

Research assessment

Regional perspectives and unifying actions

World Science Forum
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GLOBAL
YOUNG
ACADEMY

A Global outlook of academic promotion – *what really matters?*

Yensi Flores Bueso





Boon Han Lim

Carlo D'Ippoliti

Martin Dominik

Alma Hernández

Koen Vermeir

Kok-K. Chong

Hussam Hussein

Karen Cloete

Vicente Morales

Jude Kimengi



Luciana Balboa

Thomas dl Cruz

Stefania Mondello

Ibrahim Zakari

Aram Simonyan

Sandra López

Ignacio Palomo

Anet Režek

Justine Germa

Andreea Molnar



A Saktiawati

Sherien Elagroudy

Pradeep Kumar

Shymaa Enany

Vanny Narita

Michael Backes

Velia Siciliano

D. Egamberdieva

Yensi FB

Study design

Objective:

To study how researchers are evaluated worldwide

Methodology:

Cross-sectional analysis examining assessment criteria used in promotion policies

Scope:

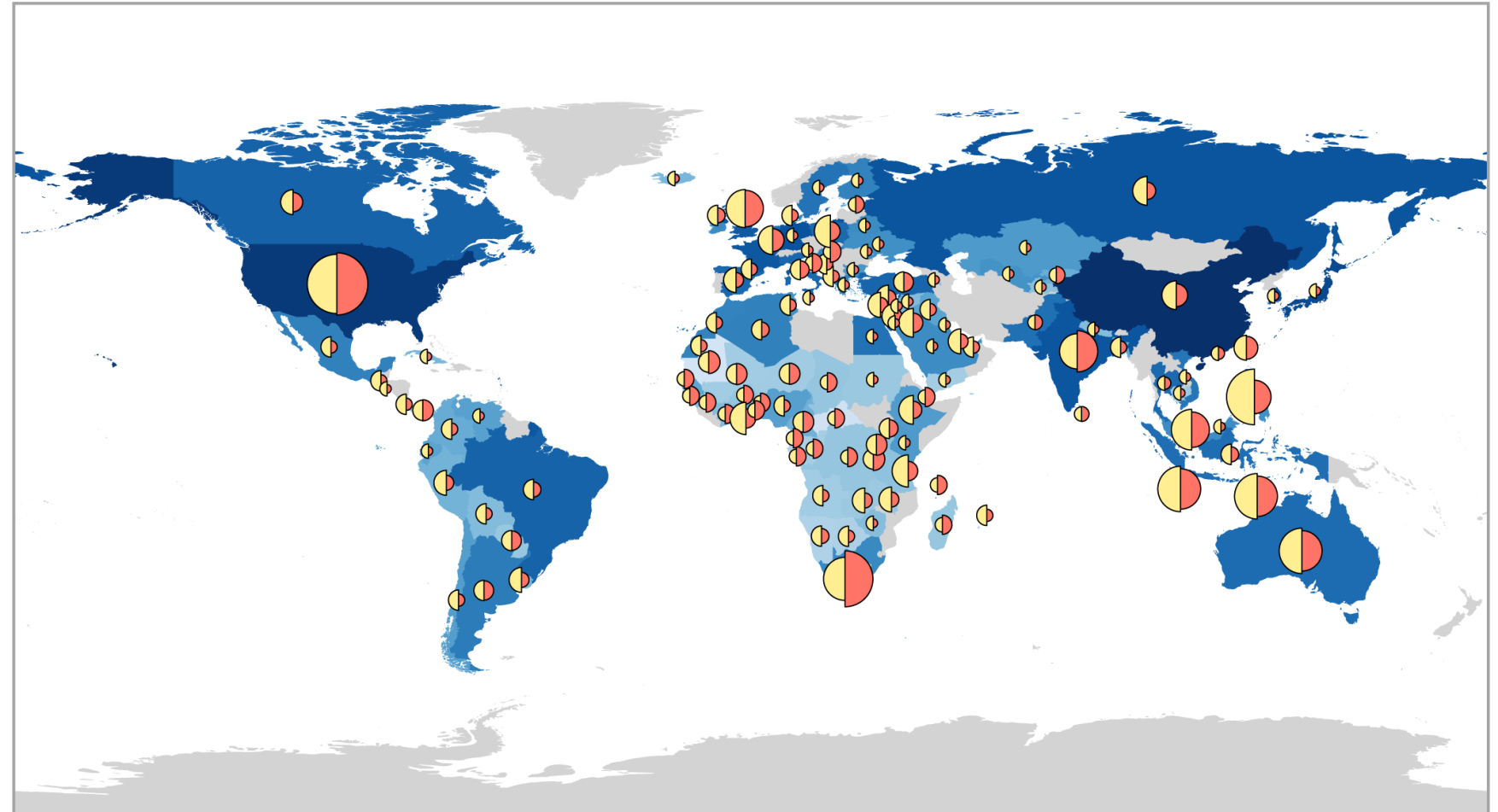
- Focused on the role of (Full) Professor – most widely recognised.
- Four tracks: Standard Academic, Research-focused, Teaching-focused, and Clinical.
- Applicable to academic institutions; excluding non-university environments.

Preprint: <https://www.researchsquare.com/article/rs-3011208/v1>

Sample

532 Policies
190 Academic institutions
58 Governmental agencies

121 Countries
32 Global North
89 Global south

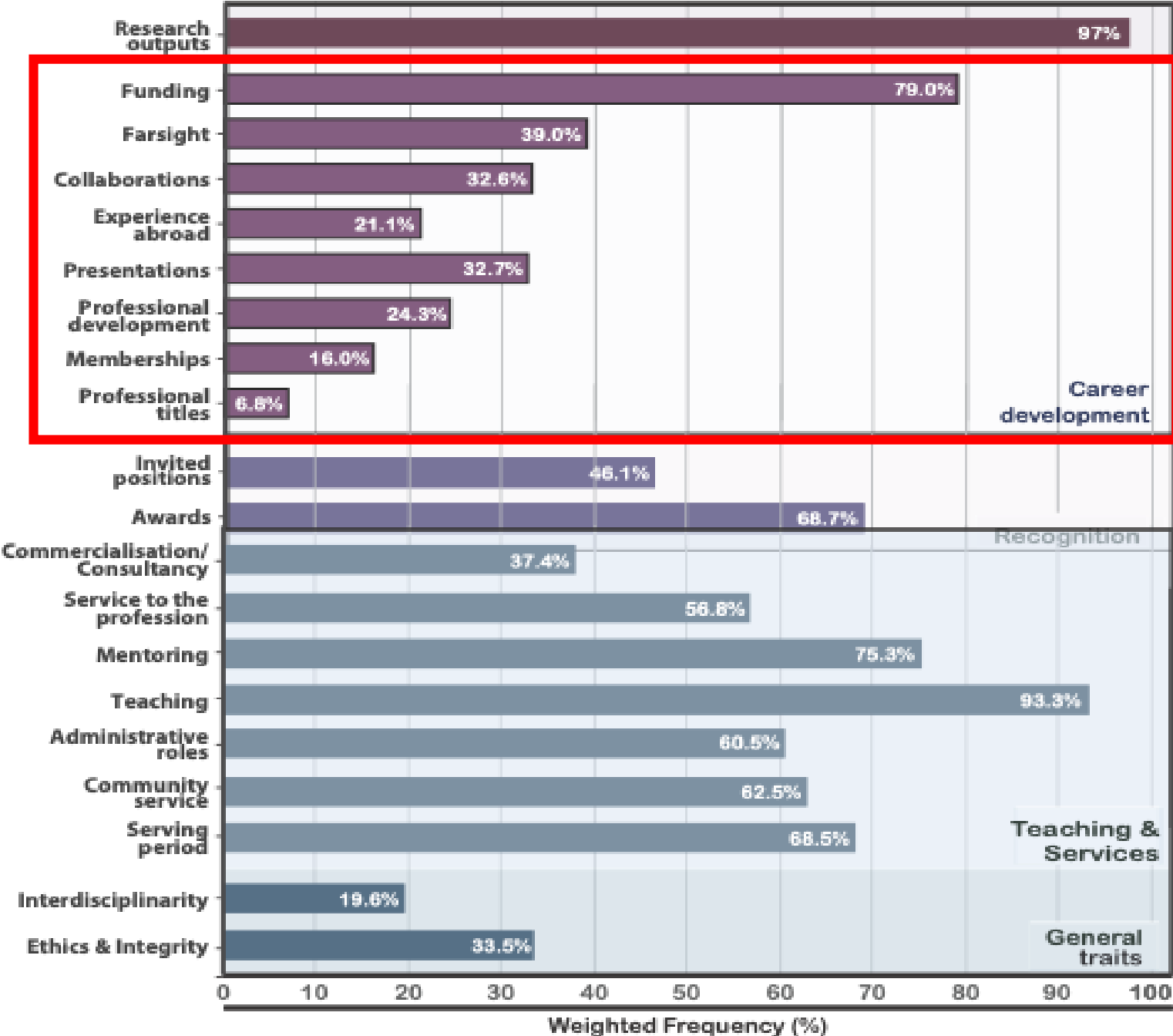


General outlook

30 prevalent criteria

5 categories:

