nurtures a broader understanding of the complex and connected UEP elements that are causing most concern among Evaluation Panel Members:

> **Make additional efforts to communicate the purpose and benefits of the Bayesian Ranking and random selection stages. In particular, explain: 1) how the Bayesian Ranking accounts for large score variability of a proposal's score and/or limited use of the rating scale; 2) how this relates to the proportion of proposals entering random selection; and 3) how it corrects for other variables (e.g. number of voting panel members).**

We recommend that the SNSF provides additional support for Evaluation Panel Members to arrive at a final score:

> **Provide greater clarity on the weighting of the proposal elements and evaluation criteria, including of the standardised CV.**

We recommend that the SNSF explores avenues to better explain why inconsistencies in Applicant feedback arise:

> **Explain any inconsistencies by requesting that Internal Referees comment on the quality of, and their agreement with, external reviews and communicate level of agreement as part of the feedback to Applicants**

[49] *Meadmore, K., Recio-Saucedo, A., Blatch-Jones, A., Church, H., Cross, A., Fackrell, K., Thomas, S., Tremain, E. (2021). Exploring the use of narrative CVs in the NIHR: a mixed method qualitative study [version 1; not peer reviewed]. NIHR Open Research. 2(38).* https://doi.org/10.3310/nihropenres.1115193.1

CV

We recommend that the SNSF further clarifies what is expected in the CV:

> **Clarify whether achievements should speak to the profile of the applicant and their value to the community, or to their experience relevant to the discipline of their proposal.**
>
> **Update the CV guidance to remove wording that discourages the tailoring of the CV for different grant proposals, to better reflect the preferences of Applicants, and the expectations of Evaluation Panel Members.**
>
> **Share examples of how the achievement sections of the CV can be used well, with support directed towards early career researchers in particular.**

We recommend that the SNSF provides further clarification on expectations around the use of publications, and works with its evaluation panel and reviewer communities to ensure this reflects how CVs are being evaluated in practice:

> **Make it explicit to Evaluation Panel Members, External Reviewers and Applicants that ORCID is the platform of choice in instances where a publication track record is considered as part of the assessment, while setting clear expectations on what data can and cannot be considered (e.g. use of proxies such as Journal Impact Factor and h-index are unacceptable)**
>
> **Communicate clearly the expectations around whether each achievement is to be substantiated by referenced journal publications.**

We recommend that the SNSF makes additional efforts to encourage the inclusion of broader achievements, and works to actively debunk misconceptions around their value:

> **Revise the presentation of the CV and further clarify to Applicants and Evaluation Panel Members that 'scientific qualifications and achievements' encompass both contributions to knowledge generation and broader achievements.**
>
> **Set out clearly how Evaluation Panel Members and External Reviewers should balance publication outputs and non-publication achievements when assessing proposals.**
>
> **Provide space for each employment entry to specify the proportion of time spent on research, teaching (including supervision and mentoring) and service.**

Changing behaviours to increase fairness

Our evaluation has identified longer-term opportunities to deliver behavioural change around assessment. These changes will require active management and would benefit from further evaluation to determine their effectiveness.

UEP

We recommend that the SNSF supports its community to better understand the interconnected elements of the UEP:

> **Further clarify the relationship between the use of the rating scale, the issue of score 'bunching', and how this may impact the number of proposals entering random selection. While the full dynamic range of the rating scale should not be applied to 'game' the number of proposals entering random selection, a better understanding of how these elements connect might discourage strategic use of a narrow scoring range.**

CV

We recommend that the SNSF explicitly introduces additional measures if further change in assessment practices is desirable:

> **Further engage SNSF's evaluator community in a managed behavioural change programme to strengthen assessment practices in accordance with SNSF evaluation principles. This could include peer-to-peer support with 'evaluation through narratives' as a complement to existing peer-to-peer support for Applicants using a narrative CV (e.g. PEP-CV).**

Worthwhile additions that come at a cost

Finally, our findings indicate that it would be worthwhile to consider additional elements to the UEP – though we would recommend the SNSF explores the cost-benefit balance of this intervention, given the ongoing costs associated with it.

UEP

We recommend that the SNSF explores avenues to include additional elements to address inconsistencies in Applicant feedback:

> **Address inconsistencies by introducing a rebuttal phase for Applicants to respond to External Reviewers.**

These recommendations are underpinned by the data collected for this evaluation, and we would encourage the SNSF to continue its evidence-led approach when enacting any changes, including collecting baseline data where possible to support a robust evaluation of efficacy.

Annexes:

Detailed methodology, full survey questionnaires and interview protocols

Annex 1 - Secondary data analysis methodology

Annex 1.1 Funding calls considered per analysis

Following funding calls were considered for the different secondary data analysis. The differences across the analysis are due to the fact that not all calls had a Bayesian Ranking (i.e. panel data could not be analysed) and that just one-phase evaluation calls were analysed. In the case of the CV data analysis, the new CV format was introduced in October 2022, therefore calls preceding this date were not considered for that analysis.

Funding Call	UEP – Evaluation Panel Member vs. External Reviewer scores	UEP - Panel data analysis	CV data analysis
Agora 2022 (10.10.22)	x		
Agora 2023 (20.11.23)	x	x	x
Ambizione 2022 (01.11.22)			x
Bridge - Discovery Full proposal 2023 (02.05.23)			x
Bridge - Proof of Concept 2023 June (05.06.23)			x
Bridge - Proof of Concept 2023 March (06.03.23)			x
Bridge - Proof of Concept 2023 September (04.09.23)			x
Bridge - Proof of Concept 2023 Special Call Sept. (04.09.23)			x
Health Research and Wellbeing UAS and UTE - 2023 (01.05.23)	x	x	x
Postdoc.Mobility 2022 August (02.08.22)	x	x	
Postdoc.Mobility 2022 Februar (01.02.22)	x		
Postdoc.Mobility 2023 August (02.08.23)	x	x	x
Postdoc.Mobility 2023 Februar (01.02.23)	x	x	x
Project funding (02.10.23)	x		x
Projekte GSW 2022 Oktober (03.10.22)	x	x	x
Projekte GSW 2023 April (04.04.23)	x	x	x
Projekte Lebenswissenschaften 2022 Oktober (03.10.22)	x	x	x
Projekte Lebenswissenschaften 2023 April (04.04.23)	x	x	x
Projekte MINT 2022 Oktober (03.10.22)	x	x	x
Projekte MINT 2023 April (04.04.23)	x	x	x
Projektförderung 2022 April Abt. 1 (01.04.22)	x	x	
Projektförderung 2022 April Abt. 2 (01.04.22)	x	x	

Projektförderung 2022 April Abt.3 (01.04.22)	x	x	
Sinergia (17.04.23)	x	x	x
Sinergia 2022 Mai (16.05.22)	x	x	
Sinergia November 2022 (02.11.22)	x	x	x
SNSF Starting Grants 2023 (01.02.23)			x
SOR4D - Full Proposal 2022 (30.09.22)	x	x	
SOR4D - Full Proposal 2023 (28.08.23)	x		
SPIRIT 2023 (02.11.23)			x
Number of proposals analysed	4'739	3'137	4'973 proposals (6'756 CVs, 19'095 achievement texts)

Annex 1.2 UEP

Secondary data analysis

We have compared how external and internal scored at different granularity levels. We have restricted the analysis to the proposals belonging to one-phase calls reviewed by both internal and external reviewers. In case there was more than one reviewer for a given proposal, we have taken the mean of the scores as the score of the proposal.

Bayesian Ranking

In order to explore the effects of using the Bayesian Ranking during the selection process, we carried out a comparison between the actual rankings and funding decisions and those resulting from a hypothetical scenario in which rankings are determined simply by averaging the scores given to the proposals by the panel members.

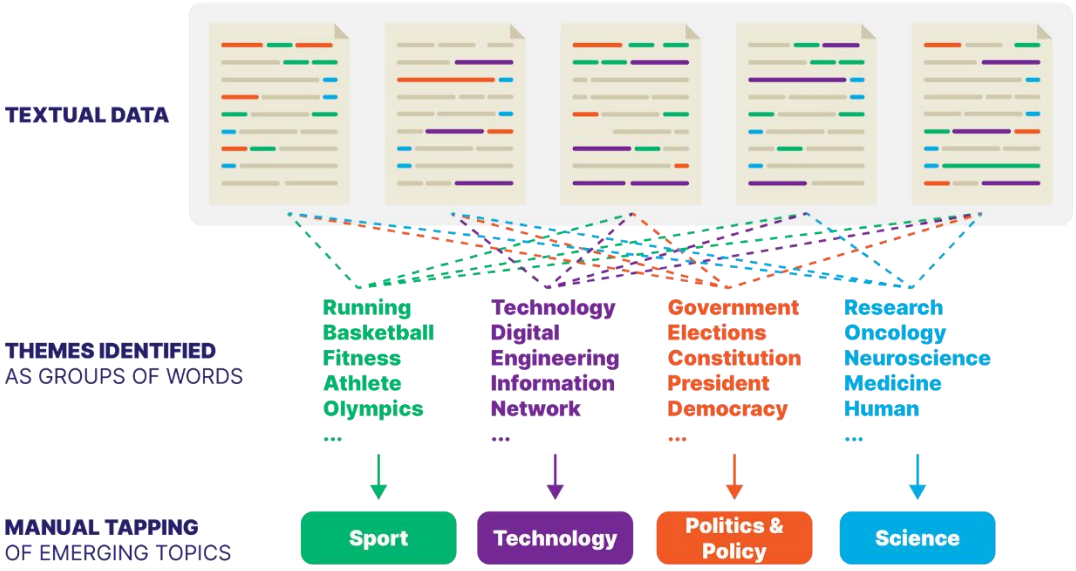
The funding line for a given panel in the latter case was defined as the *number of proposals* that were actually funded in that panel; this is a simplification stemming from the fact that we are not aware of the *real* funding line, which may be based on, e.g., a given number of proposals to be funded or a certain amount of funds.

We note that the hypothetical selection process thus defined also may include random selection groups, whenever the number of proposals with a ranking equal or better than the number of funded grants in the panel was larger than the latter. Therefore, we explored the discrepancies between the actual results obtained from the BR and the hypothetical results, considering three categories: *(directly) funded grants*, *(directly) non-selected proposals*, and *proposals undergoing random selection*.

Annex 1.3 CVs

Topic Modelling

We used topic modelling to identify topics mentioned within the achievement texts. Topic Modelling (TM) is a machine learning technique that serves to automatically "discover" the topics from a collection of texts. TM allows to go beyond standard taxonomies and to group records from different sources in accordance with a common categorisation, not defined a-priori but specific of the corpus of documents. Semantically-similar texts, identified by deep learning textual models, are clustered together, forming the topics. TM provides an overview, but without losing complexity, of an entire text corpus and identifies (brings out) the main themes.



Sentiment analysis

We have analysed each achievement of the CV's applying a pre-existing sentiment analysis model that has been trained on scientific texts. Each achievement has been classified according to its sentiment (negative, neutral, or positive) and for each CV we have selected the sentiment with most occurrences.

Promotional language

We have used a pre-existing controlled vocabulary on promotional language ("hype"), slightly modified to the context of the proposal. Each achievement has been tagged with the keywords of the vocabulary taking lemmatization into account; in practice, mapping each keyword to a regular expression allowing for word variations. With this, we have captured the percentage of promotional words at different granularity levels (achievement, CV or proposal)

Wider contributions language

We have created a controlled vocabulary of wider contributions, starting by selecting three categories, inspired by the thematically assigned achievements modules 2-4 in the Researchers CVs of The Royal Society. Through domain expertise and reading of over 50 achievements from SNSF Researcher CVs, we started proposing a controlled vocabulary to reflect the achievements of the 3 selected categories. The vocabulary was then tested on the set of achievements of the SNSF and through 3 iterations of refinement (manual random check of false positives and accuracy) the initial vocabulary of 85 words was reduced to 53 words, refined with co-occurring words. As in the case above, care has been taken to ensure word variations are accounted for in the keywords, defining each of them through regular expressions. The final results can be found in the table below. Subsequently the achievement text was tagged with the controlled vocabulary.

Contribution to broader society		Contribution to the wider research community		Personal career achievements	
Keyword	N° of achievements tagged	Keyword	N° of achievements tagged	Keyword	N° of achievements tagged
disseminat[a-z]{1,3}	311	committee	365	supervis[a-z]{1,2}	969
outreach	251	edito[a-z]{1,2}	344	leader[a-z]{0,5}	851
polic[a-z]{1,3}	199	invent[a-z]{0,3}	223	teach[a-z]{0,3}	720
news[a-z]{5,6}	139	reviewer	120	mentor[a-z]{0,5}	344
museum[a-z]{0,1}	122	review[a-z]{0,3}	111	coordinati[a-z]{2}	211
policy[-]mak[a-z]{2,3}	116	entrepreneur[a-z]{0,5}	81	creativ[a-z]{1,3}	183
general public	96	best practices	18	proud	153
tv	88	referee	13	founder	112
festival[a-z]{0,1}	70	wider community	8	passion	97
blog[a-z]{0,1}	69	grant writing	7	project management	88
television	59	research culture	4	curiosity	40
soci[a-z]{0,2}al impact[a-z]{0,1}	38	writ[a-z]{1,3} [a-z]{0,3}?grant[a-z]{0,1}	2	team[-]{0,1}work	34
advocacy	24			problem[-]solv[a-z]{2,3}	24

media appearance[a-z]{0,1}	5
media article[a-z]{0,1}	4
public impact[a-z]{0,1}	4
science diplomacy	2
documentary	1

career path[a-z]{0,1}	21
manag[a-z]{1,3} [a-z]{0,3}.?project[a-z]{0,1}	19
critical[-]thinking	15
team[-]building	7
personal development	6
maternity leave	6
career break[a-z]{0,1}	5
tak[a-z]{1,3} [a-z]{0,3}?risk[a-z]{0,1}	1
first[-]generation academic	1
assertive[a-z]{0,4}	1

Annex 2 - Survey: invitation and full questionnaires

Invitation to Participate in a Survey on the Evaluation Procedure and CV Format

The Swiss National Science Foundation (SNSF) invites you to complete a survey as part of an independent evaluation of their evaluation procedure and the standardised CV format adopted by the SNSF in 2022.

Your responses will support this evaluation to better understand the use of the evaluation procedure and standardised CV format, and to determine if these tools are fit for purpose in helping the SNSF meet its goals in funding research. Completing the survey should take around 15 [Applicant] / 20 [External Reviewer] / 25 [Evaluation Panel Member] minutes and we thank you for your time. The deadline for submissions is Friday 9 August 2024 12pm CEST.

The SNSF commissioned the UK-based agency CultureBase Consulting, in collaboration with SIRIS Academic (Spain) and Different Angles (UK), to carry out this independent evaluation.

How can I contribute?

If you are willing to participate, please complete the survey via https://www.smartsurvey.co.uk/s/SNSFevaluation_applicant/

Why am I invited to this survey?

You are being contacted as a previous SNSF funding applicant to tell us about your experience of the evaluation procedure and/or standardised CV format containing narrative elements. / You are being contacted as a (previous) SNSF external reviewer to tell us about your experience in evaluating funding applications using the evaluation procedure and/or standardised CV format containing narrative elements. / You are being contacted as an SNSF evaluator to tell us about your experience in evaluating funding applications using the evaluation procedure and/or standardised CV format containing narrative elements.

What will happen to my data?

All data will be processed confidentially. Please note that once you have started completing the survey, you will not be able to withdraw your data as we are unable to link it back to you.

We will only request a contact email address if you consent to potentially being approached for a voluntary follow-on interview. This personal information will only be used for this purpose and will not be shared with the SNSF. Please note that **not** all applicants who express their interest to participate will be invited for an interview.

The anonymised survey responses will be used by CultureBase to inform an independent evaluation for the SNSF. Specific uses for the anonymised data may include:

- Sharing the findings from this evaluation via reports and presentations, and, where relevant, on the SNSF website.
- Sharing the fully anonymised dataset with the SNSF, and publicly in FAIR format.

Survey welcome page

Thank you for supporting this survey, your contributions will inform this independent evaluation of the Swiss National Science Foundation (SNSF) evaluation procedure and standardised CV format.

This survey takes around 15 [applicant] / 20 [external reviewer] / 25 [evaluation panel member] minutes to complete, with the option to save your progress and return later. The deadline for submissions is Friday 9 August 2024 12pm CEST, please contact the CultureBase team at karen@culturebase-consulting.co.uk if you have any questions.

All data will be processed confidentially. Please note that once you have started completing the survey, you will not be able to withdraw your data as we are unable to link it back to you.

We will only request a contact email address if you consent to potentially being approached for a voluntary follow-on interview. This personal information will only be used for this purpose and will not be shared with the SNSF. Please note that **not** all applicants who express their interest to participate will be invited for an interview.

The anonymised survey responses will be used by CultureBase to inform an independent evaluation for the SNSF. Specific uses for the anonymised data may include:

- Sharing the findings from this evaluation via reports and presentations, and, where relevant, on the SNSF website.
- Sharing the fully anonymised dataset with the SNSF, and publicly in FAIR format.

Thank you for contributing to the development of the SNSF evaluation procedures.

**Please note, if you are responding on a mobile device, we recommend that you use the landscape layout for a better experience.*

Survey page - A short overview

Before asking you about your experience with the SNSF evaluation procedure and standardised CV format, we wanted to briefly remind you of what they are:

Evaluation procedure

In 2022, the SNSF introduced a new unified evaluation procedure, aiming to ensure quality and efficiency across the SNSF funding instruments. This new evaluation procedure introduces four core elements:

(i) an individual voting system where each panel member casts a vote in the panel, supported by
(ii) a single linear numeric rating scale,
(iii) a separation of the scientific evaluation from the funding decision, and
(iv) the possibility to apply random selection if proposals cannot be differentiated by evaluation criteria.

Standardised CV

In 2022, the SNSF introduced a standardised CV format, aiming to increase compliance with the Declaration on Research Assessment (DORA) and to further increase the focus on the content and quality of the applicant's work. The standardised CV includes narrative elements and provides space for the applicant's scientific qualifications in their broadest sense. It is made up of five elements:

i) Major achievements with selected works;
ii) Net academic age;
iii) Education and training;
iv) Previous and current employment; and
v) ORCID iD number.

Guidance on how to complete the standardised CV format is available to applicants.

Previous CV format

Previous to the introduction of the standardised CV, SNSF funding applications required a more traditional CV format, typically including a 2-page CV, 2 pages of major

achievements, and a full publication list (covering the last 5 years), filled out via SNSF guidelines.

Applicant questionnaire

Section 1: Demographic data	
Question	**Response**
In which domain is your current research? [select all that apply]	- Life sciences - Mathematics, Natural and Engineering Sciences - Social Sciences and Humanities
How many years ago did you finish your PhD, or PhD equivalent?	- Up to 5 years ago - 6-10 years ago - 11-15 years ago - More than 15 years ago - Not applicable
What gender do you identify with?	- Male - Female - Non-binary - Prefer not to say
How many times have you applied for research funding (at SNSF or other funders and including re-applications)?	- 1 time - 2-5 times - 6-10 times - 11-20 times - More than 20 times
How often have you provided CV formats with narrative elements (such as the SNSF standardised CV) as part of funding applications? - Overall (including SNSF applications) - As part of SNSF applications	- Never - 1 time - 2-4 times - more than 4 times

How many times have you applied for SNSF funding since October 2022?	- 1 time - 2-4 times - more than 4 times
If 1: Was your application for SNSF funding successful? **If >1:** To what extent have your applications for SNSF funding been successful?	- Yes - No - I don't know - Successful several times - Successful once - Not successful - Not previously, pending outcome for recent application(s)
Which funding instrument(s) did you apply for? [select all that apply]	- Agora - Ambizione - Bridge Discovery - Bridge Proof of Concept - COST - Doc.CH - Funding LArge international REsearch projects (FLARE) - Health Research and Wellbeing at UAS and UTE - Investigator initiated clinical trials (IICT) - Korean-Swiss Science and Technology Programme - Multidisciplinary Applied Research Ventures in Space (MARVIS) - Multilateral Academic Projects (MAPS) - National Centre of Competence in Research outline proposal (NCCR) - National Research Programme Full Proposal (NRP) - Postdoc.Mobility - Postdoc.Mobility - Return - Practice-to-Science - Project funding - PROMYS - Quantum - R'Equip - Sinergia - SNSF Advanced Grants - SNSF Consolidator Grants - SNSF Starting Grants - SNSF Swiss Postdoctoral Fellowships

	- SOR4D - Southeast Asia – Europe Joint Funding Scheme - Spark - SPIRIT - Strategic Japanese-Swiss Science and Technology Programme (SJSSTP) - Ukrainian-Swiss Joint Research Programme (USJRP) - Vietnamese-Swiss Joint Research Projects - Other

Section 2: UEP	
Question	**Response**
Based on the information provided by the SNSF on the evaluation procedure, to what extent do you agree with the following statements: 1) I am able to understand the full procedure (if I wish to do so) 2) I am able to understand how my application materials will be used to come to a funding decision 3) I feel the procedure supports a fair evaluation* 4) I was satisfied with the information I received from SNSF explaining the funding decision*	- Strongly agree - Agree - Neither agree nor disagree - Disagree - Strongly disagree - I don't know
Please explain briefly your response to: 'I feel the procedure supports a fair evaluation' [optional]	Open text
Please explain briefly your response to: 'I was satisfied with the information I received from	Open text

SNSF explaining the funding decision' [optional]	

Section 3: Standardised CV	
Question	**Response**
Please rank the following statements, from which best reflects (1) to least reflects (6) your rationale for including achievements in your standardised CV [drag and drop]:	- I include the achievements that I am most proud of - I include the achievements that I believe have delivered most impact - I include the achievements that allow me to reference my most cited publications - I include the achievements that allow me to reference my publications in journals with the highest journal impact factor - I include the achievements that I believe are most relevant to the project or call I am applying for - I include a selection of achievements that best reflects the diversity of contributions I've made
Given the information that the SNSF provides on the evaluation of the standardised CV, to what extent do you agree with: I am able to understand how my standardised CV will be used by evaluators (if I wish to do so)	- Strongly agree - Agree - Neither agree nor disagree - Disagree - Strongly disagree - I don't know
SNSF provides guidance to applicants on how to complete the standardised CV format. How helpful did you find this guidance when constructing your standardised CV?	- Helpful - Neither helpful or unhelpful - Unhelpful - I didn't use the guidance - I don't know

How easy did you find it to fill out the following standardised CV sections? - Major achievements with selected works - Net academic age - Education and training - Previous and current employment - ORCID iD profile	- Very easy - Easy - OK - Not very easy - Not at all easy - I don't know
Compared to the time it would generally take you to complete a traditional itemised CV, how much time did it take you to complete the standardised CV? [Please consider a comparable situation, e.g. where you would have to create both types of CVs 'from scratch' and upload them in the application system.]	- A lot more - A bit more - About the same - A bit less - A lot less - Not applicable - I don't know
Compared to an application with a traditional CV, do you feel an application with the standardised CV is more or less difficult to fill out? [Please consider a comparable situation, e.g. where you would have to create both types of CVs 'from scratch' and upload them in the application system.]	- A lot easier - A bit easier - About the same - A bit more difficult - A lot more difficult - Not applicable - I don't know
Compared to an application with a traditional CV, how helpful do you find the standardised CV format for de-emphasising journal- and publication-based metrics?	- A lot more helpful - A bit more helpful - About the same - A bit less helpful - A lot less helpful - Not applicable - I don't know
To what extent do you agree with the following statements: In filling out the standardised CV, I have found it challenging to	- Strongly agree - Agree - Neither agree nor disagree - Disagree - Strongly disagree

1) Decide which achievements to include 2) Select concrete examples to demonstrate my achievements 3) Articulate the achievement narratives in good written English 4) Capture all the relevant information while keeping to the space limitation 5) Navigate the SNSF platform without technical issues	- I don't know
To what extent do you agree with the following statements: In filling out the standardised CV, I have appreciated 1) Inclusion of net academic age 2) Ability to contextualise my achievements 3) Ability to focus on what matters to me in explaining my achievements 4) Opportunity to showcase impact beyond research outputs 5) Emphasis on achievements over full list of publications	- Strongly agree - Agree - Neither agree nor disagree - Disagree - Strongly disagree - I don't know
To what extent was the standardised CV sufficient for demonstrating your relevant scientific qualifications and achievements?	- Fully sufficient, I could include all the relevant information - Mostly sufficient - OK / neutral - Not sufficient - Not at all sufficient - I don't know
You indicate that the standardised CV was not fully sufficient for demonstrating your relevant scientific qualifications and achievements. Please	- Employment history / fellowships - Education / training - Career pathway / journey - Publications / citations - Membership / service

indicate on which topics you would have liked to include further information [select all that apply]	- Grants acquired - Teaching / supervision - Conferences / events - Other