- Career Development

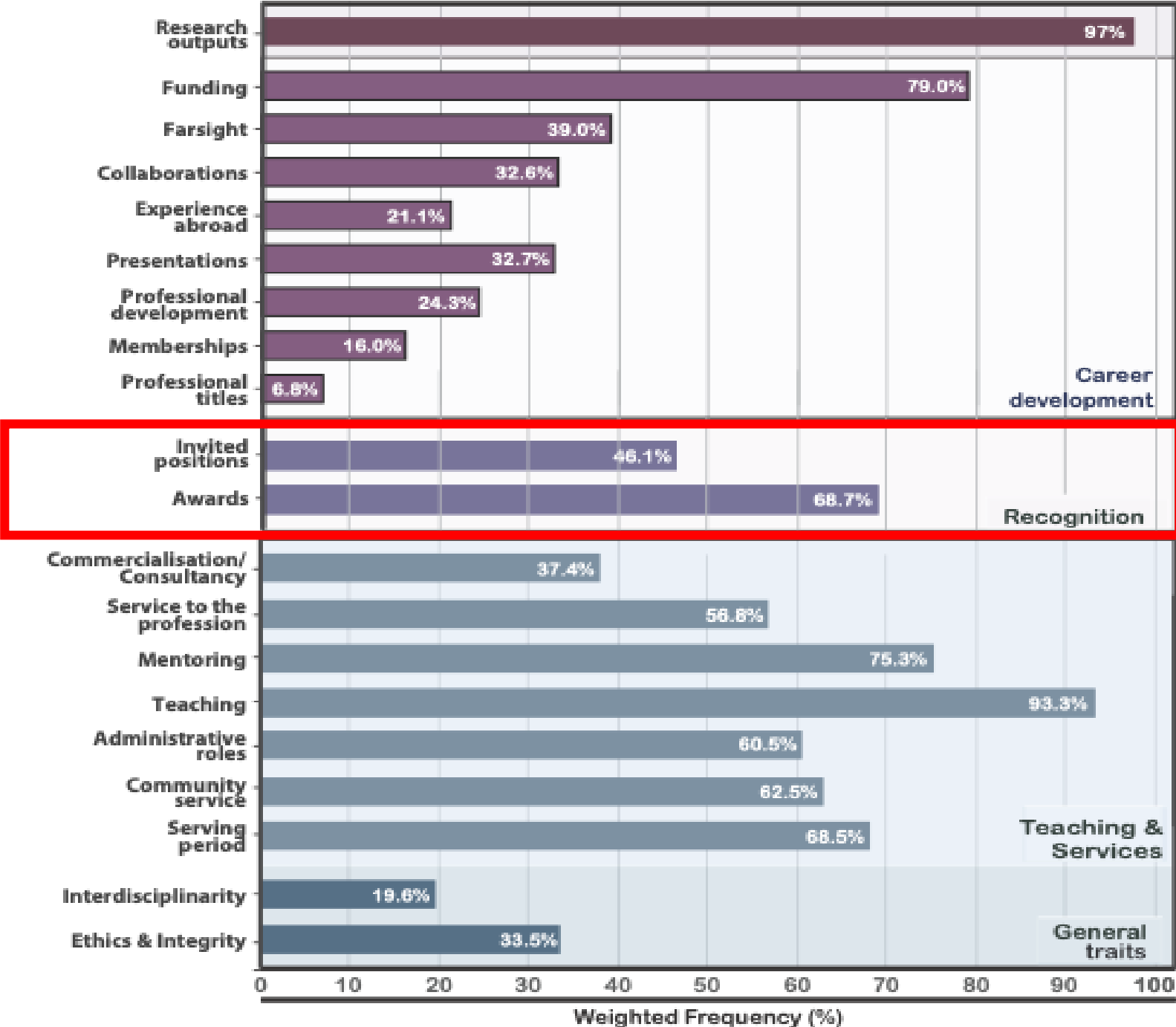


General outlook

30 prevalent criteria

5 categories

- Career Development
- Recognition

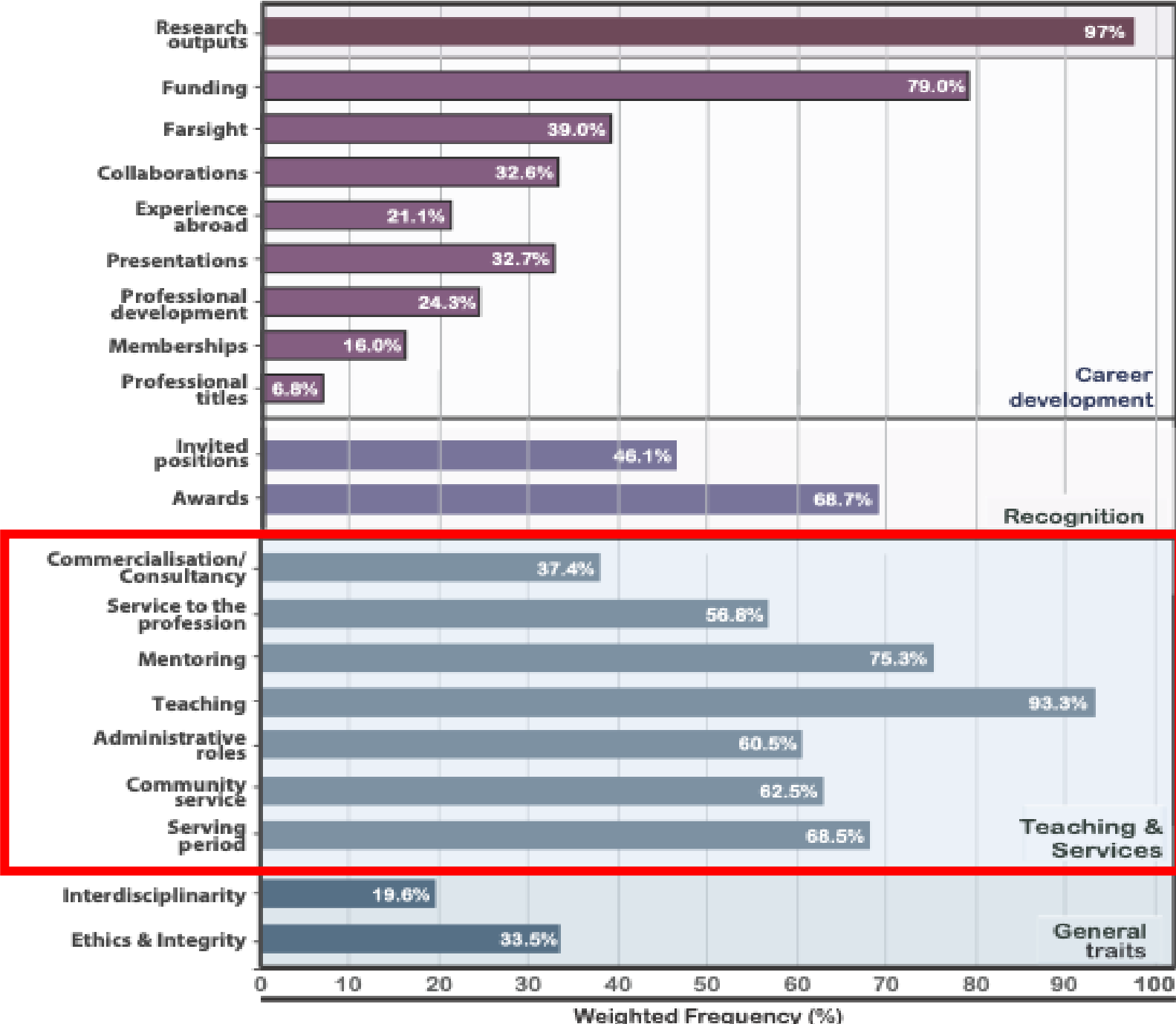


General outlook

30 prevalent criteria

5 categories

- Career Development
- Recognition
- Teaching & services

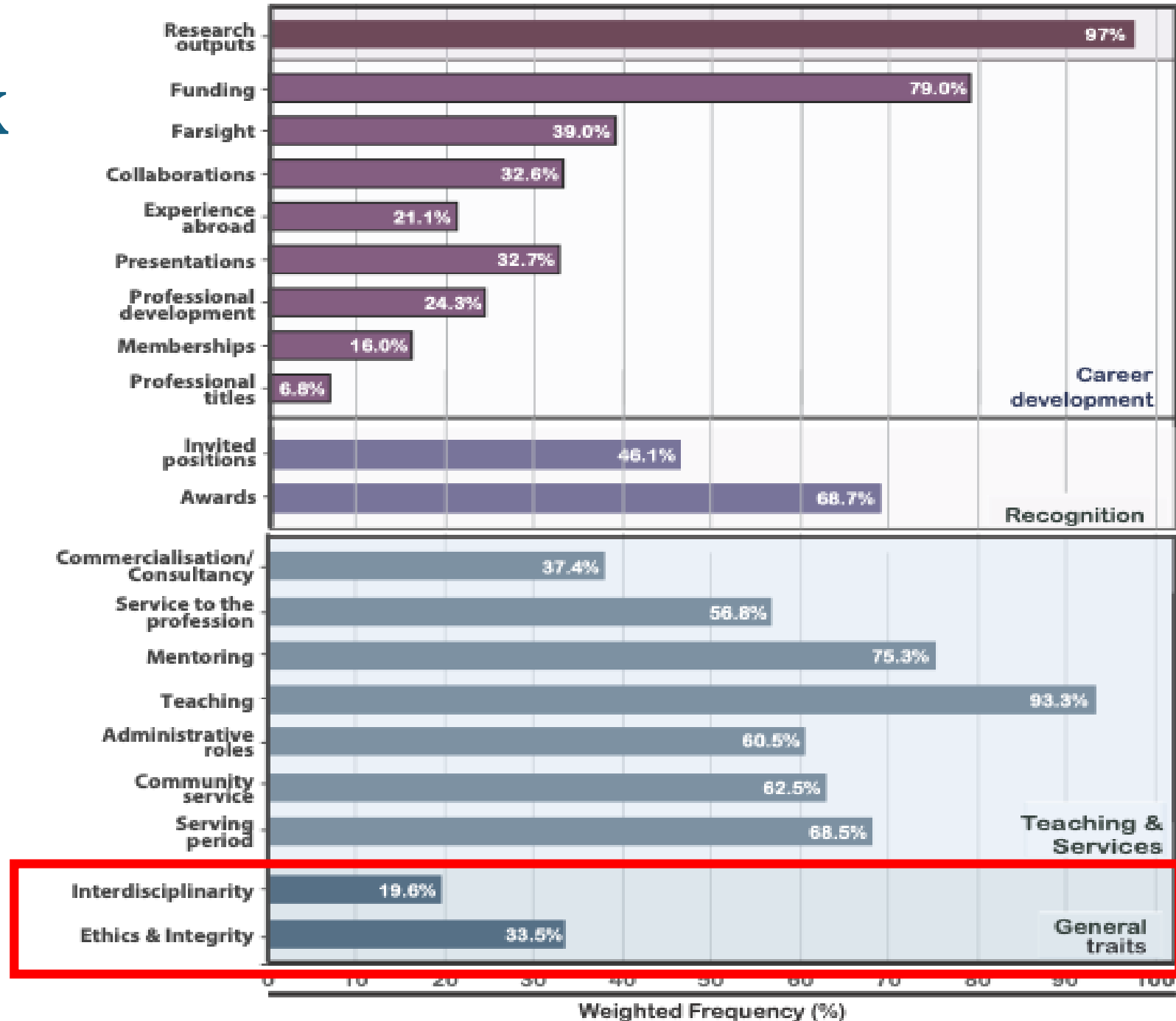


General outlook

30 prevalent criteria

5 categories

- Career Development
- Recognition
- Teaching & services
- General traits

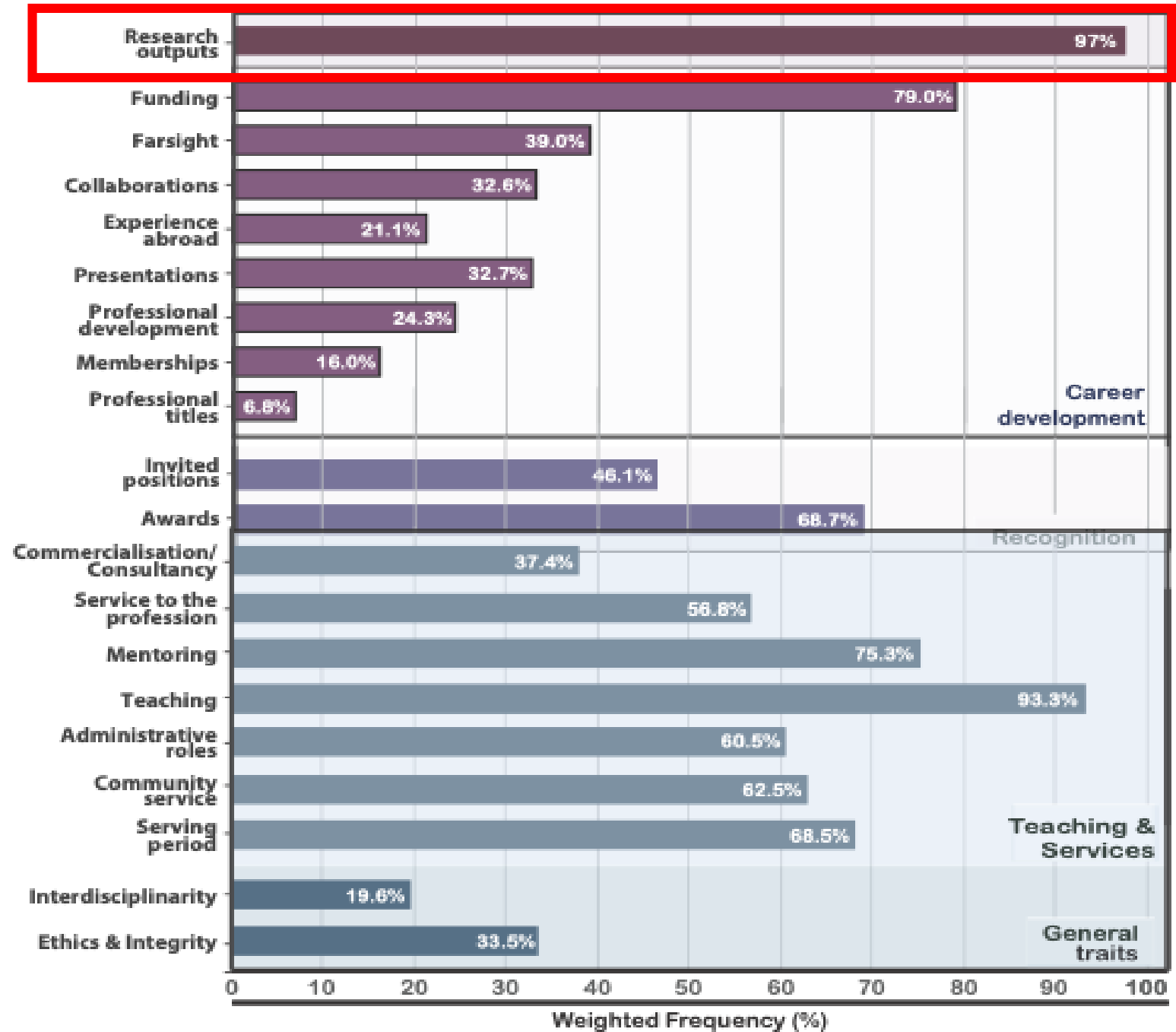


General outlook

30 prevalent criteria

5 categories

- Career Development
- Recognition
- Teaching & services
- General traits
- Research outputs – playing a central role (97%)



General outlook

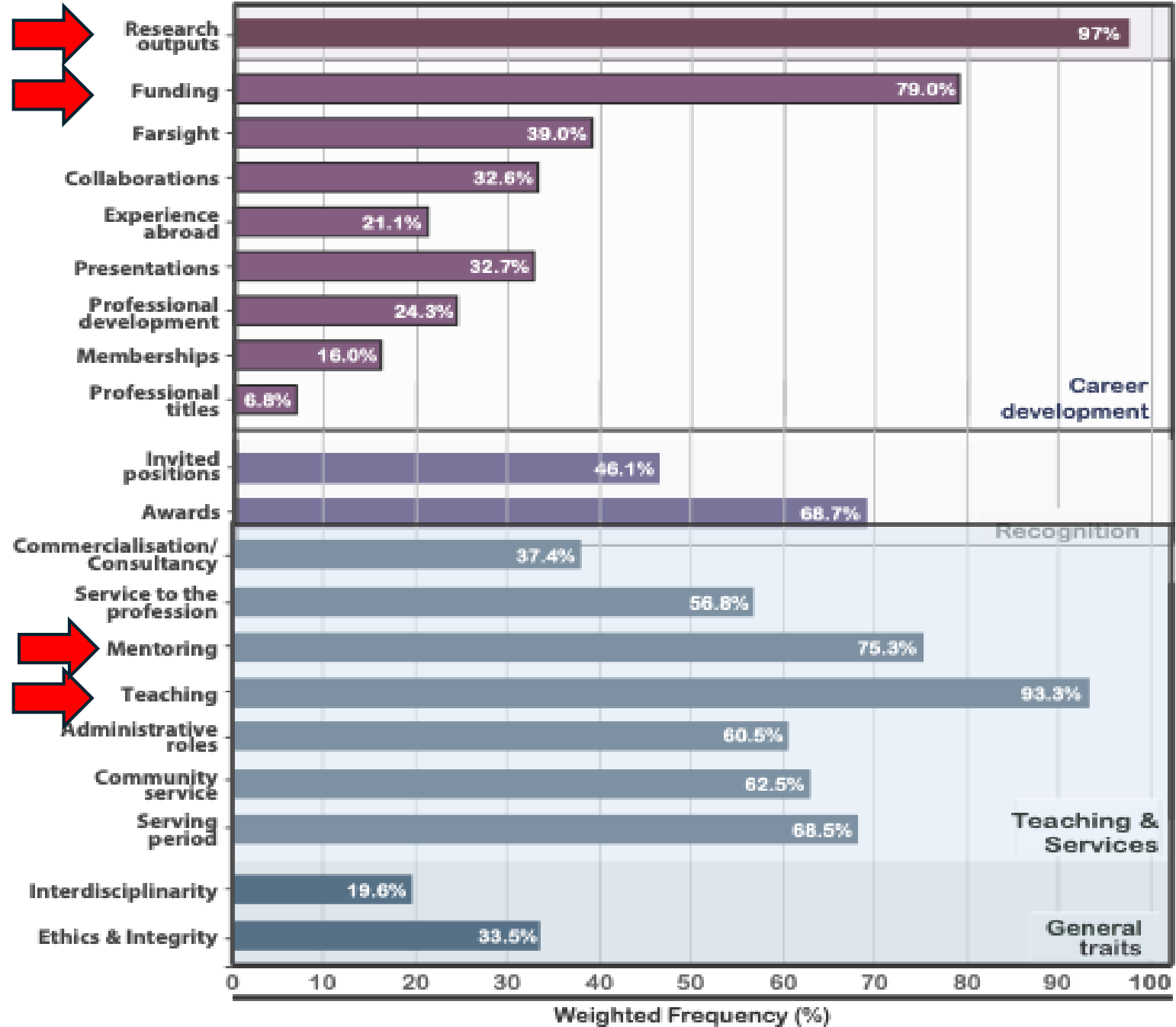
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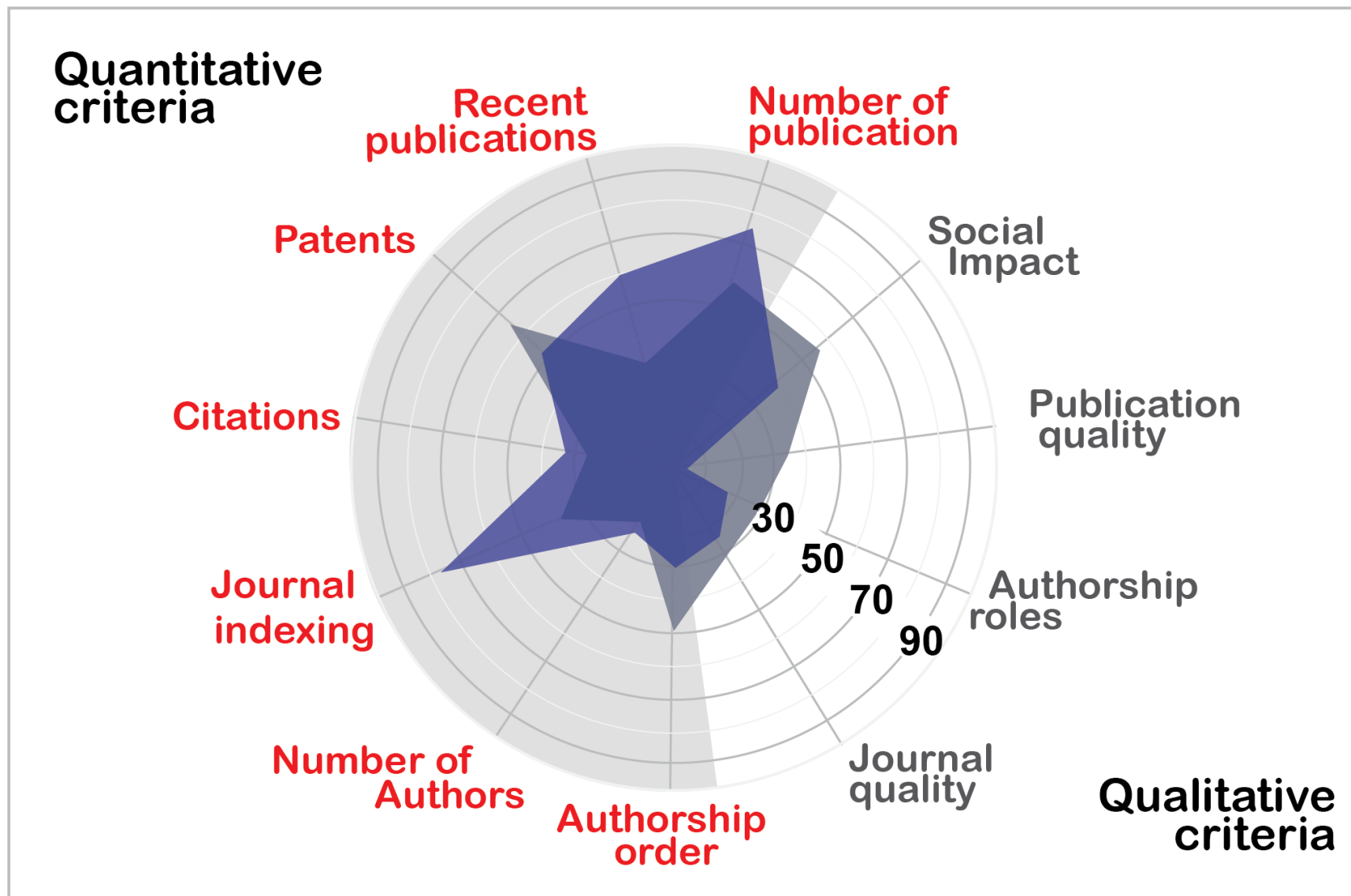
- Career Development
- Recognition
- Teaching & services
- General traits
- Research outputs

Most prevalent:

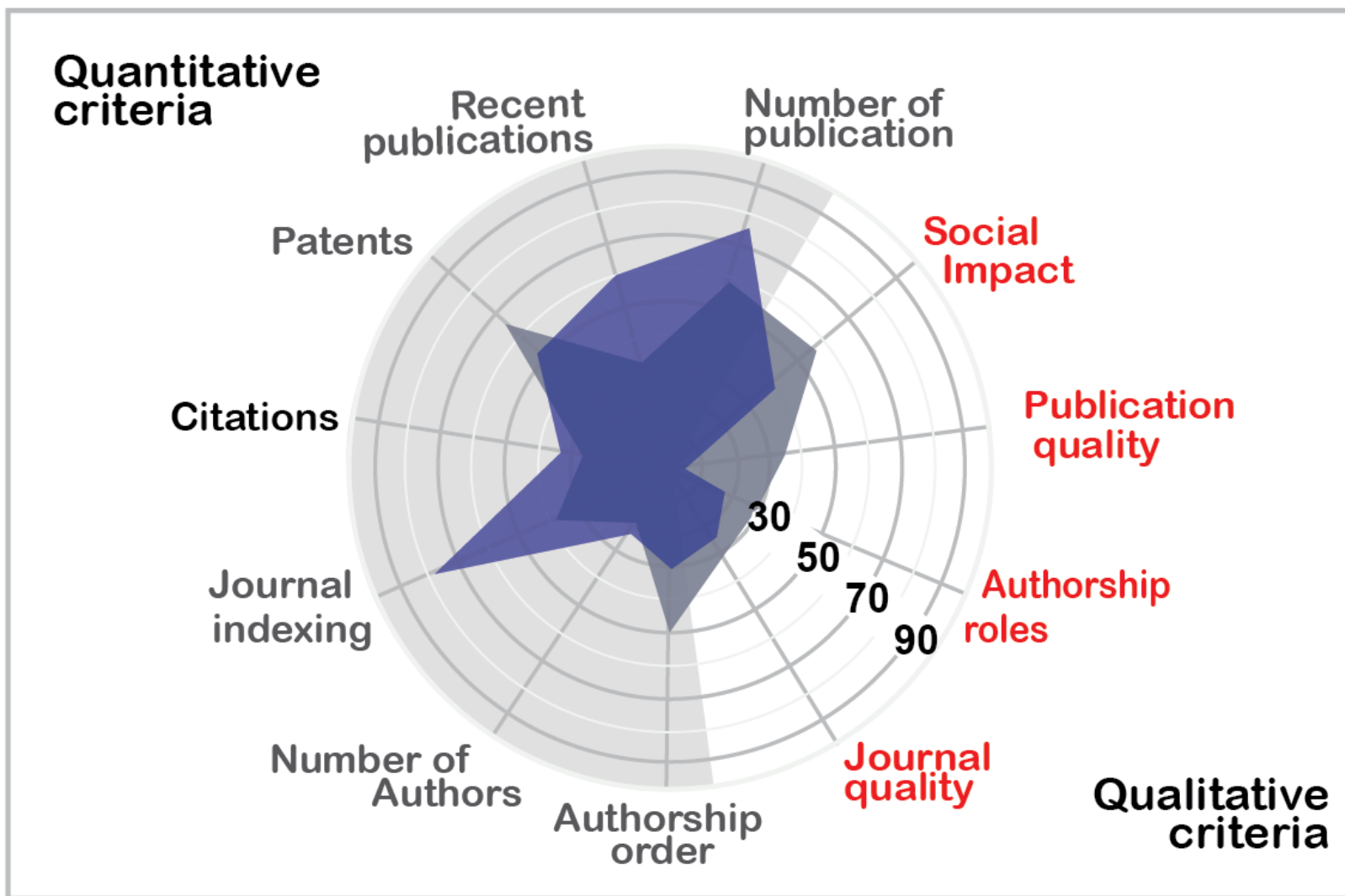
- Research outputs
- Funding
- Teaching
- Mentoring