Interview participation question	
Question	**Response**
In the coming months, we will invite a select number of individuals to participate in online interviews to discuss their views on the evaluation procedure and standardised CV. Please indicate if you are willing to participate in these interviews, but note that not all applicants who express their interest to participate will be invited for an interview. Your personal information will only be used for the purpose of selecting and contacting interview participants.	I am willing to be contacted [Y/N] Contact email: [Open text]

Evaluation Panel Member (Research Council and Panel Members) questionnaire

Section 1: Demographic data	
Question	**Response**

Which research domain(s) do you work in? [select all that apply]	- Life sciences - Mathematics, Natural and Engineering Sciences - Social Sciences and Humanities
Which sector(s) are you active in? [select all that apply]	- Academic sector - Private sector - Public sector - Other
How many years ago did you finish your PhD, or PhD equivalent?	- Up to 5 years ago - 6-10 years ago - 11-15 years ago - More than 15 years ago - Not applicable
What gender do you identify with?	- Male - Female - Non-binary - Prefer not to say
What evaluator roles do you, or have you, played for SNSF? [Select all that apply]	- Member of the Research Council - Member of an Evaluation Body / Panel
How many applications have you acted as a reviewer or referee for? - Overall (including for SNSF) - For SNSF since October 2022	- 0 - 1-5 - 6-10 - 11-25 - More than 25
For how many funding calls have you assessed CV formats with narrative elements (such as the SNSF standardised CV)? - Overall (including for SNSF) - As part of an SNSF evaluation call	- 0 - 1 - 2-4 - More than 4
Which funding instrument(s) have you acted as an evaluator for? [select all that apply]	- Agora - Ambizione - Bridge Discovery - Bridge Proof of Concept - COST

	- Doc.CH - Funding LArge international REsearch projects (FLARE) - Health Research and Wellbeing at UAS and UTE - Investigator initiated clinical trials (IICT) - Korean-Swiss Science and Technology Programme - Multidisciplinary Applied Research Ventures in Space (MARVIS) - Multilateral Academic Projects (MAPS) - National Centre of Competence in Research outline proposal (NCCR) - National Research Programme Full Proposal (NRP) - Postdoc.Mobility - Postdoc.Mobility - Return - Practice-to-Science - Project funding - PROMYS - Quantum - R'Equip - Sinergia - SNSF Advanced Grants - SNSF Consolidator Grants - SNSF Starting Grants - SNSF Swiss Postdoctoral Fellowships - SOR4D - Southeast Asia – Europe Joint Funding Scheme - Spark - SPIRIT - Strategic Japanese-Swiss Science and Technology Programme (SJSSTP) - Ukrainian-Swiss Joint Research Programme (USJRP) - Vietnamese-Swiss Joint Research Projects - Other

Section 2: UEP	
Question	**Response**
When the unified evaluation procedure (introduced in 2022) was	- Very positive - Positive

first presented to you as an evaluator, what was your initial view of it?	- Neutral - Negative - Very negative - I don't know
Having now used the unified evaluation procedure, what is your current overall view of it?	- Very positive - Positive - Neutral - Negative - Very negative - I don't know
Given the information that the SNSF provides on the evaluation procedure, to what extent do you agree with the following statements: 1) I am able to understand the full procedure 2) I am able to understand how the different stages of the procedure contribute to the funding decision 3) I am confident that the procedure supports a fair evaluation	- Strongly agree - Agree - Neither agree or disagree - Disagree - Strongly disagree - Not applicable - I don't know
How well would you say you understand each of the following stages of the procedure and how they are applied? - External review (individual) - Referee assessment (individual) - Rating scale (9-point scale) - Individual voting - Evaluation panel discussion - Bayesian ranking - Random selection - Separation of scientific evaluation and funding decision	- Very well - Reasonably well - OK - Not very well - Not at all well - Not applicable - I don't know
How confident are you that each of the following stages of the evaluation procedure contribute to a	- Very confident - Confident - Neutral - Not very confident*

fair evaluation of research proposals? - External review (individual) - Referee assessment (individual) - Rating scale (9-point scale) - Individual voting - Evaluation panel discussion - Bayesian ranking - Random selection - Separation of scientific evaluation and funding decision	- Not at all confident* - Not applicable - I don't know
If relevant, please use this space to briefly explain the rationale for your answers to 'How confident are you that the evaluation stages contribute to a fair evaluation of research proposals?' - please include clearly which stage(s) you are referring to. [optional]	Open text
Guidance on how to use the SNSF evaluation procedure is provided to reviewers directly on the online platforms and via guidelines - How helpful was the guidance from the SNSF for assessing applications using the evaluation procedure?	- Helpful - Neither helpful or unhelpful - Unhelpful - I didn't use the guidance - I don't know
How helpful was the panel member training you received from the SNSF for assessing applications using the evaluation procedure (e.g. online information sessions for all panel members, guidelines, factsheets, etc.)?	- Helpful - Neither helpful or unhelpful - Unhelpful - I don't know
How satisfied are you with the overall experience as an evaluator using the new evaluation procedure (introduced in October 2022)?	- Very satisfied - Somewhat satisfied - Neutral - Not very satisfied - Not at all satisfied - Not applicable - I don't know

Please indicate the extent to which you agree with the following statements: - The process supports a time efficient evaluation of research proposals - The process supports a fair assessment of proposals, ensuring it follows the evaluation criteria	- Strongly agree - Agree - Neither agree or disagree - Disagree - Strongly disagree - I don't know
Please explain briefly your response to: 'The process supports a time efficient evaluation of research proposals' [optional]	Open text
Please explain briefly your response to: 'The process supports a fair assessment of proposals, ensuring it follows the evaluation criteria' [optional]	Open text

Section 3: Standardised CV	
Question	**Response**
When the standardised CV (introduced in 2022) was first presented to you as an evaluator, what was your initial view of it?	- Very positive - Positive - Neutral - Negative - Very negative - I don't know
Having now used the standardised CV, what is your current view of it?	- Very positive - Positive - Neutral - Negative - Very negative - I don't know
Guidance on how to assess applicants with a standardised CV is provided to reviewers directly on the	- Helpful - Neither helpful or unhelpful

online platforms and via guidelines. - How helpful did you find this guidance when assessing applicants using the SNSF evaluation procedure?	- Unhelpful - I didn't use the guidance - I don't know
Compared to an application with a traditional CV, how much time did the applications with the standardised CV take to review?	- A lot more - A bit more - About the same - A bit less - A lot less - Not applicable - I don't know
Compared to an application with a traditional CV, do you feel the standardised CV is easier or more difficult to assess - for applications close to your core expertise?	- A lot easier - A bit easier - About the same - A bit more difficult - A lot more difficult - Not applicable - I don't know
Compared to an application with a traditional CV, do you feel the standardised CV is more or less difficult to assess - for applications further removed from your core expertise?	- A lot easier - A bit easier - About the same - A bit more difficult - A lot more difficult - Not applicable - I don't know
Compared to an application with a traditional CV, how helpful do you find the standardised CV format for de-emphasising journal and publication-based metrics in your assessment?	- A lot more helpful - A bit more helpful - About the same - A bit less helpful - A lot less helpful - Not applicable - I don't know
To what extent do you agree with the following statements: In assessing applications with the standardised CV, I have found the following aspects challenging 1) Wide range of writing styles	- Strongly agree - Agree - Neither agree or disagree - Disagree - Strongly disagree - I don't know

2) Interpreting the descriptive language used when describing achievements 3) Range of achievements to assess 4) Assessment of the combination of major achievements and cited works 5) Omission of full publication list	
To what extent do you agree with the following statements: In assessing applications with the standardised CV, I have appreciated 1) Standardisation of CVs of all applicants 2) Contextualisation of applicant's career 3) Opportunity for applicants to highlight their personal contribution 4) Use of the net academic age 5) Focus on achievements supported by cited works rather than full list of publications	- Strongly agree - Agree - Neither agree or disagree - Disagree - Strongly disagree - I don't know
How useful was the standardised CV in evaluating the scientific qualifications of the applicant (e.g. their scientific track record and ability to carry out the research project)?	- Very useful - Useful - OK / neutral - Not so useful - Not at all useful - I don't know
How relevant were the following standardised CV sections in assessing the scientific qualifications and achievements of the applicant? - Major achievements with selected works - Net academic age - Education and training - Previous and current employment - ORCID iD profile	- Very relevant - Somewhat relevant - Neutral - Not so relevant - Not at all relevant - I don't know

To what extent was the standardised CV sufficient for evaluating the scientific qualifications of the applicant (e.g. their scientific track record and ability to carry out the research project)?	- Fully sufficient, I did not seek any further information - Mostly sufficient - OK / neutral - Not sufficient - Not at all sufficient - I don't know
Please indicate what further information on the applicants you looked for [select all that apply]	- Employment history / fellowships - Education / training - Publications / citations - Membership / service - Grants acquired - Teaching / supervision - Conferences / events - Other
Please indicate which of the following you used to seek this information, if any [select all that apply]	- ORCID - Google Scholar - PubMed - Web of Science - Scopus - Personal website of applicant - Applicant profile on institutional webpage / LinkedIn - I did not seek information via any of these
Compared to an application with a traditional CV, does the standardised CV provide you with more contextual information on an applicants' qualifications and achievements?	- Yes, a much broader view - Yes, a somewhat broader view - No, an equal view - No, a somewhat narrower view - No, a much narrower view - I don't know
Compared to an application with a traditional CV, has the standardised CV changed your approach to assessing the applicants' qualifications and achievements?	- Yes, very much - Yes, somewhat - No - I don't know
Please explain briefly your response to: 'Compared to an application with a traditional CV, has the standardised CV changed your	Open text

approach to assessing the applicants' qualifications and achievements?' [optional]	
To what level of detail did you read through the achievements of each applicant?	- I fully read through the achievements sections - I read through most of the achievements sections - I skim-read the achievements sections - I did not read through the achievements sections - I don't know

Interview participation question	
Question	**Response**
In the coming months, we will invite a select number of individuals to participate in online interviews to discuss their views on the evaluation procedure and standardised CV. Please indicate if you are willing to participate in these interviews, but note that not all evaluators who express their interest to participate will be invited for an interview. Your personal information will only be used for the purpose of selecting and contacting interview participants.	I am willing to be contacted [Y/N] Contact email: [Open text]

(External) Reviewer questionnaire

Section 1: Demographic data	
Question	**Response**
Which research domain(s) do you work in? [select all that apply]	- Life sciences - Mathematics, Natural and Engineering Sciences - Social Sciences and Humanities
Which sector(s) are you active in? [select all that apply]	- Academic sector - Private sector - Public sector - Other
Which country are you based in?	Full country list
How many years ago did you finish your PhD, or PhD equivalent?	- Up to 5 years ago - 6-10 years ago - 11-15 years ago - More than 15 years ago - Not applicable
What gender do you identify with?	- Male - Female - Non-binary - Prefer not to say
How many times have you acted as an external reviewer for a funding application (including for SNSF)?	- 1-5 - 6-10 - 11-25 - More than 25
How many times have you acted as an external reviewer for SNSF since October 2022?	- 1 time - 2-4 times - More than 4 times
How often have you assessed a CV format with narrative elements?	- Never - 1 time - 2-4 times

- Overall (including for SNSF) - As part of an SNSF external review	- More than 4 times

Section 2: UEP	
Question	**Response**
Given the information that the SNSF provides on the evaluation procedure, to what extent do you agree with the following statements: 1) I am able to understand the full procedure 2) I am able to understand how the different stages of the procedure contribute to the funding decision 3) I am confident that the procedure supports a fair evaluation	- Strongly agree - Agree - Neither agree or disagree - Disagree - Strongly disagree - Not applicable - I don't know
Guidance on how to use the SNSF evaluation procedure is provided to reviewers directly on the online platforms and via guidelines. - How helpful was the guidance from the SNSF for assessing applications using the evaluation procedure?	- Helpful - Neither helpful or unhelpful - Unhelpful - I didn't use the guidance - I don't know
How satisfied are you with the overall experience as a reviewer using the evaluation procedure (introduced in 2022) using the provided evaluation forms?	- Very satisfied - Somewhat satisfied - Neutral - Not very satisfied - Not at all satisfied - Not applicable - I don't know