Research Outputs

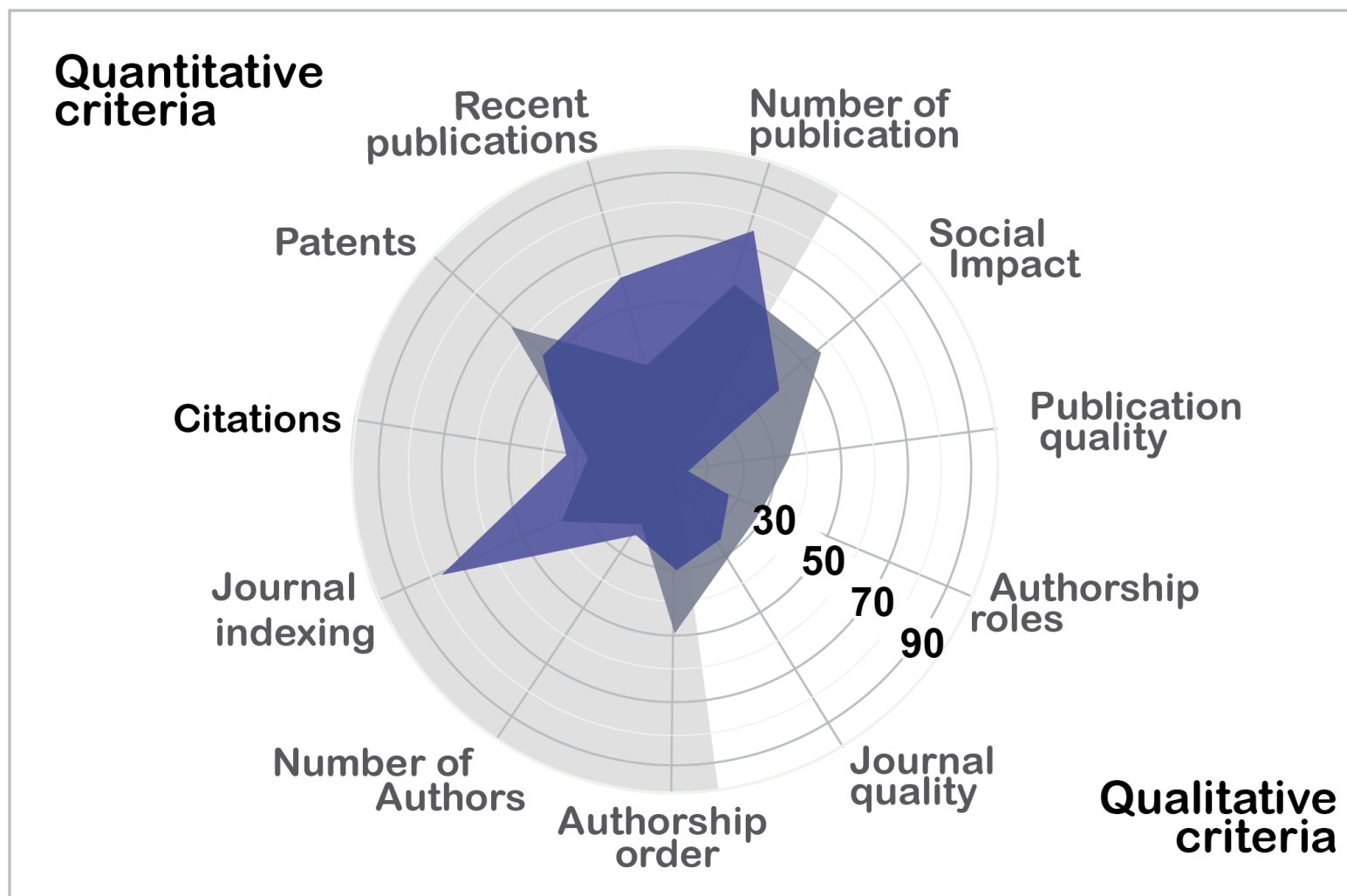


Research Outputs



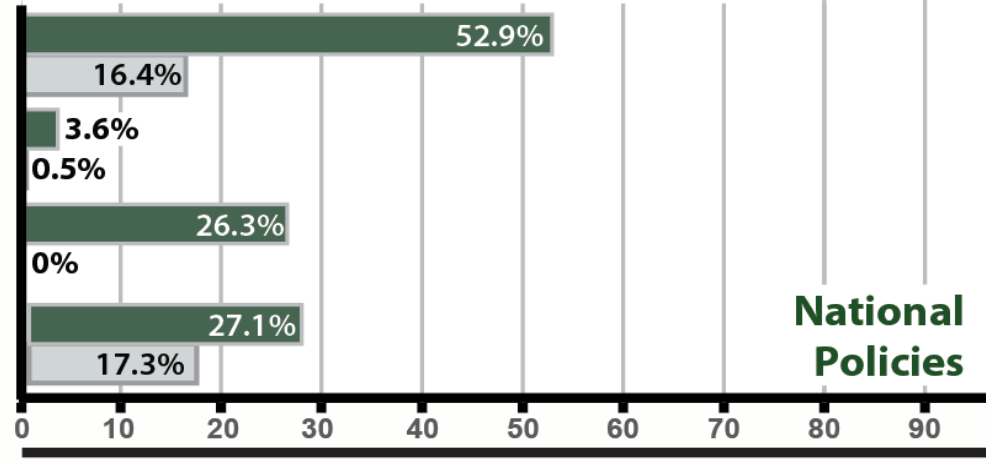
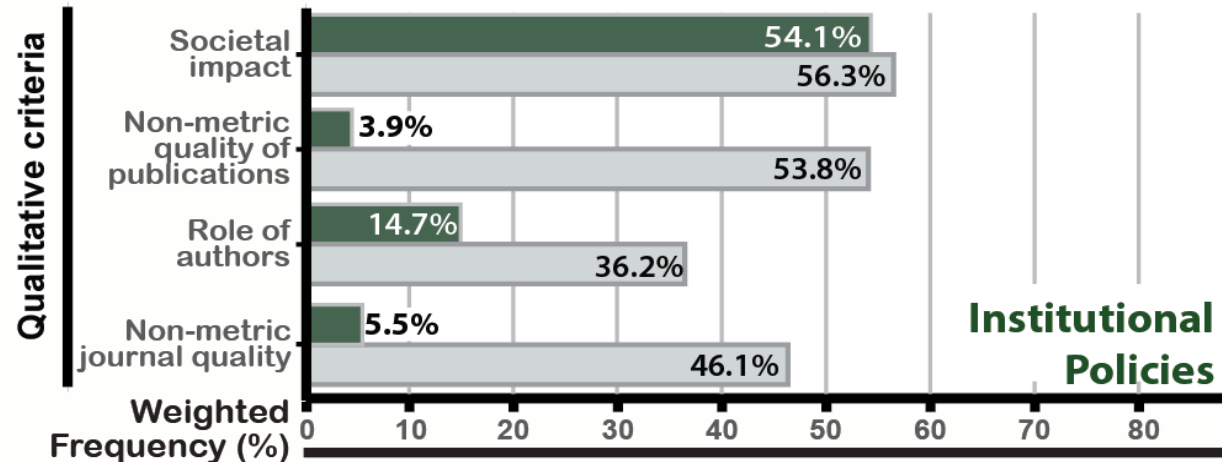
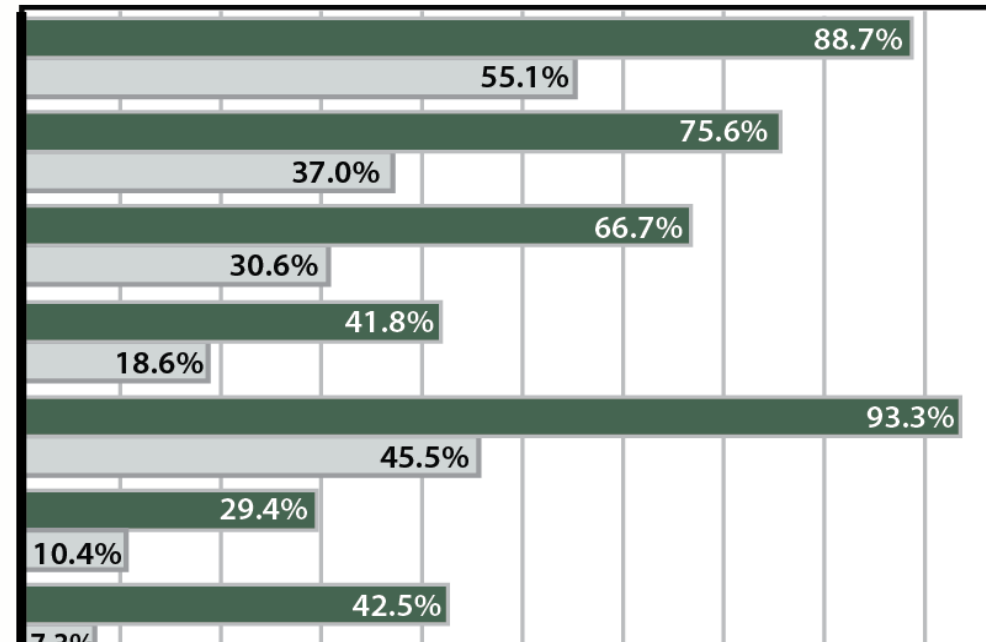
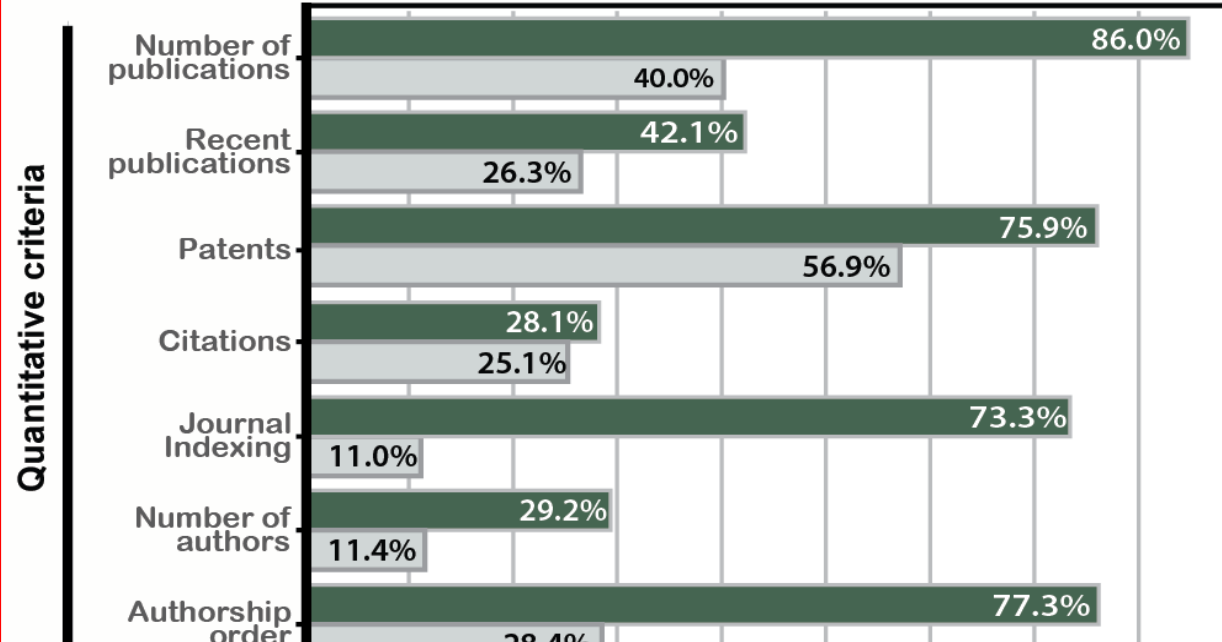
Research Outputs

Both National and Institutional policies rely heavily on quantitative indicators



Research Outputs

■ Global South
■ Global North

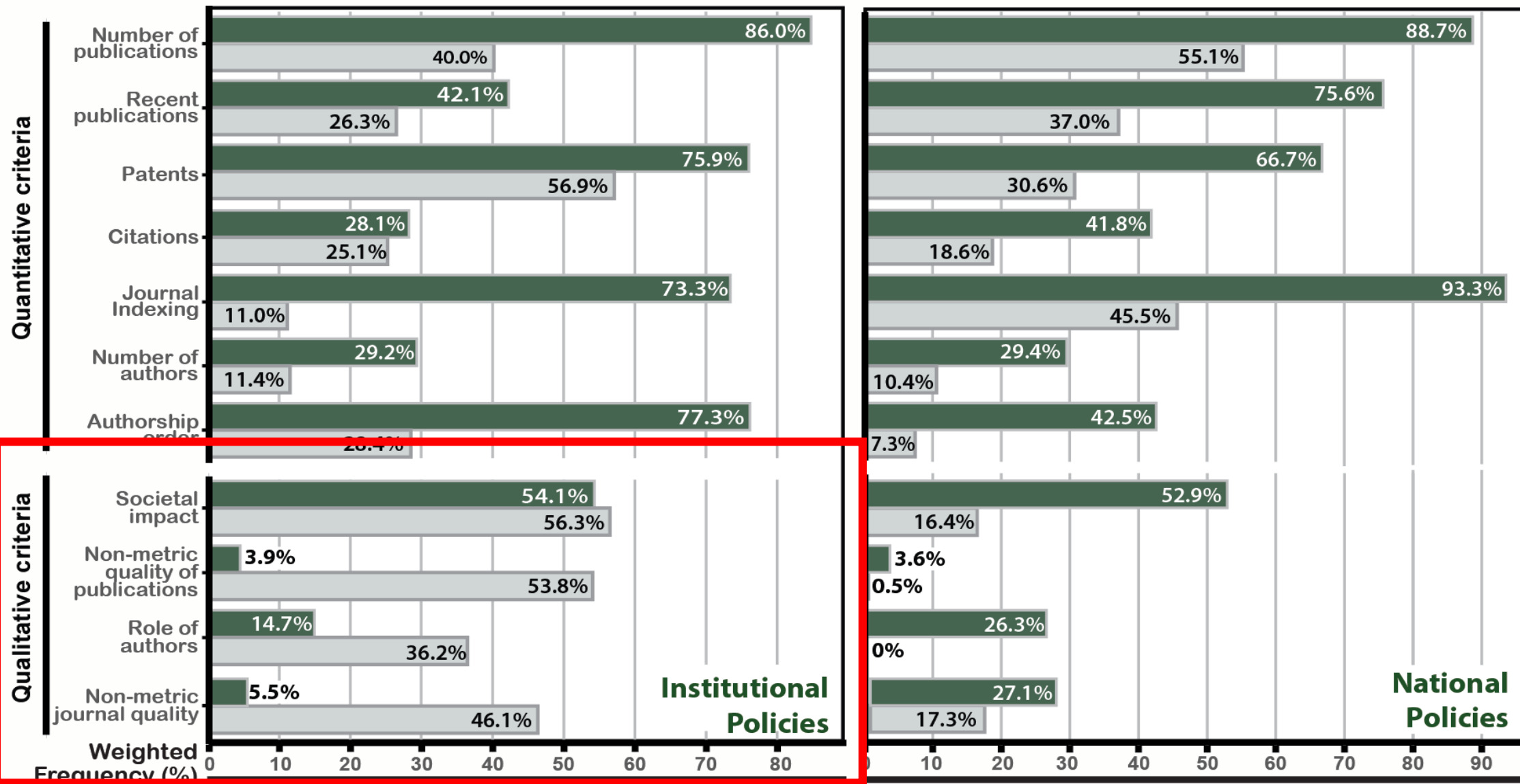


Weighted Frequency (%)

0 10 20 30 40 50 60 70 80 90

Research Outputs

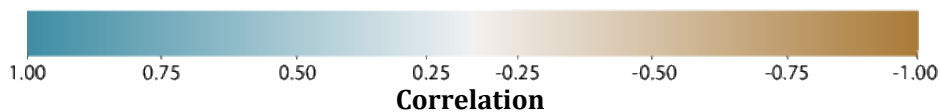
■ Global South
■ Global North



Co-occurrence of evaluation criteria

The same criteria tend to clustered together in the same documents

- Narrow focus
- Less emphasis in diversity of candidates profiles

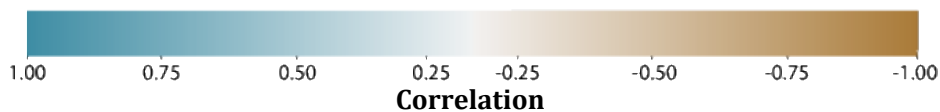


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RESEARCH OUTPUTS	Number of publications	0.87			
	Recent publications	0.69			
	Patents				0.87
	Citations	0.35		0.64	
	Journal Indexing	0.58	-0.34		0.52
	Number of authors	0.71		0.47	
	Authorship order	0.85			
	Societal impact		0.84		-0.40
	Non-metric quality of publications		0.75		
	Role of authors	-0.84			
CAREER DEVELOPMENT	Non-metric journal quality				0.66
	Funding			-0.62	0.64
	Farsight				0.72
	Collaborations	-0.30	0.45		0.36
	Experience abroad			0.78	
	Presentations		0.57		
	Professional development			0.75	
	Memberships		0.62		
RC	Professional titles	-0.31		0.35	
	Invited positions	-0.58	0.43		
SERVICES	Awards	0.51	0.69		
	Commercialisation/ Consultancy				0.56
	Service to the profession	-0.56		0.69	
	Mentoring	-0.47		0.46	0.33
	Teaching				
	Administrative roles	-0.55	0.31		0.32
	Community service		0.80		
GT	Serving period			-0.60	
	Interdisciplinarity	-0.48	0.58		
	Ethics & Integrity	0.35			

Co-occurrence of evaluation criteria

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Output Metrics: Number of publications, number of authors, and journal index

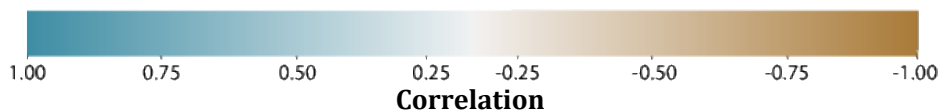


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Outcomes & Impact: Patents, funding, and foresight.



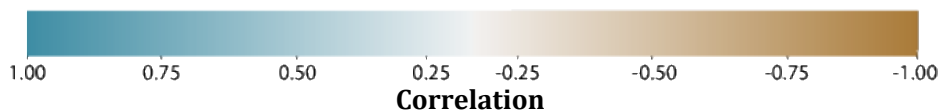
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Professional development: accumulated citations, experience abroad, service to the profession



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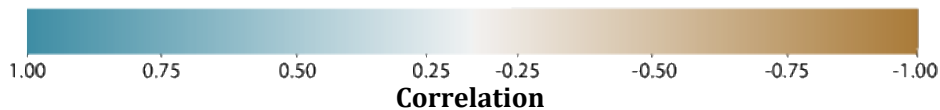
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Professional development: accumulated citations, experience abroad, service to the profession

Visibility & engagement: social impact, community engagement, qualitative aspects of outputs

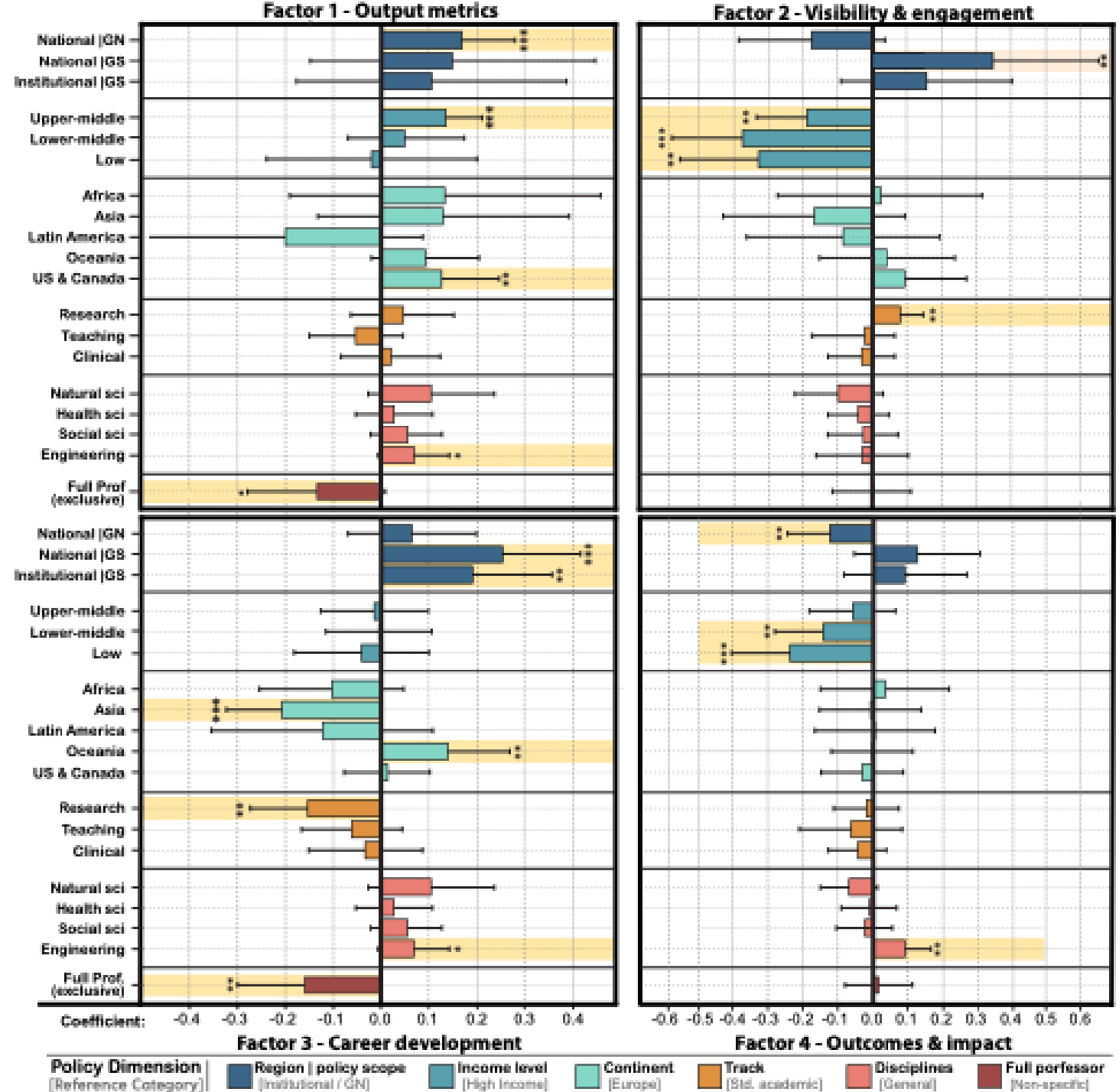


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Influence in the choice of criteria

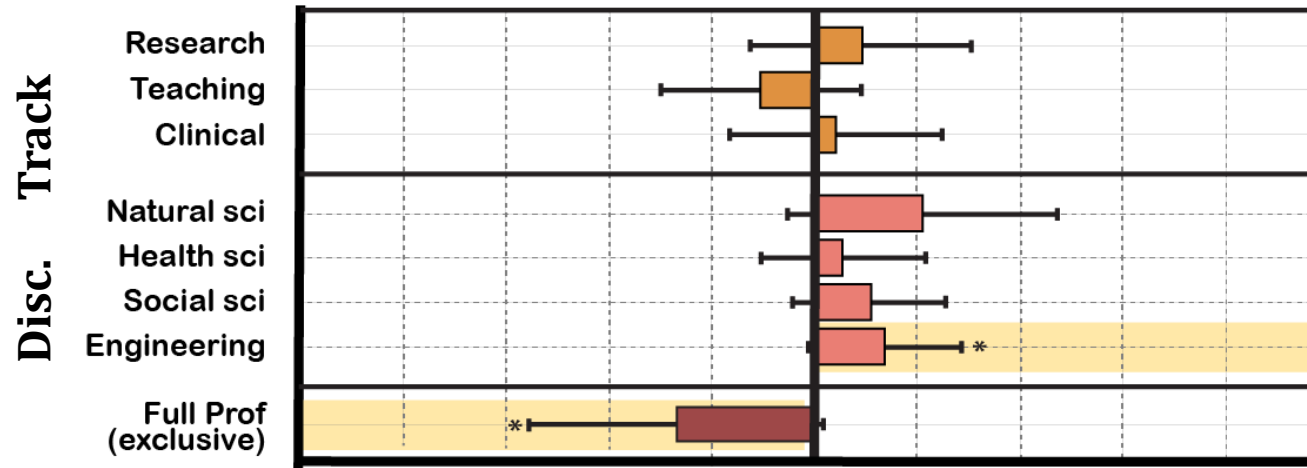
Regression analysis to analyse factors that influence the policy.

- **Context related:** Global Region, Policy Scope Continents, Economic status
- **Job related:** Discipline, track and rank

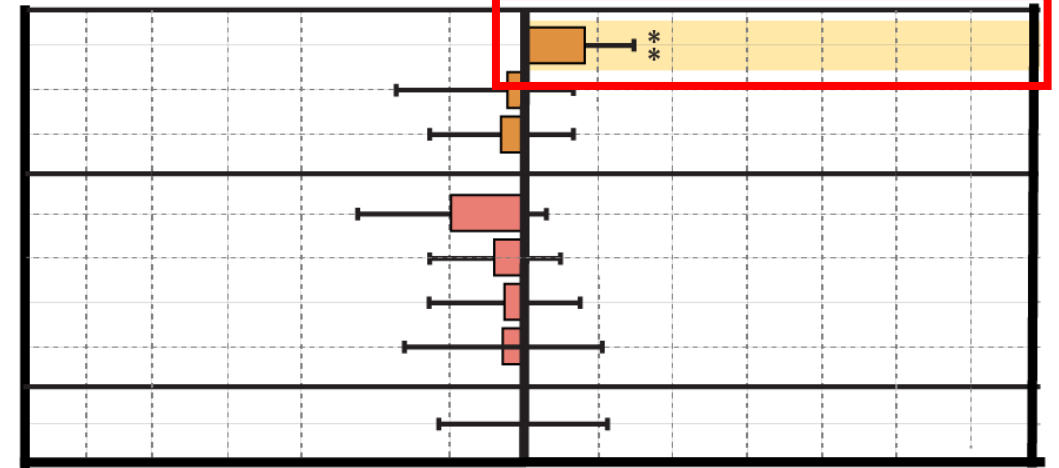


Job characteristics, such as *disciplines, career tracks and rank* were not a significant determinant of the criteria assessed