Section 3: Standardised CV	
Question	**Response**
Guidance on how to assess applicants with a standardised CV is provided to reviewers directly on the online platforms and via guidelines. - How helpful did you find this guidance when assessing applicants using the SNSF evaluation procedure?	- Helpful - Neither helpful or unhelpful - Unhelpful - I didn't use the guidance - I don't know
Compared to an application with a traditional CV, how much time did the applications with the standardised CV take to review?	- A lot more - A bit more - About the same - A bit less - A lot less - Not applicable - I don't know
Compared to an application with a traditional CV, do you feel the standardised CV is easier or more difficult to assess?	- A lot easier - A bit easier - About the same - A bit more difficult - A lot more difficult - Not applicable - I don't know
Compared to an application with a traditional CV, how helpful do you find the standardised CV format for de-emphasising journal and publication-based metrics in your assessment?	- A lot more helpful - A bit more helpful - About the same - A bit less helpful - A lot less helpful - Not applicable - I don't know
To what extent do you agree with the following statements: In assessing applications with the standardised CV, I have found the following aspects challenging 1) Wide range of writing styles	- Strongly agree - Agree - Neither agree or disagree - Disagree - Strongly disagree - I don't know

2) Interpreting the descriptive language used when describing achievements 3) Range of achievements to assess 4) Assessment of the combination of major achievements and cited works 5) Omission of full publication list	
To what extent do you agree with the following statements: In assessing applications with the standardised CV, I have appreciated 1) Standardisation of CVs of all applicants 2) Contextualisation of applicant's career 3) Opportunity for applicants to highlight their personal contribution 4) Use of the net academic age 5) Focus on achievements supported by cited works rather than full list of publications	- Strongly agree - Agree - Neither agree or disagree - Disagree - Strongly disagree - I don't know
How useful was the standardised CV in evaluating the scientific qualifications of the applicant (e.g. their scientific track record and ability to carry out the research project)?	- Very useful - Useful - OK / neutral - Not so useful - Not at all useful - I don't know
How relevant were the following standardised CV sections in assessing the scientific qualifications and achievements of the applicant? - Major achievements with selected works - Net academic age - Education and training - Previous and current employment - ORCID iD profile	- Very relevant - Somewhat relevant - Neutral - Not so relevant - Not at all relevant - I don't know

To what extent was the standardised CV sufficient for evaluating the scientific qualifications of the applicant (e.g. their scientific track record and ability to carry out the research project)?	- Fully sufficient, I did not seek any further information - Mostly sufficient - OK / neutral - Not sufficient - Not at all sufficient - I don't know
Please indicate what further information on the applicants you looked for [select all that apply]	- Employment history / fellowships - Education / training - Publications / citations - Membership / service - Grants acquired - Teaching / supervision - Conferences / events - Other
Please indicate which of the following you used to seek this information, if any [select all that apply]	- ORCID - Google Scholar - PubMed - Web of Science - Scopus - Personal website of applicant - Applicant profile on institutional webpage / LinkedIn - I did not seek information via any of these
Compared to an application with a traditional CV, does the standardised CV provide you with more contextual information on an applicants' qualifications and achievements?	- Yes, a much broader view - Yes, a somewhat broader view - No, an equal view - No, a somewhat narrower view - No, a much narrower view - I don't know
Compared to an application with a traditional CV, has the standardised CV changed your approach to assessing the applicants' qualifications and achievements?	- Yes, very much - Yes, somewhat - No - I don't know
Please explain briefly your response to: 'Compared to an application with a traditional CV, has the standardised CV changed your	Open text

approach to assessing the applicants' qualifications and achievements?' [optional]	
To what level of detail did you read through the achievements of each applicant?	- I fully read through the achievements sections - I read through most of the achievements sections - I skim-read the achievements sections - I did not read through the achievements sections - I don't know

Interview participation question	
Question	**Response**
In the coming months, we will invite a select number of individuals to participate in online interviews to discuss their views on the evaluation procedure and standardised CV. Please indicate if you are willing to participate in these interviews, but note that not all reviewers who express their interest to participate will be invited for an interview. Your personal information will only be used for the purpose of selecting and contacting interview participants.	I am willing to be contacted [Y/N] Contact email: [Open text]

Annex 3 - Interview programme: selection and protocols

Selection

Given the large proportion of survey respondents who volunteered (42% of applicants, 53% of Evaluation Panel Members, and 36% of external reviewers), a selection had to be made. Given the nature of interview data, the objective was to capture the breadth of perspectives that would provide rich and concrete explanations to the quantitative findings, rather than to build a representative sample of interviewees. For this reason, we selected a diversity of candidates in terms of gender, research domains, and seniority. For applicants, we ensured that we selected applicants who were successful as well as applicants who were not successful in their funding application. For external reviewers, we also aimed for a diversity in terms of geographical region.

In all groups, we selected candidates with different positivity of responses to the overall fairness of the UEP, the perceived sufficiency of narrative CVs in presenting/assessing the scientific qualifications of applicants, and changes in perspectives before and after experiences with the UEP and standardised CV formats. After considering a broad selection of candidates on the above elements, we selected specific interviewees based on the points raised in open-text questions, aiming for a diversity of constructive comments on the UEP and standardised CVs. Following this initial selection, three of the investigators discussed the choices and the overall coverage of selected individuals to ensure that the sample was balanced and informative.

Protocols

Interview Protocol - Applicants

FOR INTERVIEWER: Before the interview, get acquainted with the survey responses of the interviewee. Feel free to bring up some of these responses where they are relevant to get deeper in an answer, and also feel free to add questions based on these responses in section D

A - Preamble [10 mins]

Thank you for your time and for accepting our invitation to be interviewed.

I am [XXXX] and I am part of the independent evaluation team of the SNSF evaluation procedure and standardised CV.

Before I start, which pronouns would you like me to use for you?

Can I also check that you are OK that we record this session – we will delete the recording once we have generated the transcript, we will not share the recording with SNSF, and will not identify you in any final report.

[FOR INTERVIEWER: record to cloud on Zoom and toggle a switch to get the transcription]

The interview will be split into three sections. We will begin by discussing the standard evaluation procedure, followed by the new CV format. Then to end I will share with you some of the emerging findings from the survey and ask for your reactions to that.

1. **Can I begin by asking you a bit about your background i.e. what is your research domain, how experienced are you in terms of applying for grants, and such like?**
2. **Thank you. Also as background can I ask you how familiar you feel with the SNSF (Unified) Evaluation Procedure and the Standardised CV?**

If they mention that they are unfamiliar:

Just to recap, the Unified Evaluation procedure was introduced in 2022 to ensure quality and efficiency across the SNSF funding instruments. It introduced four core elements: (i) an individual voting system where each panel member casts a vote; (ii) a numeric rating scale which is shared across all SNSF programmes; (iii) a separation of the scientific evaluation from the funding decision; and (iv) the possibility to apply random selection if proposals cannot be differentiated by evaluation criteria.

Alongside this procedure, SNSF also introduced a standardised CV format with the aim to increase compliance with the Declaration on Research Assessment (DORA) and to further increase the focus on the content and quality of the applicant's work. This is different from the previous CV format, which had a more traditional style including a full publication list for the past five years. Instead, the standardised CV includes narrative elements and provides space for the applicant's scientific qualifications in their broadest sense. It is made up of five elements:

i) Major achievements with selected works;
ii) Net academic age;
iii) Education and training;
iv) Previous and current employment; and
v) ORCID iD number.

B - Unified Evaluation Procedure [15 mins]

So let us begin with the Evaluation Procedure

[FOR INTERVIEWER - you may want to switch the order of the UEP and CV questions depending on what they say to question 1. For example reviewers are more likely to be able to speak to UEP but it will be important to understand what applicants think, including that they are not very familiar with the procedure]

3. [*If they responded that they are familiar with it*] **We are interested in understanding your personal perspective of the evaluation procedure. Don't worry if you do not know the details** *(can add a humoristic comment that this is not a test!)*, **but from what you understand, how would you describe how the unified evaluation procedure works?**

a. *[Follow-up if they are then not able to articulate or say they don't know it much, ask what they understand by it and ask whether they would like a recap. If yes, go back to the details above.]*
b. Follow-up: Why do you think they made these changes

4. The aim of introducing the procedure was to ensure *'quality, efficiency and interoperability of the evaluation procedure across the SNSF funding schemes*'. In your experience has it met those objectives? Why/why not?

5. Are there any major benefits to the evaluation procedure? Are there any drawbacks?

a. Follow-up: **Is there anything that could further improve the procedure?**

6. Do you have any further thoughts on the evaluation procedure before we move on?

C - Standardised CV [20 mins]

Let's move on to the standardised CV format

7. [*If responded that they are familiar with it*] **We are also interested in understanding your personal perspective of the standardised CV. Again, don't worry if you do not know the details or if you are unsure about the process *(can add a humoristic comment that this is not a test!)*, but from what you understand, how would you describe the changes to the CV format that SNSF made in 2022?**

a. *[Follow-up if they are then not able to articulate or say they don't know it much, ask what they understand by it and ask **whether they would like a recap**. If yes, go back to the details above.]*
b. Follow-up: Why do you think they made these changes?

8. What are the strengths and weaknesses of the new standardised CV format, if any?

b. Follow-up: **Is there anything that could further improve the format?**

9. In comparison to funding applications for other funders, how does the SNSF CV format compare? *[This should target and compare to traditional CVs]*

a. *Follow up to target narrative CVs*: **If you have experience with other CV formats with narrative elements, how does it compare to those?**
b. *Follow-up*: **Do you think there are any other formats that work better? If so, what are they and why do you prefer them?**

10. The new CV format consciously excludes a publication list to achieve the aim to increase DORA compliance (e.g. de-emphasise the prominence of journal- and publication-based metrics in research assessment). What do you think about that?

- ***a.*** *Note: if the respondent only mentions that they would prefer that a full publication list is present, probe further to check* ***'what they feel these lists provide towards demonstrating their scientific qualifications and achievements'.***

11. Do you have any further thoughts on the CV format before we move on?

D - Emerging findings [10 mins]

Finally, let's touch on some of the emerging findings from the survey:

12. >65% of survey respondents so far have indicated finding it challenging to decide which achievements to include in their CV. Does this resonate with you? Can you describe why this is so?

a. Follow-up: What has guided you in choosing your achievements?
b. Follow-up: In case you applied more than once or if you will apply again in the future, did you/will you use the same achievements again and why/why not?

13. The element that was most missed in the SNSF standardised CV by survey respondents was the inability to discuss 'Teaching and supervision'. Is this something that you can relate with? If yes, would including this help you demonstrate your scientific qualifications and achievements?

a. Follow-up: Do you think the reviewers of your proposal are missing this information / would find this information valuable in making their assessment?

[Alternative question if time: Another interesting observation from the survey data is that external reviewers seem to be more positive about the new CV format than panel members and the Research Council. Do you have any thoughts that could explain those differences?

a. Follow up: it also seems in the early data that panel members and the Research Council perceptions have become more negative over time with the new CV format - again any reflections on that?]

14. ***Tailored question based on survey responses***

E - Closing comments [5 mins]

Well that is it from me.

15. Are there any further thoughts you would like to add?

Can I therefore finish by thanking you for your time. It is really appreciated and your contributions are extremely helpful in better understanding these SNSF tools.

As I mentioned at the outset, once a transcript has been generated and refined, the recording will be deleted and will not be shared with SNSF at any point. The transcripts will be anonymised. We may use direct quotes from the interviews in the final reports shared with SNSF. These direct quotes may be attributed to generic demographics, but we will be careful to keep these characteristics general enough to avoid any identification.

Interview Protocol - Evaluation Panel Members and Reviewers

FOR INTERVIEWER: Before the interview, get acquainted with the survey responses of the interviewee. Feel free to bring up some of these responses where they are relevant to get deeper in an answer, and also feel free to add questions based on these responses in section D

A - Preamble [5 mins]

Thank you for your time and for accepting our invitation to be interviewed.

I am [XXXX] and I am part of the independent evaluation team of the SNSF evaluation procedure and standardised CV.

Before I start, which pronouns would you like me to use for you?