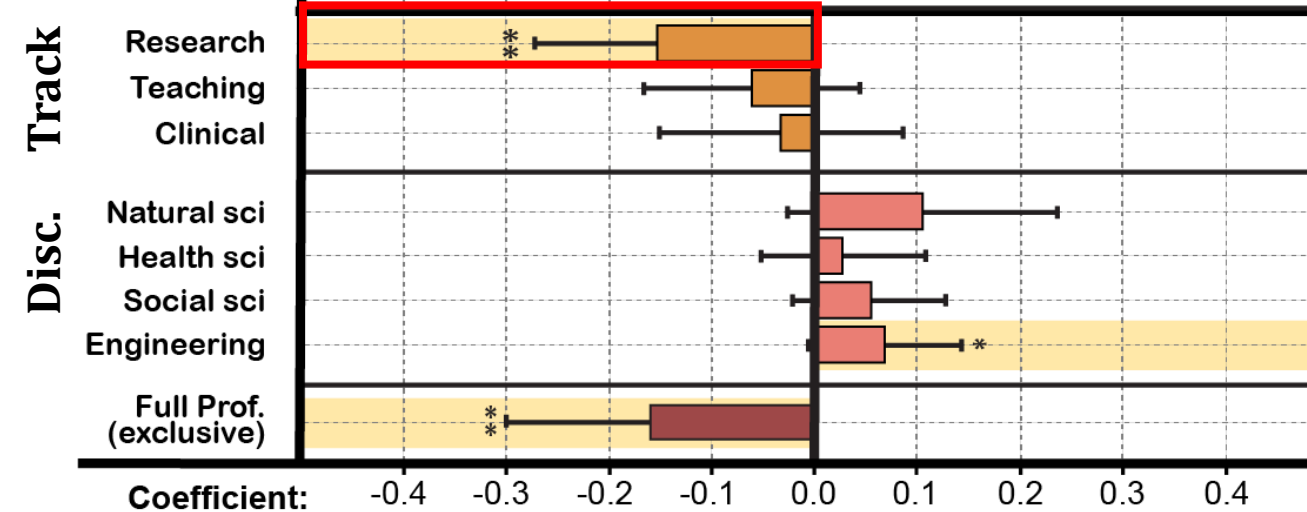
Factor 1 - Output metrics



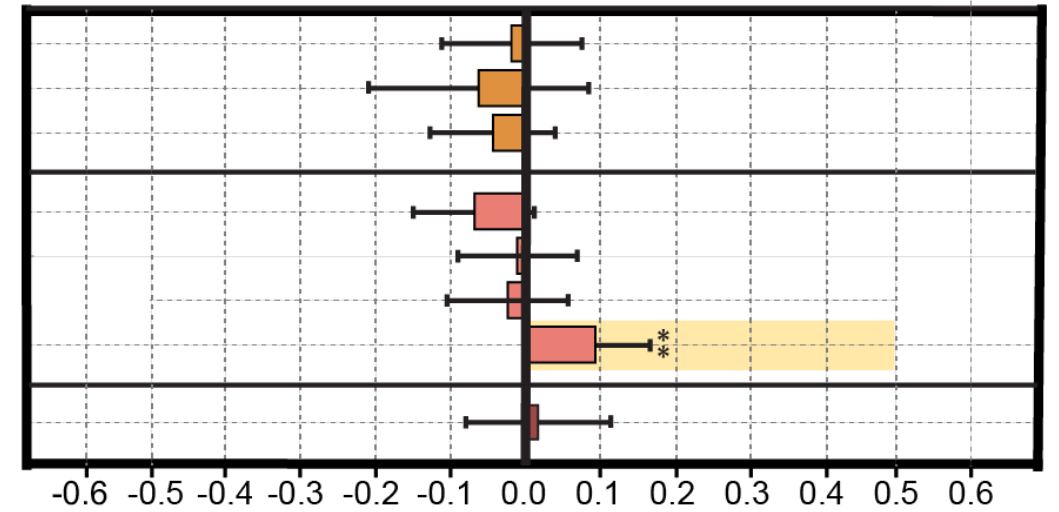
Factor 2 - Visibility & engagement



Factor 3 - Career development

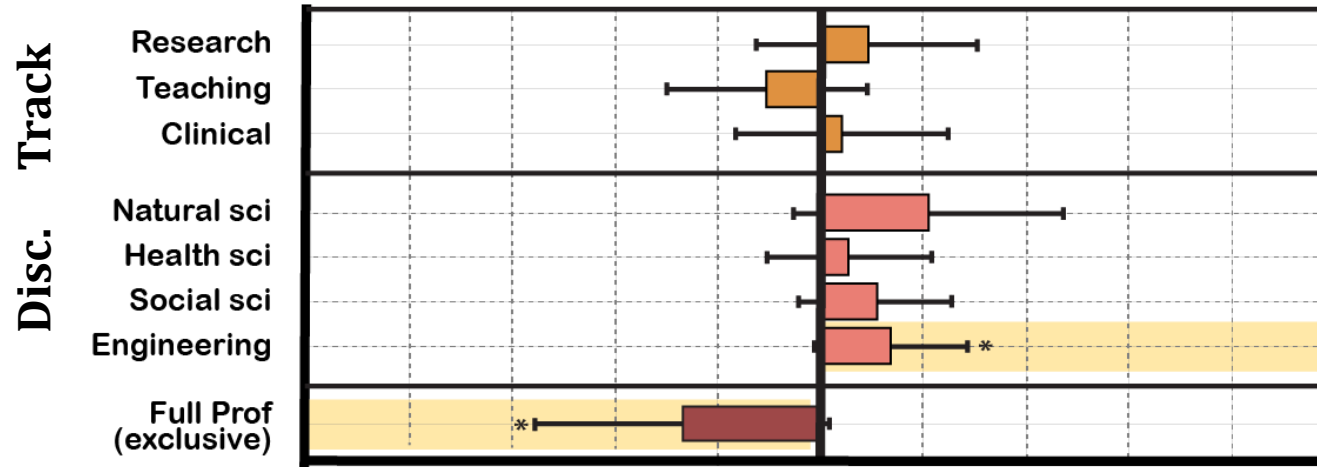


Factor 4 - Outcomes & impact

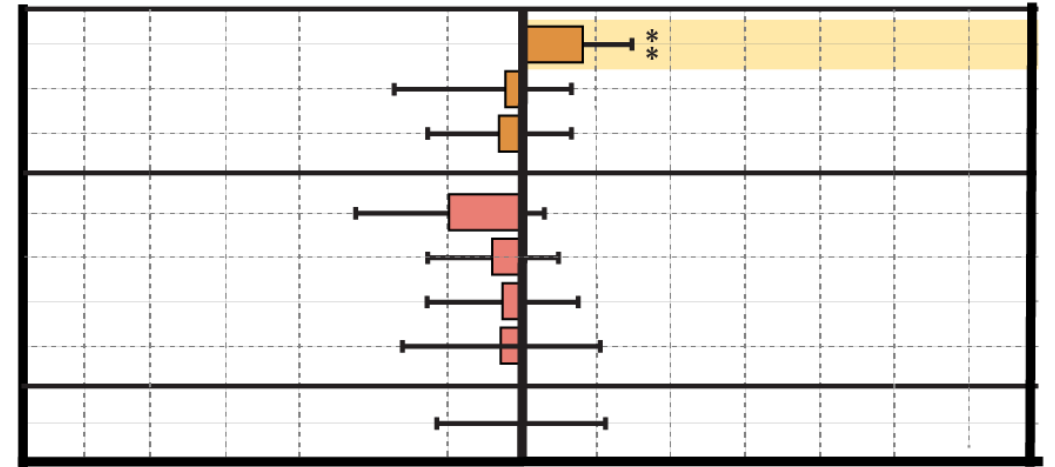


Job characteristics, such as *disciplines, career tracks and rank* were not a significant determinant of the criteria assessed - *only research track and engineering showed differences*

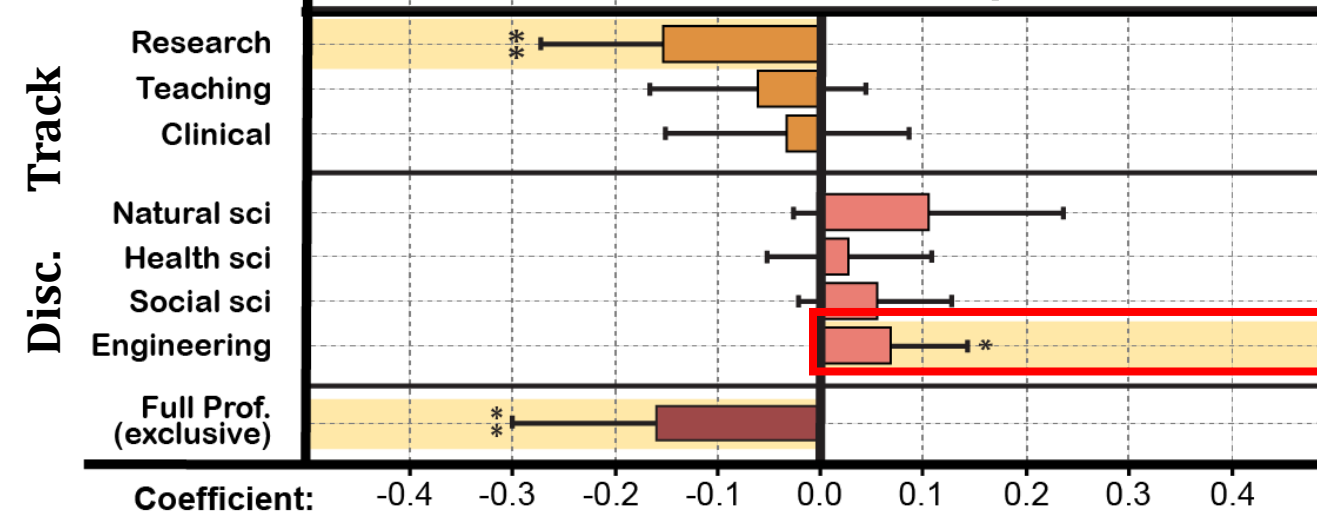
Factor 1 - Output metrics



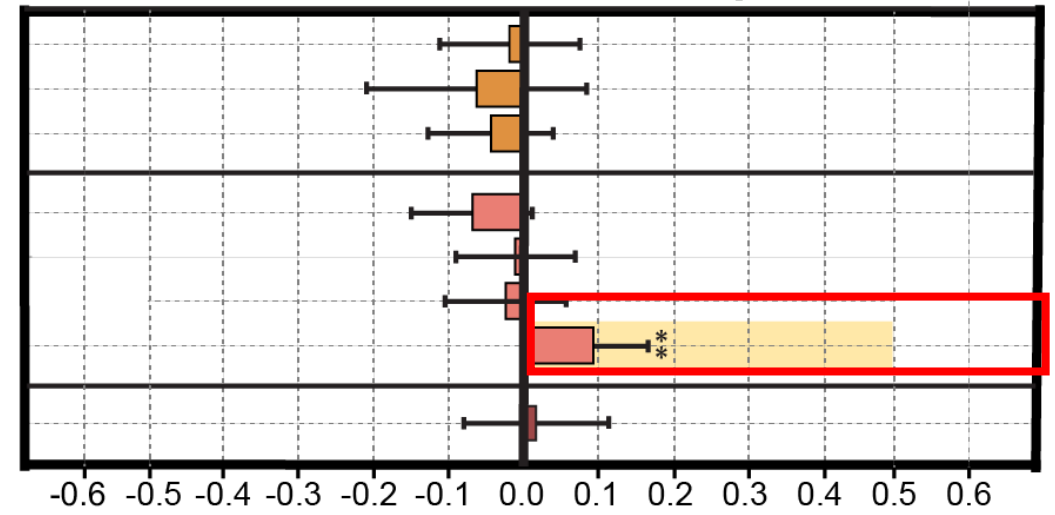
Factor 2 - Visibility & engagement



Factor 3 - Career development



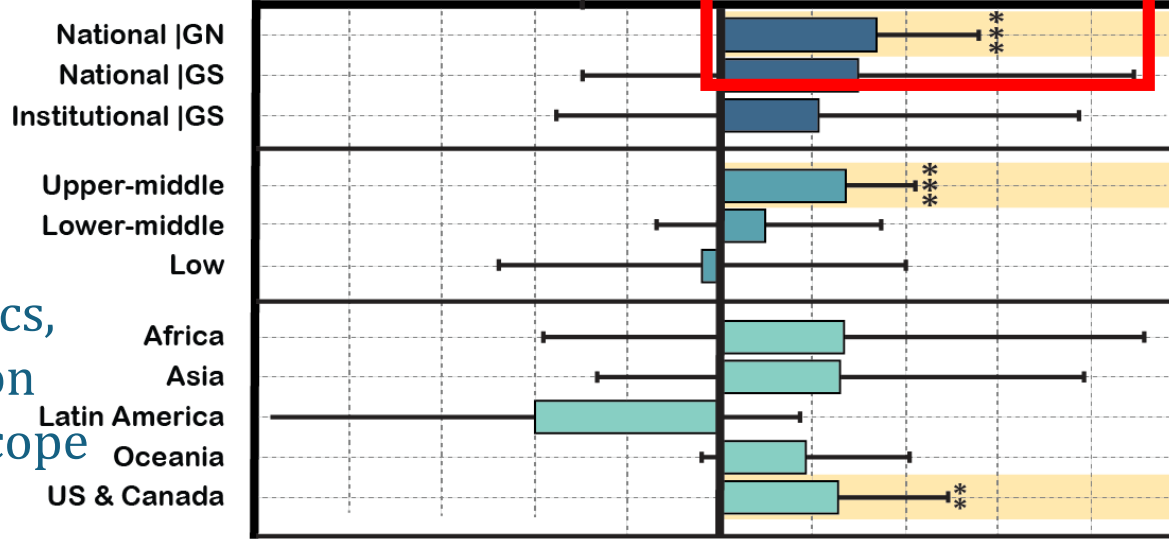
Factor 4 - Outcomes & impact



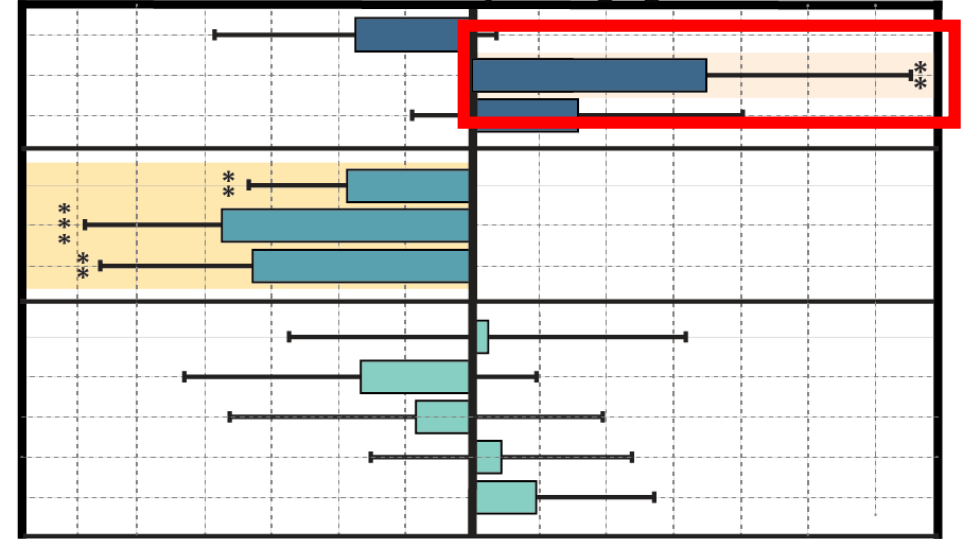
Global regions and policy scope

Contextual social characteristics, such as region and policy scope had greater effect in determining the criteria of evaluation ...

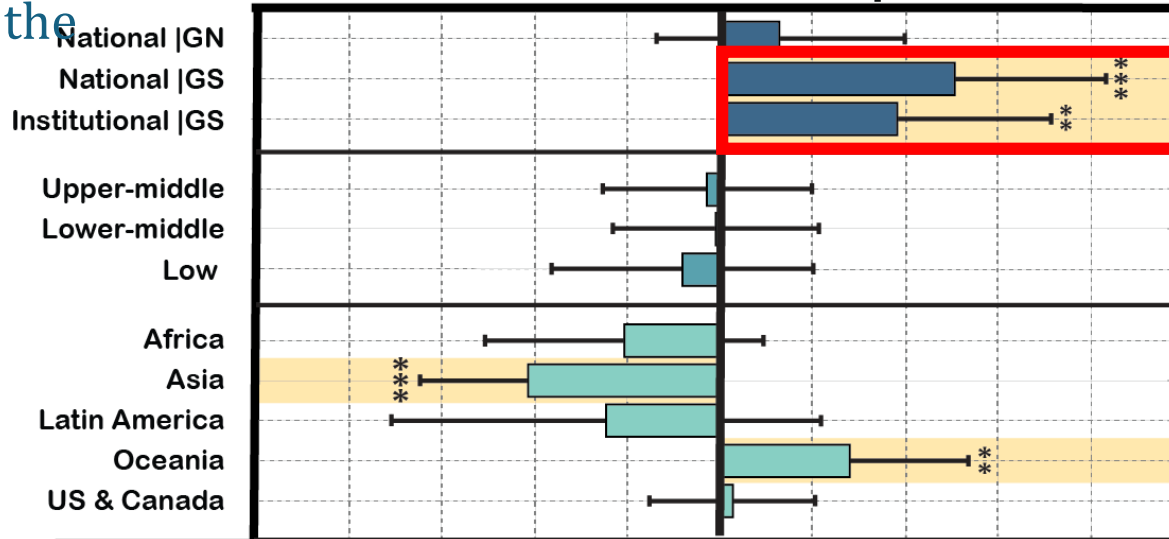
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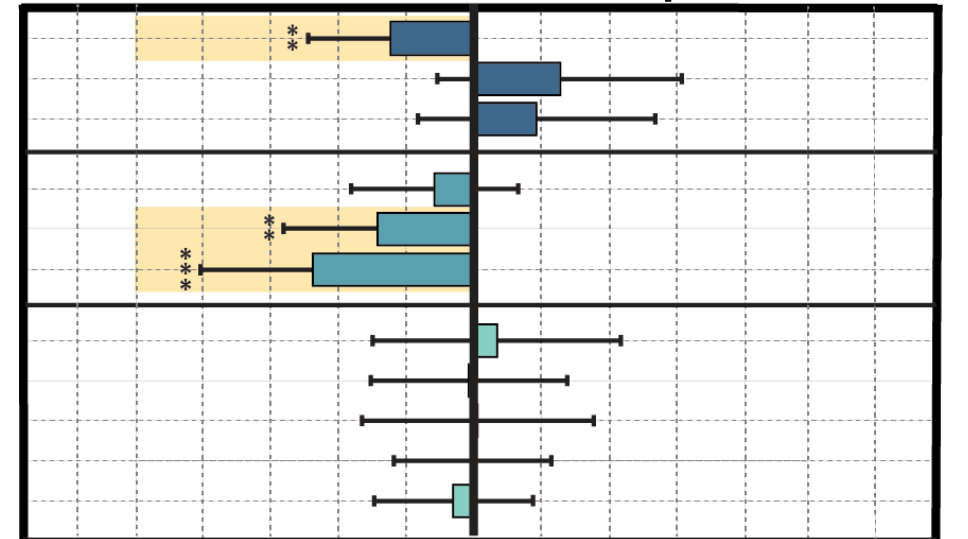
Factor 2 - Visibility & engagement



Factor 3 - Career development



Factor 4 - Outcomes & impact



Coefficient:

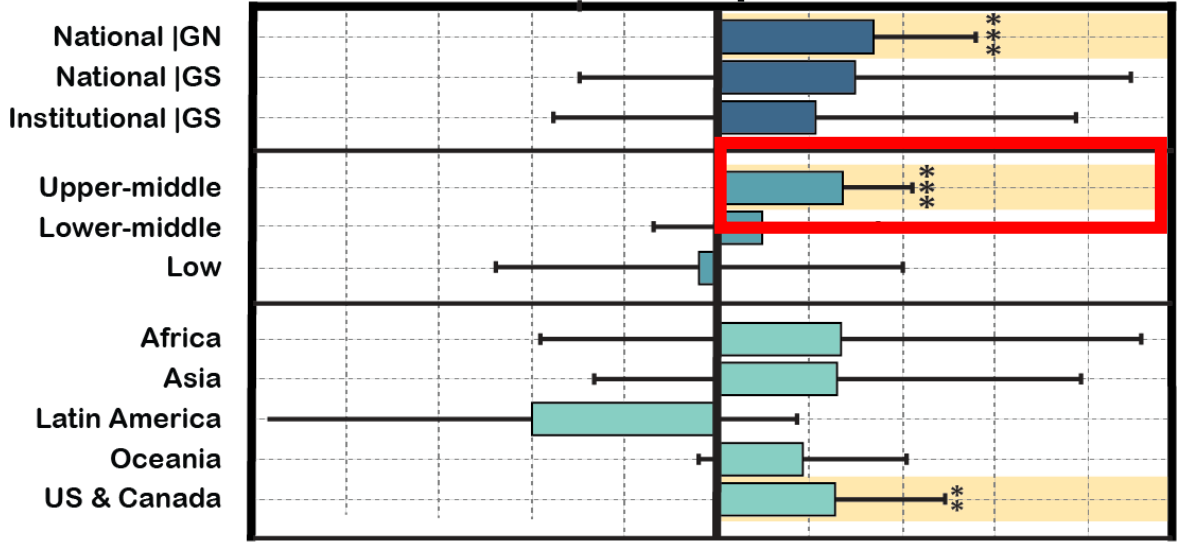
-0.4 -0.3 -0.2 -0.1 0.0 0.1 0.2 0.3 0.4

-0.6 -0.5 -0.4 -0.3 -0.2 -0.1 0.0 0.1 0.2 0.3 0.4 0.5 0.6

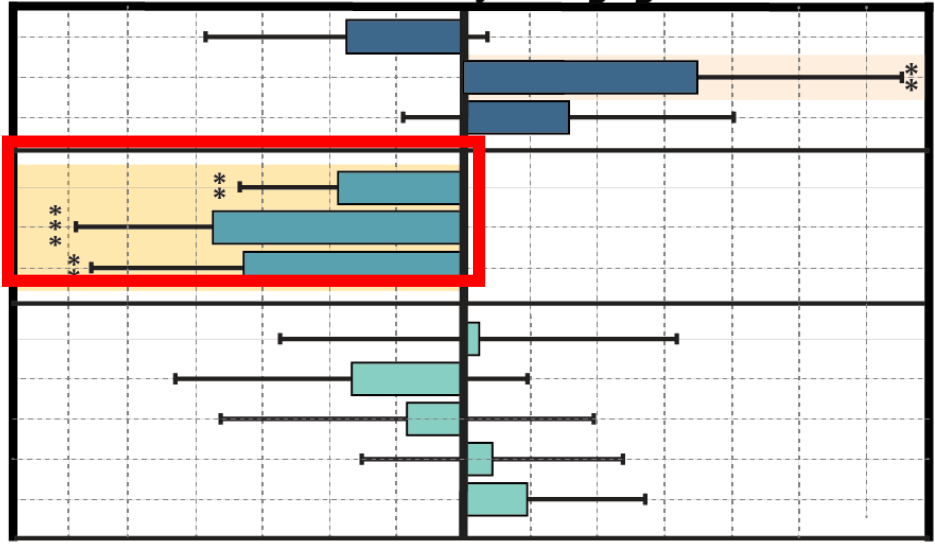
Economic status

... With differences driven mainly by socio-economic status, culture, and institutional priorities

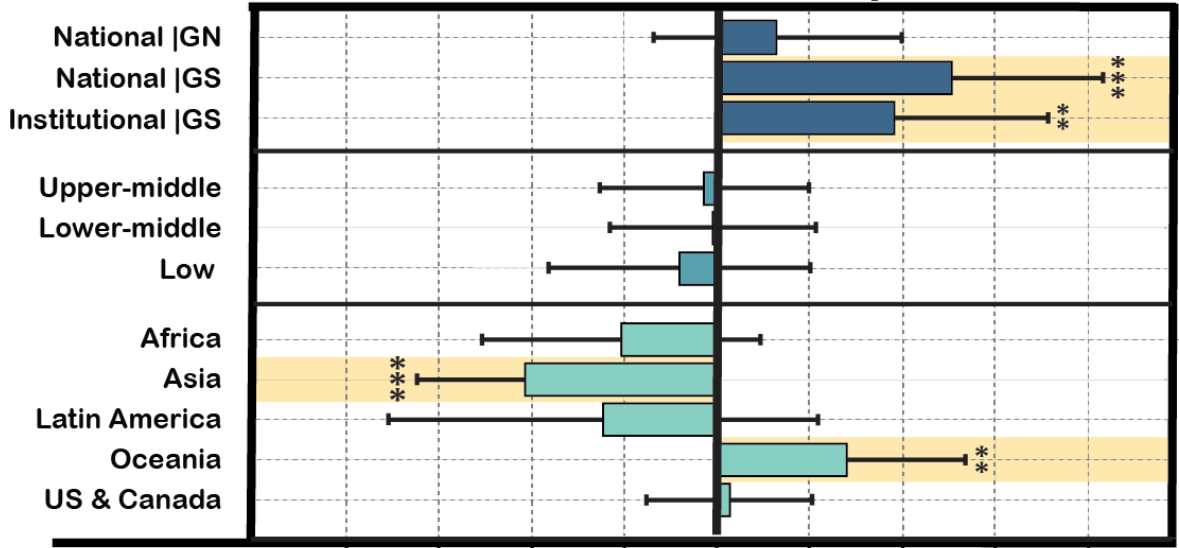
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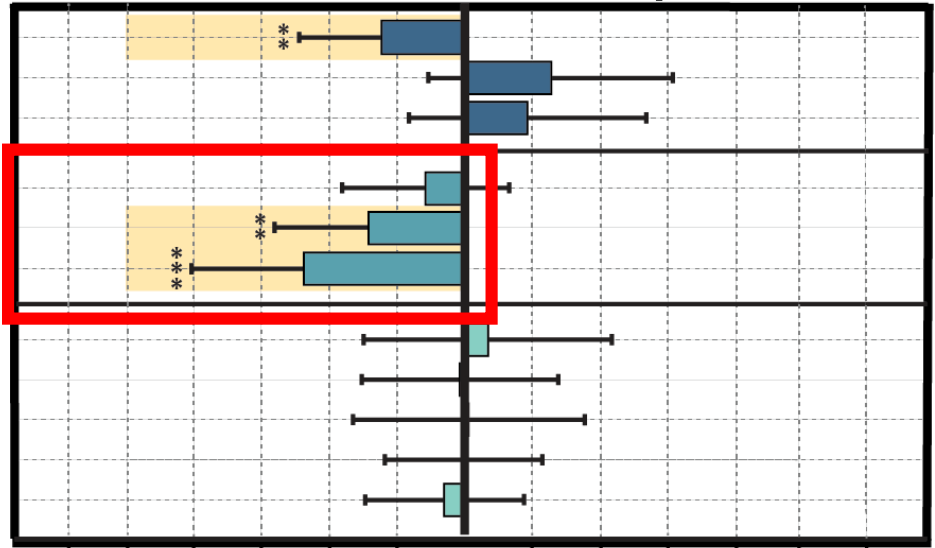
Factor 2 - Visibility & engagement



Factor 3 - Career development



Factor 4 - Outcomes & impact



Coefficient:

-0.4 -0.3 -0.2 -0.1 0.0 0.1 0.2 0.3 0.4

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Main takeaways

1. Promotion criteria are not uniform, and vary across institutions, and countries
2. Each policy show a preferred clusters of criteria, remarking on the lack of diversity in qualities sought per institution
3. The pronounced differences are not between job related factors, but by the context of where the researcher will be evaluated.
4. Scientometrics are most popular in upper-middle income countries.



Thank you!

Co-authors, GYA members and alumni, GYA office

Lidia Borrell-Damian

Science Europe, CoARA

Values as a foundation for positive action & international collaboration



Ensuring that values at the heart of our research systems are reflected in policies and practices.



Values as a foundation for positive action & international collaboration



Research and Innovation Careers Observatory

Bringing research policy topics together to promote healthy and effective research cultures.



Values as a foundation for positive action & international collaboration



All in support of the quality and impact of research.

COARA – Coalition for the advancement of research assessment



4 core Commitments

1. **Recognise the diversity of contributions** to, and careers in, research, in accordance with the needs and the nature of the research.
2. **Base research assessment primarily on qualitative evaluation for which peer-review is central**, supported by responsible use of quantitative indicators.
3. **Abandon the inappropriate uses in research assessment of journal- and publication-based metrics**, in particular the inappropriate uses of journal impact factor (JIF) and *h*-index.
4. **Avoid the use of rankings of research organisations** in research assessment.