Can I also check that you are OK that we record this session – we will delete the recording once we have generated the transcript, we will not share the recording with SNSF, and will not identify you in any final report.

[FOR INTERVIEWER: record to cloud on Zoom and toggle a switch to get the transcription]

The interview will be split into three sections. We will begin by discussing the standard evaluation procedure, followed by the new CV format. Then to end I will share with you some of the emerging findings from the survey and ask for your reactions to that.

1. **Can I begin by asking you a bit about your background i.e. what is your research domain, how experienced are you in terms of reviewing grants, and such like?**
2. **Thank you. Also as background can I ask you how familiar you feel with the SNSF (Unified) Evaluation Procedure and the Standardised CV?**

If they mention that they are unfamiliar:

Just to recap, the Unified Evaluation procedure was introduced in 2022 to ensure quality and efficiency across the SNSF funding instruments. It introduced four core elements: (i) an individual voting system where each panel member casts a

vote; (ii) a numeric rating scale which is shared across all SNSF programmes; (iii) a separation of the scientific evaluation from the funding decision; and (iv) the possibility to apply random selection if proposals cannot be differentiated by evaluation criteria.

Alongside this procedure, SNSF also introduced a standardised CV format with the aim to increase compliance with the Declaration on Research Assessment (DORA) and to further increase the focus on the content and quality of the applicant's work. This is different from the previous CV format, which had a more traditional style including a full publication list for the past five years. Instead, the standardised CV includes narrative elements and provides space for the applicant's scientific qualifications in their broadest sense. It is made up of five elements:

i) Major achievements with selected works;
ii) Net academic age;
iii) Education and training;
iv) Previous and current employment; and
v) ORCID iD number.

B - Unified Evaluation Procedure [20 mins]

So let us begin with the Evaluation Procedure

[FOR INTERVIEWER - you may want to switch the order of the UEP and CV questions depending on what they say to question 1. For example reviewers are more likely to be able to speak to UEP but it will be important to understand what applicants think, including that they are not very familiar with the procedure]

3. [*If they responded that they are familiar with it*] **We are interested in understanding your personal perspective of the evaluation procedure. Don't worry if you do not know the details** *(can add a humoristic comment that this is not a test!)*, **but from what you understand, how would you describe how the unified evaluation procedure works?**

c. *[Follow-up if they are then not able to articulate or say they don't know it much, ask what they understand by it and ask whether they would like a recap. If yes, go back to the details above.]*

d. Follow-up: Why do you think they made these changes

4. The aim of introducing the procedure was to ensure *'quality, efficiency and interoperability of the evaluation procedure across the SNSF funding schemes*'. In your experience has it met those objectives? Why/why not?

5. Are there any major benefits to the evaluation procedure? Are there any drawbacks?

c. Follow-up: **Is there anything that could further improve the procedure?**

6. [*NOT for external reviewers*] One of the main elements of the UEP was the new rating scale used throughout the evaluation process. Two questions on this: First what are your reflections on the principle of having a unified rating scale across schemes and disciplines? Second, in your experience, do you think the rating scale is working? Why/why not? If 'don't know', understand why they 'don't know'?

7. Do you have any further thoughts on the evaluation procedure before we move on?

C - Standardised CV [20 mins]

Let's move on to the standardised CV format

8. [*If responded that they are familiar with it*] We are also interested in understanding your personal perspective of the standardised CV. Again, don't worry if you do not know the details or if you are unsure about the process *(can add a humoristic comment that this is not a test!)*, but from what you understand, how would you describe the changes to the CV format that SNSF made in 2022?

c. *[Follow-up if they are then not able to articulate or say they don't know it much, ask what they understand by it and ask* ***whether they would like a recap****. If yes, go back to the details above.]*
d. Follow-up: Why do you think they made these changes?

9. What are the strengths and weaknesses of the new standardised CV format, if any?

d. Follow-up: Is there anything that could further improve the format?

10. In comparison to reviewing applications for other funders, how does the SNSF CV format compare? *[This should target and compare to traditional CVs]*

c. *Follow up to target narrative CVs*: If you have experience with reviewing other CV formats with narrative elements, how does it compare to those?
d. *Follow-up*: Do you think there are any other formats that work better? If so, what are they and why do you prefer them?

11. The new CV format consciously excludes a publication list to achieve the aim to increase DORA compliance (e.g. de-emphasise the prominence of journal- and publication-based metrics in research assessment). What do you think about that?

b. *Note: if respondent only mentions having used a publication list elsewhere (SCOPUS, WebOfScience, Google Scholar, etc.) ask '****what they seek in these lists****' and '****how it informs them of the scientific qualifications and achievements****'.*

12. Do you have any further thoughts on the CV format before we move on?

D - Emerging findings [10 mins]

Finally, let's touch on some of the emerging findings from the survey:

13. [*NOT for external reviewers*] **A lot of survey respondents indicated a change in their view of the evaluation procedure between when it was first introduced and after using it. Does this resonate with you? What were your initial expectations and were they met? Why/why not?**

14. While >70% of external reviewers find it similar or easier to assess the new standardised CV, >70% of panel / Research Council members find it a bit or a lot more difficult. **Do you have any thoughts on why we might see such contrasting responses between these two groups?**

15. While SNSF guidance asks applicants to generate a CV that they can use across funding schemes, including major achievements that are transferable, many survey respondents in the applicant survey indicate 'relevance to the specific funding call' as the most important reason to choose the achievements they include. **When you assess the achievements, is this something you are looking for? What else are you looking for in assessing the applicants' achievements?**

16. *Tailored question based on survey responses*

E - Closing comments [5 mins]

Well that is it from me.

17. Are there any further thoughts you would like to add?

Can I therefore finish by thanking you for your time. It is really appreciated and your contributions are extremely helpful in better understanding these SNSF tools.

As I mentioned at the outset, once a transcript has been generated and refined, the recording will be deleted and will not be shared with SNSF at any point. The transcripts will be anonymised. We may use direct quotes from the interviews in the final reports shared with SNSF. These direct quotes may be attributed to generic demographics, but we will be careful to keep these characteristics general enough to avoid any identification.

Supplementary data

Additional data breakdowns and supporting analysis

Supplement 1 – Survey Demographics

The survey was distributed by SNSF to a total of 8,099 Applicants, 757 Evaluation Panel Members, and 5,889 External Reviewers and obtained completed responses from 2,004 Applicants, 175 Evaluation Panel Members (31 Research Councillors and 144 other Panel Members) and 996 External Reviewers, yielding response rates of 24.7%, 23.1%, and 16.9%, respectively.

The gender distribution of the sample in each group was fairly representative of the gender distribution within the survey population (see table S8.1)

	Applicants	Evaluation Panel Members	External Reviewers
Male	1184 (59.1%)	98 (56.0%)	672 (67.5%)
Female	735 (36.7%)	64 (36.6%)	292 (29.3%)
Non-binary	9 (0.4%)	3 (1.7%)	2 (0.2%)
Prefer not to say	76 (3.8%)	10 (5.7%)	30 (3.0%)

Table S1.1. Gender distribution among survey respondents.

Applicants and Evaluation Panel Members were asked which funding instrument(s) they applied or acted as an evaluator for, with the possibility of selecting multiple options. Table S8.2 shows that, among survey respondents, most Applicants applied for project funding (57.3% of applicants), while Evaluation Panel Members mostly acted as evaluators for the Postdoc.Mobility (37.1% of Evaluation Panel Members), Ambizione (35.4% of Evaluation Panel Members), and Project funding (34.3% of Evaluation Panel Members).

	Number of Applicants	Percentage of Applicants	Number of Evaluation Panel Members	Percentage of Evaluation Panel Members
Agora	104	5.2%	3	1.7%
Ambizione	198	9.9%	62	35.4%
Bridge Discovery	138	6.9%	2	1.1%
Bridge Proof of Concept	73	3.6%	2	1.1%
COST	85	4.2%	8	4.6%
Doc.CH	25	1.2%	14	8.0%
Funding LArge international REsearch projects (FLARE)	9	0.4%	2	1.1%
Health Research and Wellbeing at UAS and UTE	78	3.9%	0	0.0%
Investigator initiated clinical trials (IICT)	33	1.6%	0	0.0%
Korean-Swiss Science and Technology Programme	17	0.8%	0	0.0%
Multidisciplinary Applied Research Ventures in Space (MARVIS)	3	0.1%	0	0.0%

Multilateral Academic Projects (MAPS)	90	4.5%	0	0.0%
National Centre of Competence in Research outline proposal (NCCR)	188	9.4%	2	1.1%
National Reserach Programme Full Proposal (NRP)	151	7.5%	9	5.1%
Postdoc.Mobility	339	16.9%	65	37.1%
Postdoc.Mobility - Return	60	3.0%	44	25.1%
Practice-to-Science	13	0.6%	4	2.3%
Project funding	1148	57.3%	60	34.3%
PROMYS	1	0.0%	0	0.0%
Quantum	11	0.5%	0	0.0%
R'Equip	163	8.1%	9	5.1%
Sinergia	336	16.8%	15	8.6%
SNSF Advanced Grants	104	5.2%	9	5.1%
SNSF Consolidator Grants	78	3.9%	4	2.3%
SNSF Starting Grants	203	10.1%	47	26.9%
SNSF Swiss Postdoctoral Fellowships	38	1.9%	6	3.4%
SOR4D	38	1.9%	4	2.3%
Southeast Asia – Europe Joint Funding Scheme	4	0.2%	0	0.0%
Spark	166	8.3%	1	0.6%
SPIRIT	98	4.9%	2	1.1%
Strategic Japanese-Swiss Science and Technology Programme (SJSSTP)	27	1.3%	1	0.6%
Ukrainian-Swiss Joint Research Programme (USJRP)	28	1.4%	0	0.0%
Vietnamese-Swiss Joint Research Projects	15	0.7%	0	0.0%
Other (please specify):	0	0.0%	0	0.0%

Table S1.2. Funding programmes in which Applicants and Evaluation Panel Members participated (multiple answers possible).

External Reviewers were not asked about funding programmes, but they were asked about the countries they were based in at the time of the survey completion. Respondents were spread across the globe, with 67.7% based in Europe (n=674), 18.8% based in North America (n=187), 7.8% based in Asia (n=78), 4.3% based in Oceania (n=43), 1% based in South America (n=10), and 0.4% based in Africa (n=4). Countries with large representations included the United States of America (n=155), Germany (n=129), and Italy (n=103; see Figure S8.1).

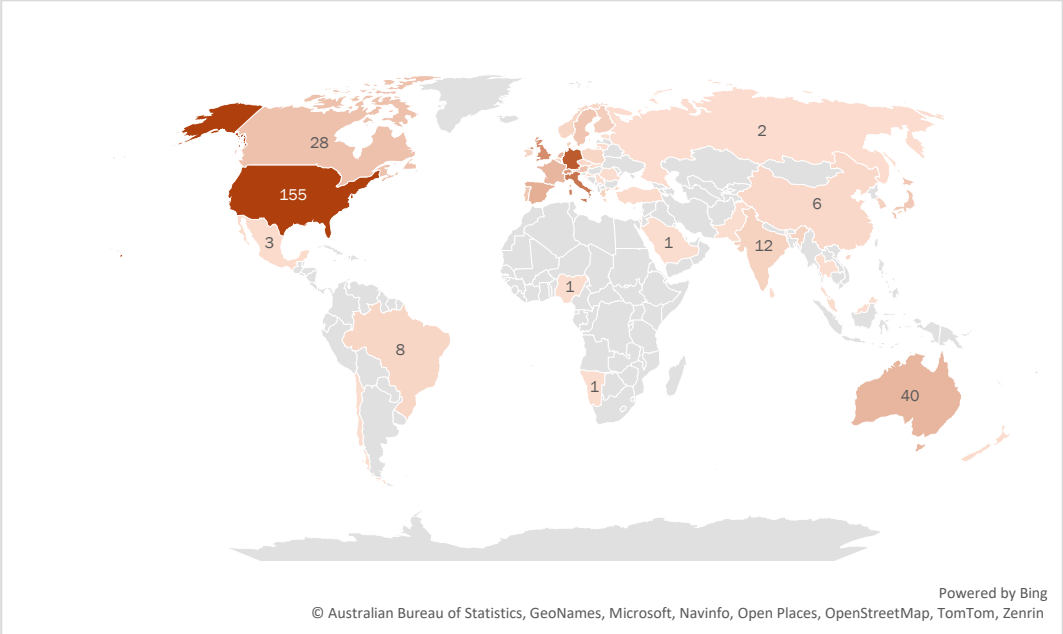


Figure S1.1. Geographic distribution of External Reviewers who responded to the survey.

Applicants, Evaluation Panel Members, and External Reviewers had a similar distribution of research domains, with respondents selecting multiple domains (marked below as 'multidisciplinary') in minority (see Figure S8.2)

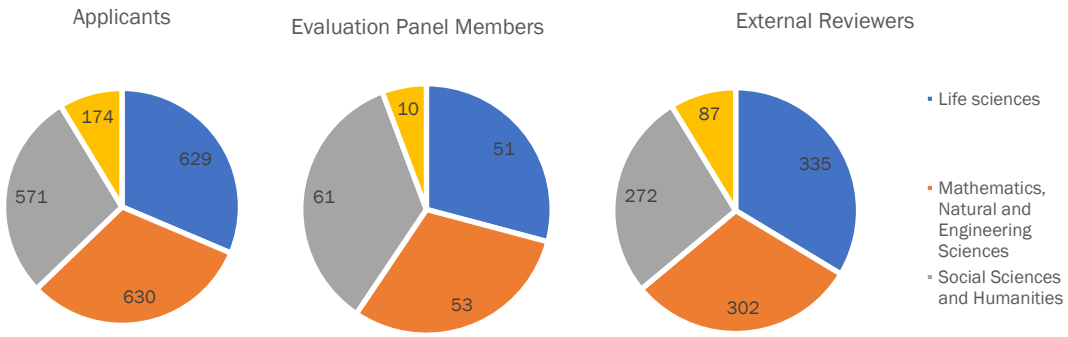


Figure S1.2. Distribution of Research Domains among survey respondents.

All respondent groups were dominated by individuals who finished their PhD more than 15 years ago, although this was more pronounced among Evaluation Panel Members and External Reviewers than among applicants (see Table S8.3).

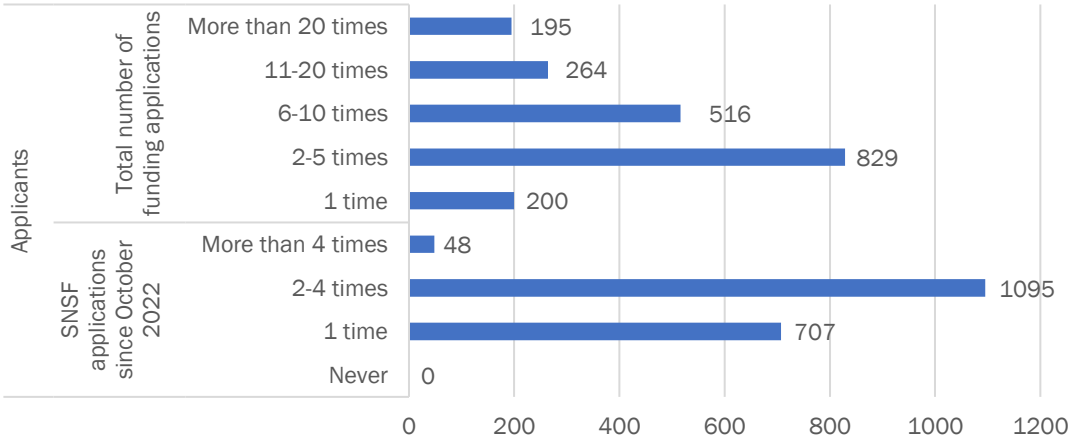
	Applicants	Evaluators	External Reviewers
Up to 5 years ago	360 (18.0%)	0 (0.0%)	33 (3.3%)
6-10 years ago	382 (19.1%)	4 (2.3%)	73 (7.3%)
11-15 years ago	360 (18.0%)	26 (14.9%)	158 (15.9%
More than 15 years ago	877 (43.8%)	144 (82.3%)	717 (72.0%)
Not applicable	25 (1.2%)	1 (0.6%)	15 (1.5%)

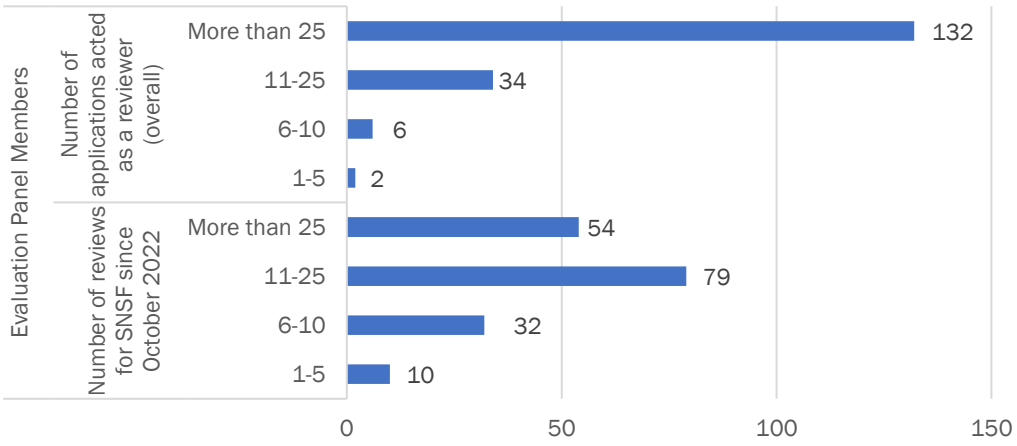
Table S1.3. Seniority of respondents, calculated in number of years since PhD.

Evaluation Panel Members and External Reviewers were asked which sector they are active in, with a possibility to select multiple sectors. 96.0% of Evaluation Panel Members (n=168) and 95.5% of External Reviewers (n=951) selected that they are active in the Academic Sector, 3.4% of Evaluation Panel Members (n=6) and 4.1% of External Reviewers (n=41) selected that they are active in the Private Sector, 4.0% of Evaluation Panel Members (n=7) and 10.3% of External Reviewers (n=103) selected that they are active in the Public Sector, and 1.0% of External Reviewers also selected 'Other' (n=10).

Evaluation Panel Members were also asked which role they play or have played for SNSF. 82.3% selected that they only play the role of Member of an Evaluation Body/Panel (n=144), while 17.7% selected that they serve as Member of the Research Council (n=31), among whom 25 also serve as Member of an Evaluation Body/Panel (see Figure S8.3).

All groups were asked about their familiarity with the application/review process by answering how many times they applied/reviewed for SNSF overall as well as since October 2022. Figure S8.4 showcases these results.





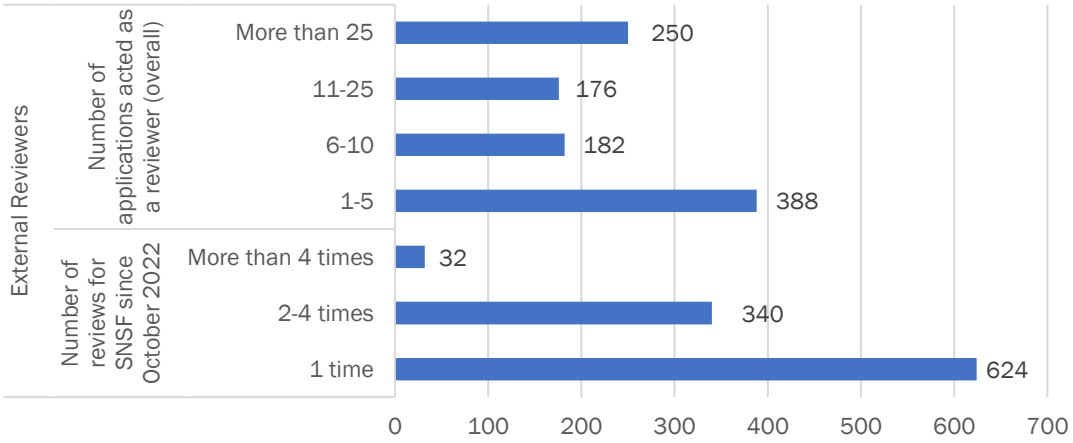
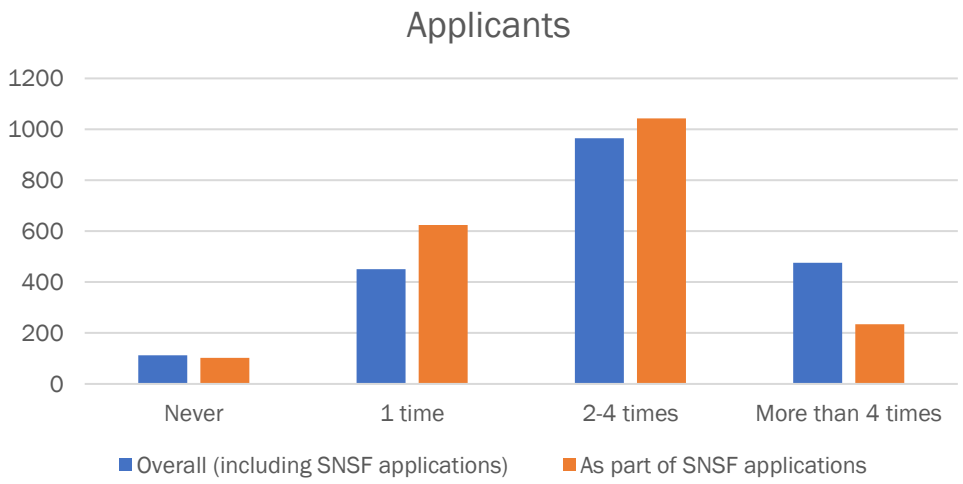


Figure S1.4. Familiarity of survey respondents with SNSF application process measure by the number of time they applied/reviewed for SNSF.

All groups were also asked the number of times they submitted/reviewed applications which included a CV with narrative elements within and outside of SNSF. Evaluation Panel Members evaluated more applications with narrative CVs than other groups (see Figure S8.5 for detailed numbers.



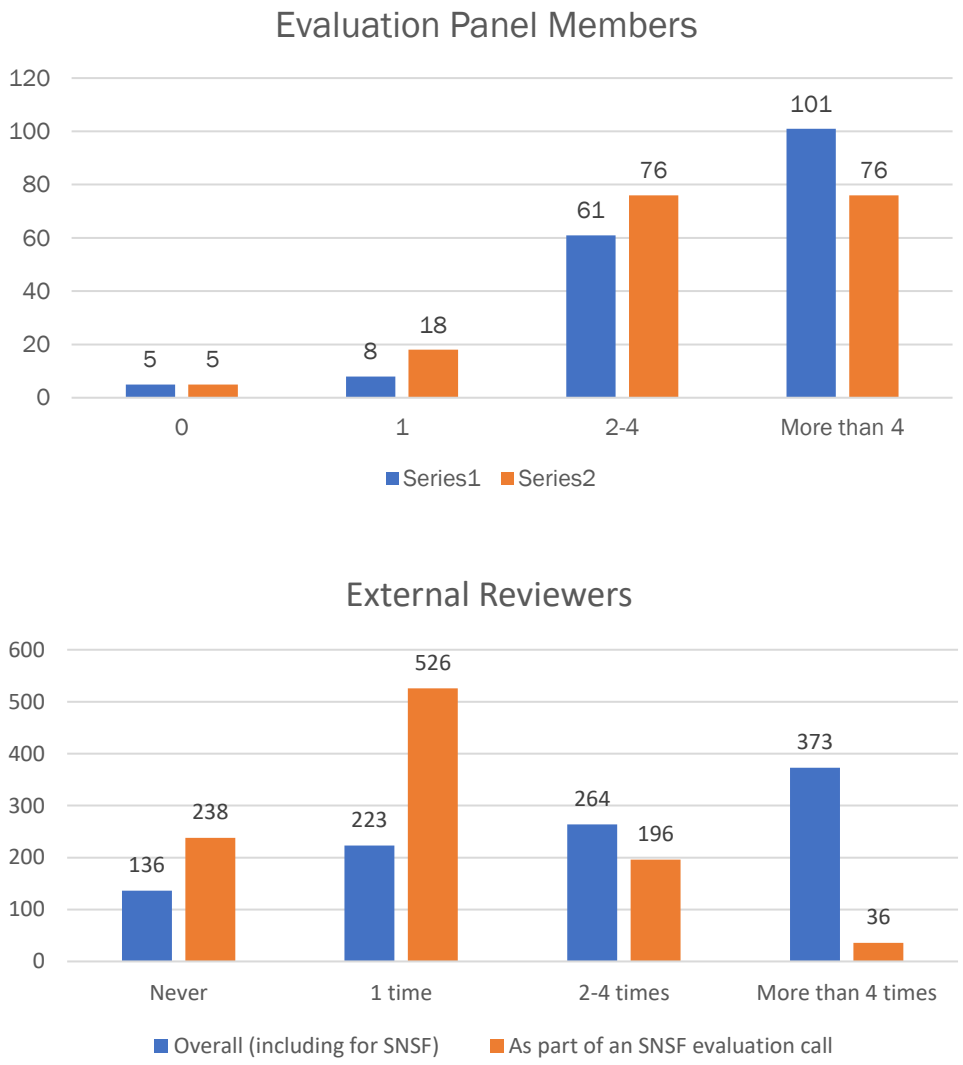


Figure S1.5. Number of times survey respondents provided narrative CV formats or assessed a CV format with narrative elements.