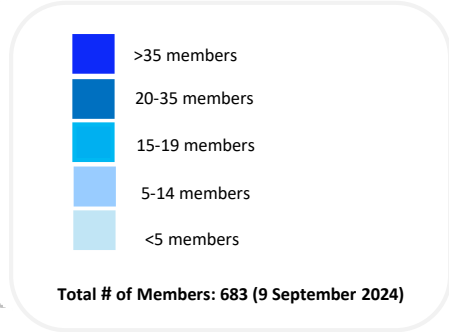
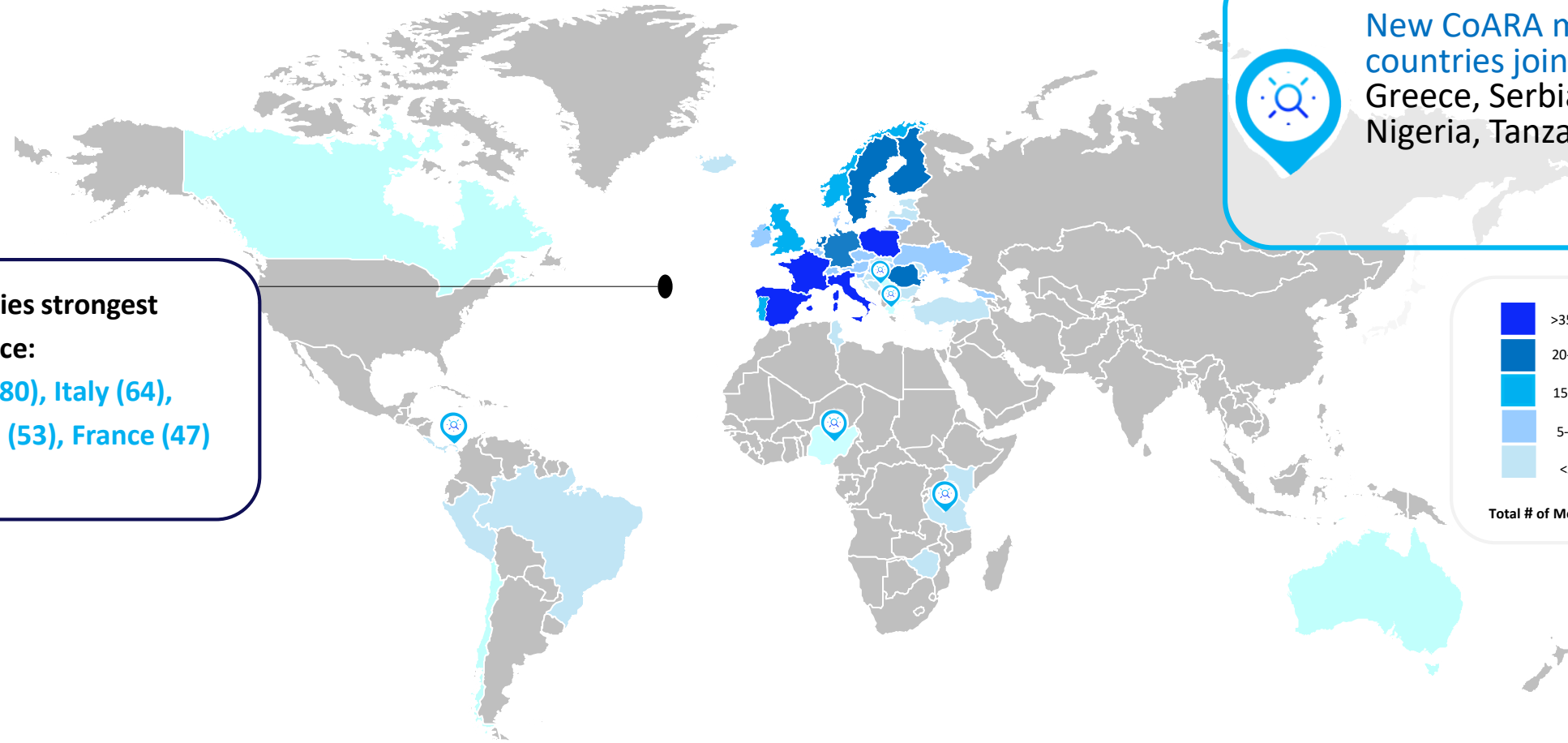
<https://coara.eu/>

Global expansion of CoARA



 New CoARA member countries joined in 2024: Greece, Serbia, Panama, Nigeria, Tanzania

Countries strongest presence:
Spain (80), Italy (64), Poland (53), France (47)



Advancing the discussion

It is important to advance simultaneously and coherently the national and institutional policies on Open Science, Research Culture and Research Assessment

European National research funding and research performing organisations are actively shaping and contributing to concepts and policy developments on open science and research assessment, and their practical implementation.

They share a direction, common drivers and challenges.

Their actions contribute to mutual learning, alignment, and policy and practice advances.

They also provide a perspective towards international research policy for a such as CoARA, the Global Research Council, the European Research Area Forum, and UNESCO.

Fang XU

Institutes of Science and Development, Chinese Academy of
Sciences(CAS),China

What/How is evaluated right now in China?

Evaluation on Personnel

- ❑ Talent Selection Plans: The 100-Talent Program, Thousand Talents Program, etc.
- ❑ Recruitment Evaluation
- ❑ Evaluation on promotion
- ❑ Appraisal of Academician and other honors
- ❑

Evaluation on Projects

- ❑ Evaluation on NSFC projects and other competitive projects
- ❑ Evaluation on fiscal expenditure projects required by Ministry of Finance
- ❑

Evaluation on Institutes

- ❑ Platform Selection and dynamic optimization, eg: National Laboratory
- ❑ CAS , CASS etc. evaluation of its research institutes
- ❑ Competitiveness evaluation of universities
- ❑ Funding performance and management assessment of NSFC
- ❑

Evaluation on Disciplines

- ❑ Discipline -Ranking by Ministry of Education
- ❑ Independent Discipline Evaluation by Universities itself, such as Tsinghua University, Peking University, Shanghai Jiaotong University, Zhejiang University, etc.
- ❑

What/How is evaluated right now in China?

Evaluation on Personnel

Evaluation on Projects

Evaluation on Institutes

Evaluation on Disciplines

❑ Talent Selection Plans:
The 100-Talent
Program

Talents

❑ Recruiting
Evaluation

❑ Evaluation
promotion

❑ Appraisal

Academician and other
honors

❑

❑ Evaluation on NSFC
projects and other

❑ Platform Selection and
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❑ Discipline -Ranking by
Ministry of Education

Discipline

self, such

university,

sity,

tong

University, Zhejiang
University, etc.

❑

Challenges

- Too many evaluations
- A change from quantitative to research quality, impact and contribution

❑ Funding performance and
management assessment
of NSFC

❑

What reform efforts are ongoing?——Joint efforts from government and scientific community

Government

- Reduce the quantities (~29% less)
- Po siwei Initiative (break paper-driven evaluations etc) by MOST, MOE, CAS, NSFC etc.
- Li Xinbiao (focus on research quality, impact and contribution, followed to DORA's concept)

Scientific Community

- NSFC: Responsible, Credit, Contribution (RCC) in project review
- HEIs: 2-year talent assessment pilot reform (12 RIs, 9 Universities across the whole country)
- CAS : Major research output oriented evaluation system, Mission-oriented research institute evaluation system

Main Priorities in research assessment in China

- Explore new and effective research assessment approaches in line with China's context : AI ?
- Building a culture of pursuing excellence in scientific research through research assessment related reforms: Open Data/Science, Responsible peer review, etc.
- Open to international scientific community and seek for knowledge exchanges and collaborations

Nosisa Dube

National Research Foundation South Africa
Evaluation and Impact Assessment Specialist

Director: Reviews and Evaluations

Global Research Council RRA Working Group (TFG1 Co-Lead)

RoRI Consortium (AGoRRA Co-Chairperson)

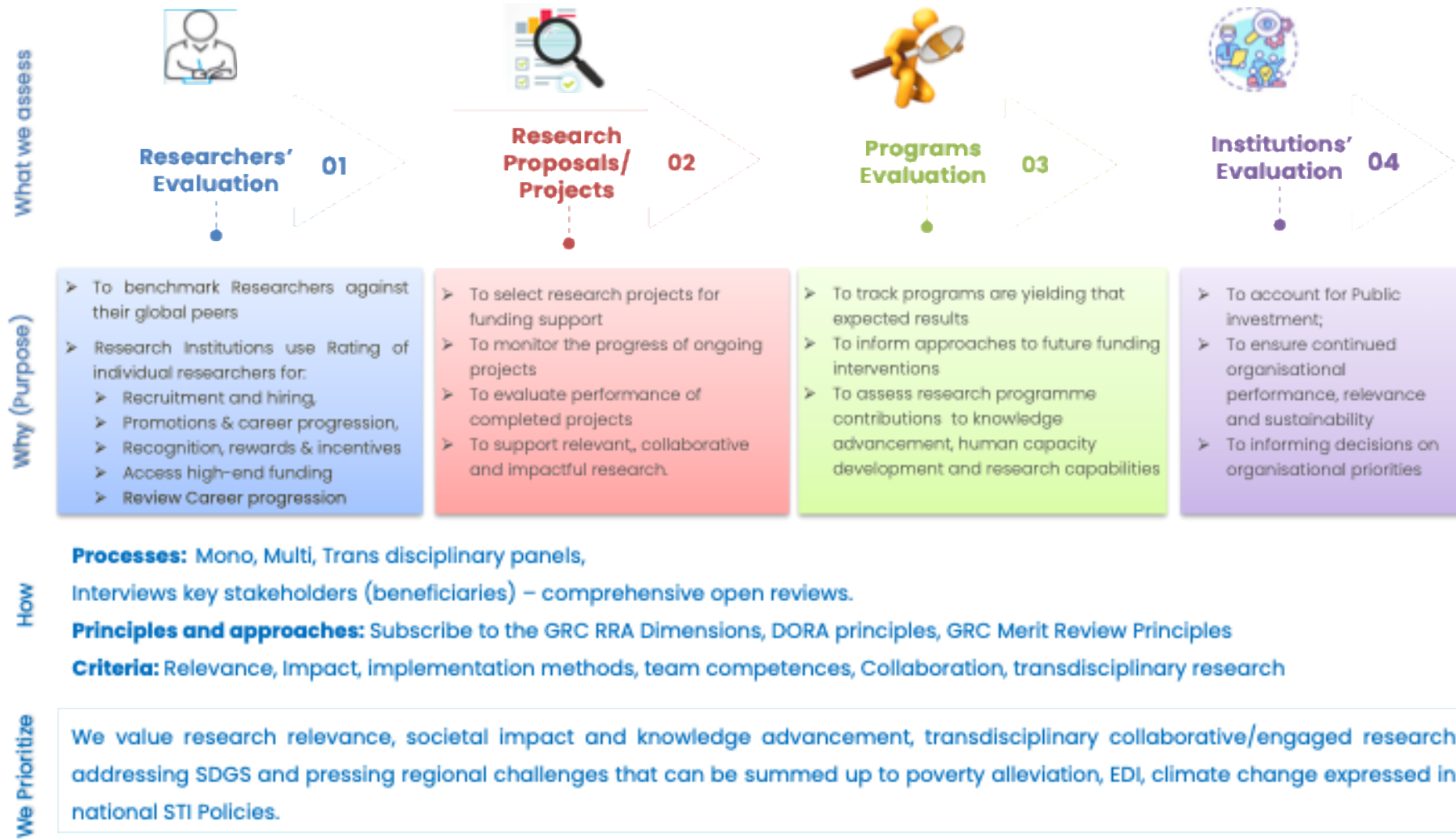
Nosisa.dube@nrf.ac.za; Nosisa.dube@gmail.com

[+27 82 824 4659](tel:+27828244659); [+2712 481 4312](tel:+27124814312); [+2711 312 0208](tel:+27113120208)

South Africa



What, Why and How we Assess in the SSA Region



Research Assessment Reform Efforts in the SSA Region



- The legislative mandate of the NRF provides the broad national intent for research that benefits society.
- The frameworks outline the implementation and adaption of impact advancement and engaged research.
- Using AI we track the demographics of funded researchers to honour our transformation agenda and harness EDI. We also track the number of Rated researchers to assess the strength of our science system
- We raise awareness on Research Assessment Reform nationally/regionally and internationally.



2024 Response	Counts	Response rate among RRA GRC members
Africa	4	19%
Americas	6	40%
Asia-Pacific	6	40%
Europe	18	43%
MENA	3	25%
Total	37	35%





Luciana Balboa

- Institute for Biomedical Research on Retroviruses and AIDS (University of Buenos Aires), Argentina
- Steering Board member of the Young Academy of Argentina (AJA)
- Co-Chair of Science Diplomacy in Latin America, GYA
- Steering Board member of CoARA

Q&A

Context sensitive assessment

Case scenario – GYA membership selection process



Context sensitive assessment



- 1) Measure ability rather than opportunity
- 2) Welcome diversity of career paths
- 3) Metrics are not valid indicators
- 4) Candidates who engage

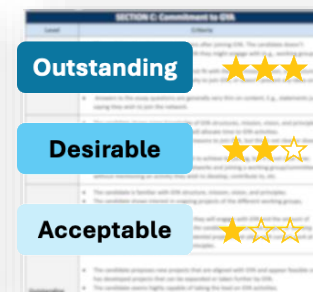
Context sensitive assessment



Inclusive peer-reviewers

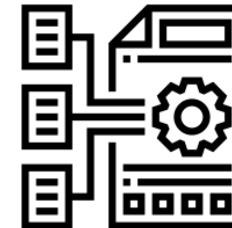
- Improve relatability – disciplines, regions
- Increase the perspectives and experience brought to the peer-review
- Empower members as peer-reviewers in shaping the future of the academy
- Train ECRs in context sensitive peer review

Peer-review training package



Semi-aleatory pairing & distribution programme

Discipline, region, seniority



Application forms

Framing questions, Q&A, examples, clear stipulations



Process