Finally, Applicants were asked whether their application(s) with SNSF were successful. In this question, they were first asked whether they submitted a single application or multiple applications, and they were then asked whether their application(s) were successful/successful several times, successful once, unsuccessful/not successful, or 'don't know'/'not previously, pending outcome of application'. Details are available in Figure S8.6.

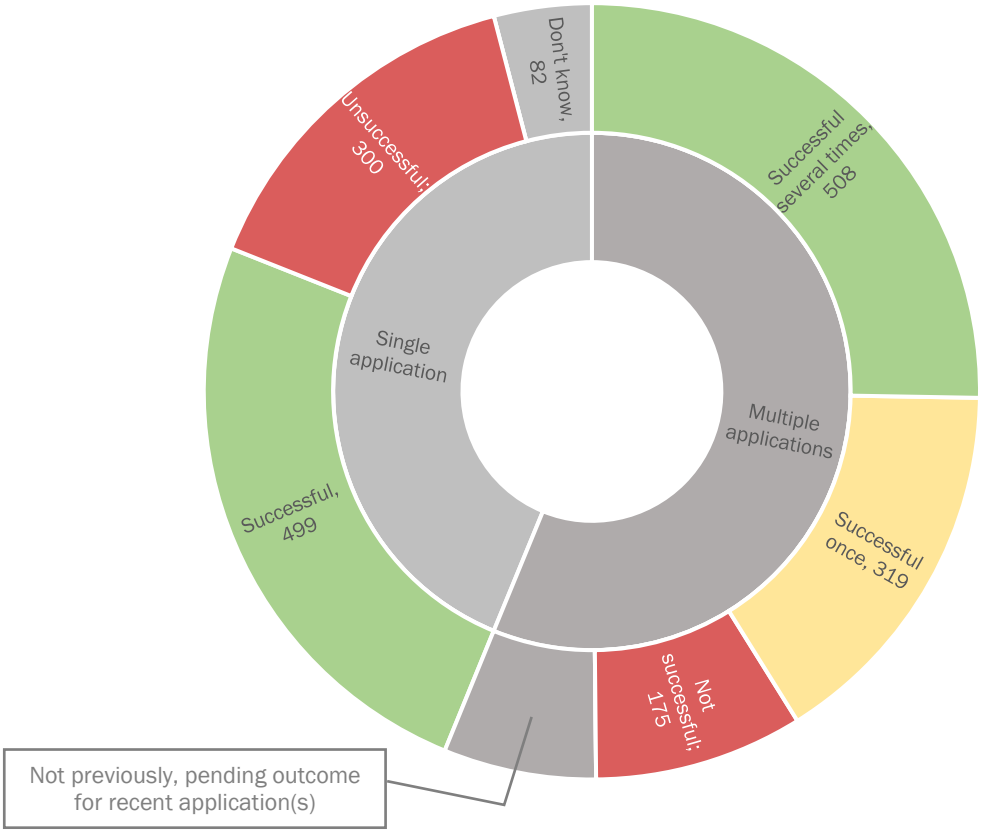


Figure S1.6. SNSF funding success of applicants who responded to the survey.

Supplement 2 - Comparison between the mean-based ranking and Bayesian ranking funding decisions

When diving into differences between funding instruments and research domains we identify with the largest impact on the funding decisions for Postdoc.Mobility SSH and Agora, where 16% or 12% respectively of the projects passed from being directly funded to the random selection group, in the case of the Bayesian Ranking. Reasons for some panels having higher random selection groups are detailed in section " Impact of bunching of scores, credible intervals and number of votes on proportion of proposals entering random selection".

	direct (mean ranking) to direct (BR)	direct (mean ranking) to random (BR)	random (mean ranking) to direct (BR)	random (mean ranking) to random (BR)
Agora	83%	12%		6%
Health Research & Wellbeing - MD	90%	10%		
Postdoc.Mobility - LS	93%	7%		
Postdoc.Mobility - MINT	96%	2%		2%
Postdoc.Mobility - SSH	84%	16%		
Project funding - LS	89%	10%	0.1%	1%
Project funding - MINT	94%	6%		0.2%
Project funding - SSH	93%	3%	1%	3%
Sinergia	95%	5%		
SOR4D	100%			

While for most cases of direct funding decisions in both type of rankings, the funding decision remained the same (i.e. a directly funded proposals in the mean-based ranking was directly funded in the BR or vice-versa), the cases in which a direct decision in the would-be mean-based scenario was reverted by the use of the Bayesian ranking (i.e. a directly funded proposals in the mean-based ranking being directly rejected in the Bayesian ranking - or vice versa) are rare: they amount to only <1% of the proposals that were directly selected/rejected. [41]☐ in the Project Funding instrument: proposals that are highly ranked with both methods, and are naturally selected for funding in the hypothetical scenario, but that were dropped from the actual selection process due to being rejected by the external partner, leading to an artificial discrepancy in the funding decisions and an overrepresentation of cases resulting in a full reversal.

Supplement 3 - Random selection and funding decision across instrument and research domain

	Number of pre-selected proposals	Number of proposals discussed on panel	Number of panels	% proposals entering random selection (overall)	% proposals entering random selection (among all projects discussed on panels)	% funded random selection among funded proposals (overall)	% funded random selection among funded proposals (discussed on panel)	% funded proposals (overall)	% funded proposals (discussed on panel)	% proposals funded among random selection group
Agora	25	52	1	12%	17%	9%	12%	43%	48%	33%
Health Research and Wellbeing - MD	44	126	1	7%	10%	11%	11%	21%	28%	33%
Postdoc.Mobility - LS	194	154	6	3%	7%	4%	9%	51%	58%	73%
Postdoc.Mobility - MINT	211	148	6	2%	4%	1%	3%	49%	49%	33%
Postdoc.Mobility - SSH	177	94	6	6%	16%	6%	20%	46%	37%	47%
Project funding - LS	321	774	3	8%	11%	14%	14%	38%	54%	70%
Project funding - MINT	146	836	9	5%	6%	11%	11%	37%	44%	72%
Project funding - SSH	13	772	18	6%	6%	7%	7%	38%	39%	45%
Sinergia	115	144	3	3%	5%	6%	6%	25%	46%	57%
SOR4D	0	37	2	0%	0%	0%	0%	41%	41%	
OVERALL	1246	3137	55	6%	8%	9%	10%	39%	45%	60%

Supplement 4 - Per panel: proportion of proposals entering random selection vs. credible interval vs. proportion of proposals close to funding line

RankingID	Instrument and Research domain	Number of Proposals	% proposals entering random selection (amongst all projects discussed on panels)	Proportion of proposals +/- 1 distance of funding line	Proportion of proposals +/- 0.5 distance of funding line	Average credible interval size (in % of overall projects ranked)
1	Postdoc.Mobility - LS	34	0%	94%	59%	7.4%
118	Postdoc.Mobility - MINT	22	0%	86%	41%	7.9%
119	Postdoc.Mobility - MINT	29	0%	90%	62%	9.0%
27	Sinergia	44	0%	77%	36%	6.7%
44	Postdoc.Mobility - MINT	23	0%	83%	43%	5.9%
46	Postdoc.Mobility - SSH	14	0%	93%	57%	8.7%
77	SOR4D	17	0%	59%	35%	11.4%
91	Postdoc.Mobility - LS	17	0%	65%	41%	5.5%

92	Postdoc.Mobility - MINT	25	0%	84%	36%	7.0%
93	Postdoc.Mobility - SSH	12	0%	100%	67%	16.0%
94	Postdoc.Mobility - MINT	21	0%	90%	76%	8.6%
97	Sinergia	37	0%	65%	30%	6.9%
98	SOR4D	20	0%	60%	35%	8.0%
115	Project funding - SSH	75	1%	35%	12%	4.2%
111	Project funding - SSH	46	2%	41%	17%	5.2%
24	Project funding - SSH	76	3%	30%	11%	4.5%
106	Project funding - MINT	100	3%	66%	32%	5.3%
87	Project funding - SSH	30	3%	23%	10%	4.8%
19	Project funding - MINT	118	3%	43%	19%	4.5%
58	Project funding - MINT	75	4%	71%	43%	7.1%
2	Project funding - LS	257	5%	51%	24%	7.0%
56	Project funding - MINT	85	5%	48%	20%	5.4%
85	Project funding - SSH	42	5%	24%	10%	5.3%
90	Project funding - SSH	62	5%	39%	19%	4.4%
20	Project funding - MINT	114	5%	46%	23%	5.6%
25	Project funding - SSH	19	5%	47%	21%	5.0%
104	Project funding - MINT	75	5%	79%	45%	7.7%
114	Project funding - SSH	37	5%	32%	19%	6.6%
86	Project funding - SSH	37	5%	41%	24%	4.4%
22	Project funding - SSH	55	5%	24%	9%	4.1%
113	Project funding - SSH	54	6%	43%	7%	6.4%
88	Project funding - SSH	16	6%	44%	13%	6.6%
89	Project funding - SSH	31	6%	39%	26%	4.9%
57	Project funding - MINT	87	7%	66%	26%	6.4%
120	Postdoc.Mobility - LS	38	8%	95%	50%	8.5%
109	Health Research and Wellbeing at UAS and UTE - MD	126	10%	61%	30%	9.3%
21	Project funding - SSH	40	10%	38%	18%	5.9%
23	Project funding - SSH	40	10%	30%	25%	4.4%
48	Postdoc.Mobility - LS	20	10%	75%	45%	8.5%
76	Project funding - LS	271	10%	52%	28%	6.3%
117	Postdoc.Mobility - LS	19	11%	84%	53%	8.0%

107	Project funding - SSH	45	11%	49%	18%	4.7%
108	Sinergia	63	11%	75%	54%	6.7%
110	Postdoc.Mobility - SSH	17	12%	82%	53%	6.9%
18	Project funding - MINT	103	13%	54%	34%	5.1%
26	Project funding - SSH	44	14%	34%	20%	5.3%
105	Project funding - MINT	79	14%	82%	39%	7.1%
96	Postdoc.Mobility - LS	26	15%	88%	50%	8.6%
121	Agora	52	17%	90%	46%	12.2%
75	Project funding - LS	246	17%	58%	35%	8.6%
45	Postdoc.Mobility - SSH	16	19%	94%	69%	10.5%
47	Postdoc.Mobility - MINT	28	21%	96%	57%	7.7%
112	Project funding - SSH	23	26%	78%	35%	9.1%
116	Postdoc.Mobility - SSH	21	29%	86%	57%	13.6%
95	Postdoc.Mobility - SSH	14	29%	93%	43%	10.2%

Supplement 5 - Proposal pre-selection and score bunching data

Besides the proportion of proposals close to funding line, this table shows the interquartile range (IQR) of the means scores per proposal (e.g. the range between first and third quartiles), as means for measuring score bunching in a panel. The table shows that more bunching is seen for funding instruments and research domains with a higher proportion of proposals evaluated by the panel.

	% proposals evaluated by panel	IQR (of proposal mean score)	Proportion of proposals +/-1 distance of funding line	Proportion of proposals +/-0.5 distance of funding line
SOR4D	100%	2.0	59%	35%
Project funding - SSH	98%	2.9	37%	16%
Project funding - MINT	85%	1.9	60%	30%
Health Research and Wellbeing - MD	74%	1.3	61%	30%
Project funding - LS	71%	1.9	54%	29%
Agora	68%	1.3	90%	46%
Sinergia	56%	1.3	73%	42%
Postdoc.Mobility - LS	44%	0.9	86%	51%
Postdoc.Mobility - MINT	41%	1.0	89%	53%
Postdoc.Mobility - SSH	35%	0.8	90%	57%
OVERALL	72%	1.9	57%	30%

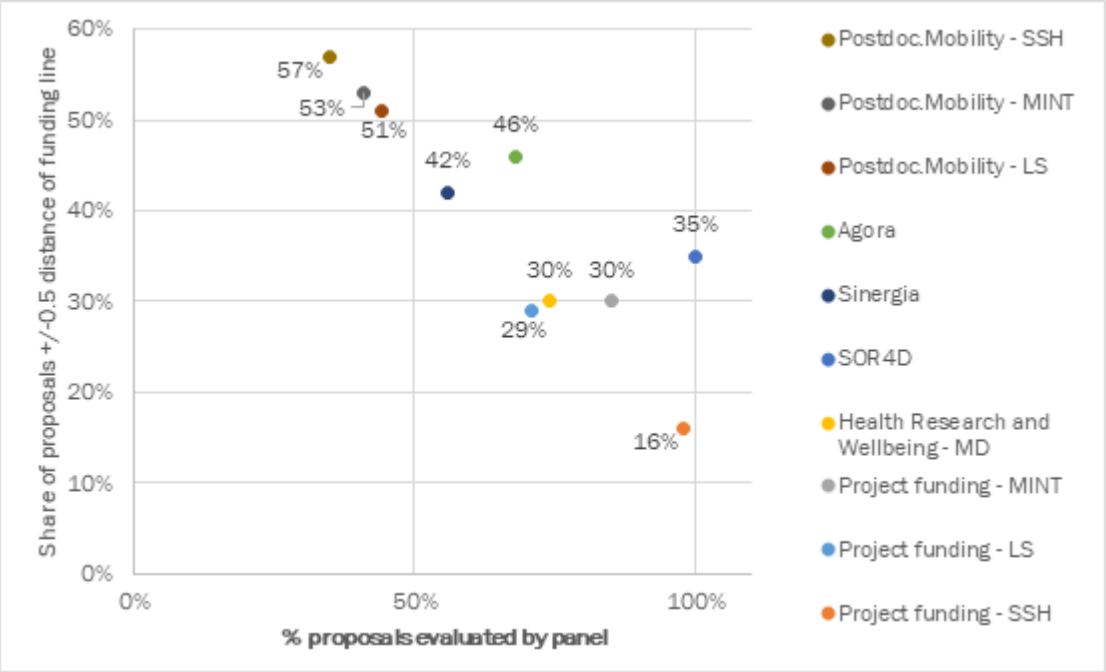


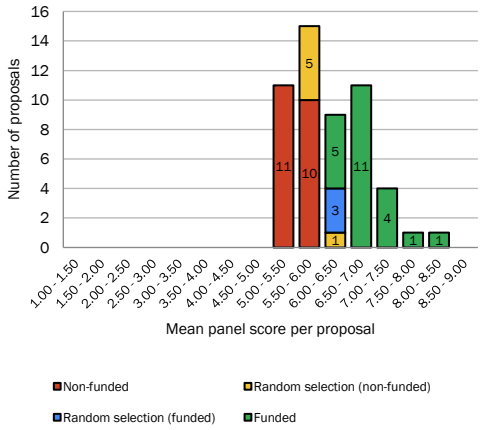
Figure S5.1. Correlation between the proportion of proposals discussed by the panel and the score bunching on the panels, measured by proportion of proposals ±0.5 points distance from the funding line

Supplement 6 - Differences in scores and score distribution between phase 1 and phase 2 of two-phase evaluations

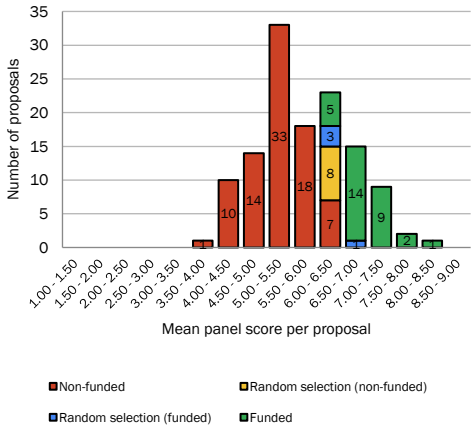
Funding Instrument	Research domain	Proposals entering Phase 2	Funding rate (overall)	Differences between Phase 1 and Phase 2 (Score Phase 2 - Phase 1)				
				Δ Average mean	Δ Average Std	Δ Average Min.	Δ Average 50%	Δ Average Max.
SNSF Advanced Grants	SSH	71%	21%	1.4	-0.5	3.0	1.0	0.0
	MINT	64%	19%	1.0	-0.5	2.5	1.0	0.0
	LS	68%	19%	0.9	-0.5	2.5	1.0	0.0
SNSF Consolidator Grants	LS	55%	24%	1.2	-0.5	2.5	1.5	0.0
	MINT	64%	22%	1.1	-0.4	3.0	1.3	0.0
	SSH	56%	18%	1.0	-0.3	1.5	1.0	0.0
Ambizione	MINT	38%	25%	0.8	-0.3	3.0	1.0	0.0
	LS	51%	28%	0.8	-0.3	2.0	0.7	0.0
	SSH	51%	30%	0.5	-0.2	0.0	0.7	0.0
SNSF Starting Grants (just 2023)	SSH	40%	21%	0.6	-0.1	2.0	0.5	0.0
	LS	45%	22%	0.5	-0.2	1.3	0.7	0.0
	MINT	41%	18%	0.4	-0.2	2.0	0.3	0.0

Supplement 7 - Average panel score per proposal distribution per Funding instrument and Research domain

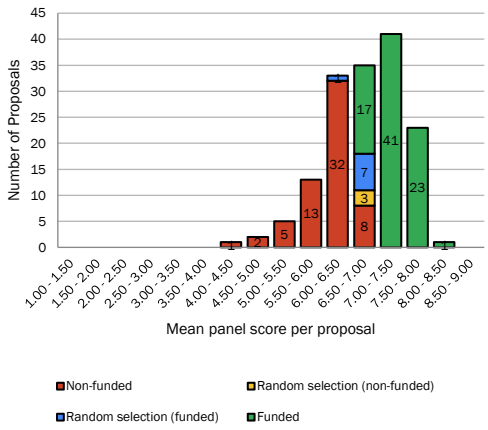
Agora



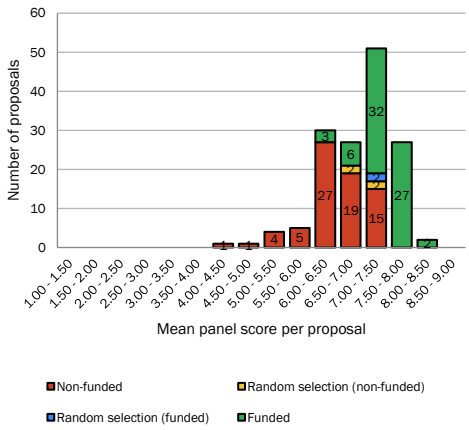
Health Research and Wellbeing - MD



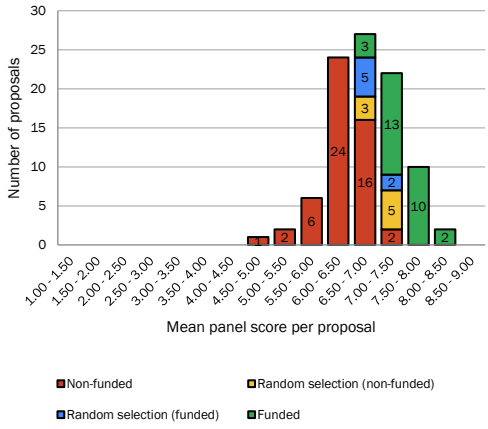
Postdoc.Mobility - LS



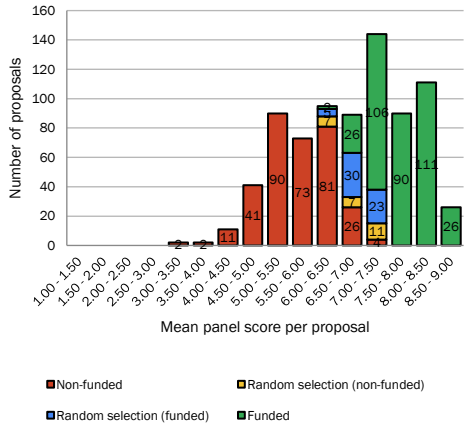
Postdoc.Mobility - MINT



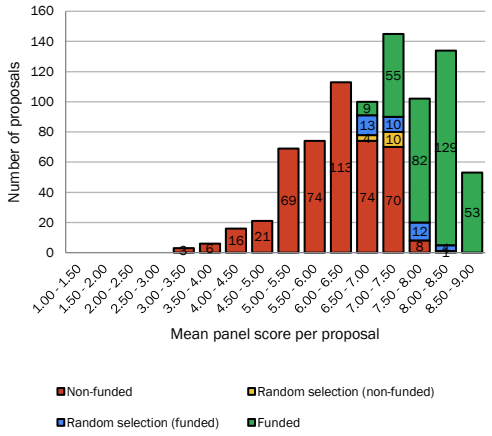
Postdoc.Mobility - SSH



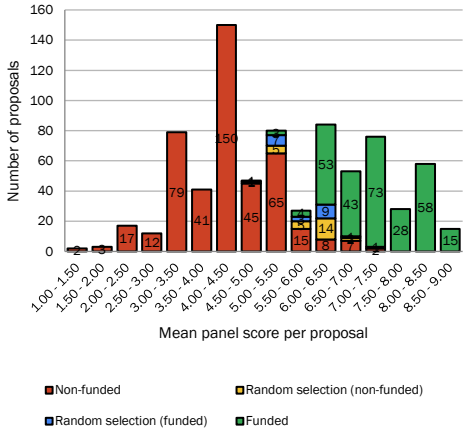
Project funding - LS



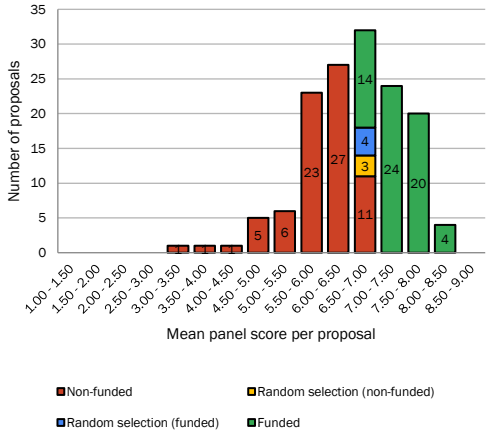
Project funding - MINT



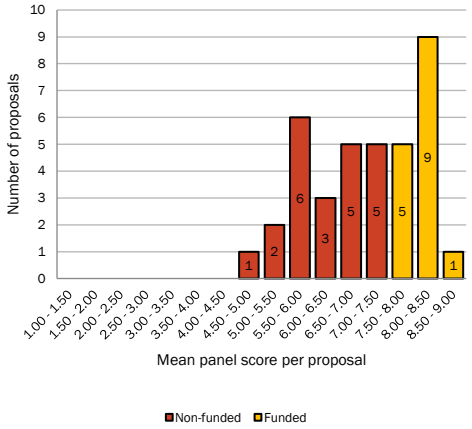
Project funding - SSH



Sinergia



SOR4D



Supplement 8 - Sentiment Analysis of achievements mentioned in the CVs

Researcher's profile	Total	% achievements with positive sentiment	
		Funded Proposals	Non-funded Proposals
Female	2103	3%	4%
Male	3984	6%	8%
Funding Instrument	**Total**	**% achievements with positive sentiment**	
		Funded Proposals	Non-funded Proposals
Programmes	1574	5%	9%
Projects	4020	6%	6%
Careers	1011	6%	4%
Science communication	153	2%	3%
Primary Research domain	**Total**	**% achievements with positive sentiment**	
		Funded Proposals	Non-funded Proposals
Sinergia / Multi-Domain	1645	8%	8%
MINT	1718	11%	11%
LS	1902	3%	4%
SSH	1476	2%	3%

Table S8.1. Proportion of achievements, which were labelled as having a positive sentiment, according to different researcher's profiles, funding instruments and primary research domain

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