

Centre for Research on Evaluation, Science and Technology



DST-NRF Centre of Excellence in Scientometrics and Science, Technology and Innovation Policy

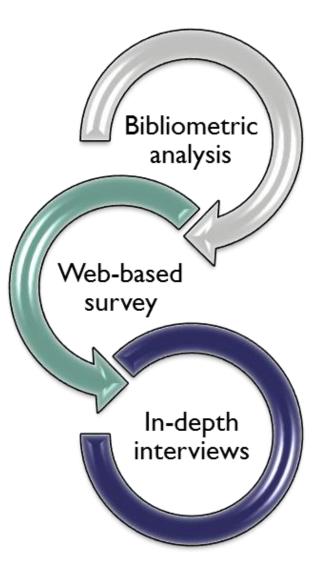
Supporting the next generation of scientists in Africa: Key findings from a multi-country study

Heidi Prozesky SciSTIP & CREST, Stellenbosch University IYBSSD Closing Ceremony 15 December 2023

Primary project goal

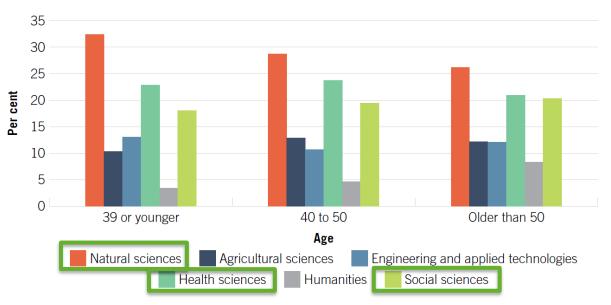
To contribute to a better-informed discussion of how to improve current institutional policies in African countries to support career development of their researchers, and in particular of their young graduates





Young scientists defined as 39 years or younger

- Early-/mid-career
 - Most are in the HE sector (70%) where most (74%) hold the rank of lecturer/senior lecturer
 - 65% have a PhD
- Science domains



Point of departure

A Call for Action from Young Academies: Reaffirming the Role of Fundamental Sciences in Achieving Sustainable Development through Enhanced and Equitable Support of Fundamental Research and Early- to Mid-Career Researchers

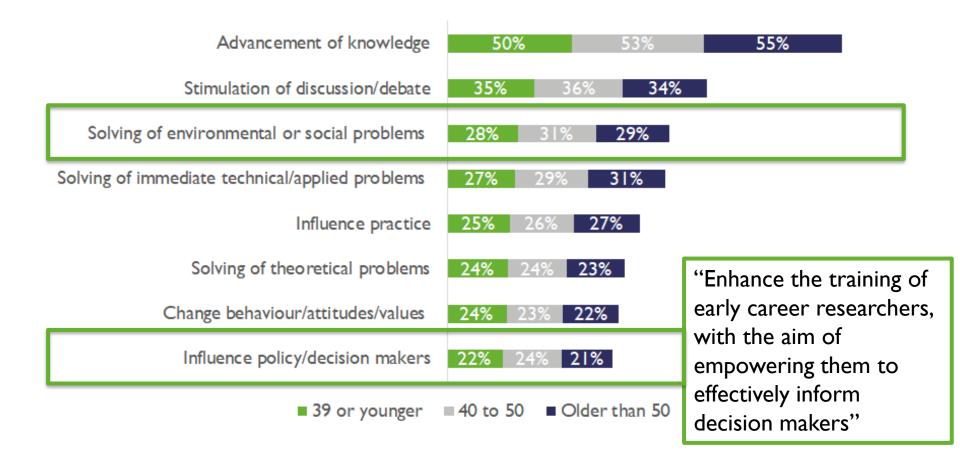
December 2023



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Attaining value / outcome of research (% of respondents reported highly successful), by age



The focus of the remainder of this presentation, aligned with the Call for Action

Call for Action

- To empower and equitably support earlyto mid-career researchers in resource-limited countries
- Lack of opportunities for early- and mid-career researchers, especially in developing nations

Research questions

- How do young African
 scientists differ from their
 older counterparts in
 terms their need for
 empowerment and
 support?
- What are the **major** lack of opportunities to be addressed for young African scientists?



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Respondents' perceptions of the impact of IO challenges on their careers, by age

Challenges to their careers	Overall	F	ank by ag	ank by age	
	rank	39 and younger	40 to 50	Older than 50	
Lack of research funding	1	1	1	1	
Lack of funding for research equipment	2	2	2	2	
Balancing work and family demands	3	6	3	3	
Lack of mentoring and support	4	4	3	4	
Lack of mobility opportunities	5	5	5	5	
Lack of training opportunities to develop professional skills	6	3	4	6	
Lack of access to library and/or information sources	7	7	6	7	
Limitation of academic freedom	8	9	7	8	
Job insecurity	9	8	8	10	
Political instability or war	10	10	9	9	



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Reported amount of funding (US\$) received as primary recipient in preceding 3 years, by age

Age	Mean	Median	Ν
39 or younger	47 286.59	0	1 394
40–50	79 800.65	5 000	1 856
Older than 50	91 847.53	17 500	1 456
Total	73 896.62	5 000	4 706

- Inexperience as a major barrier to securing funding
 - Requirements of funders
 - Writing quality proposals (time consuming)
- Those who are unsuccessful, have no option but to use personal financial resources

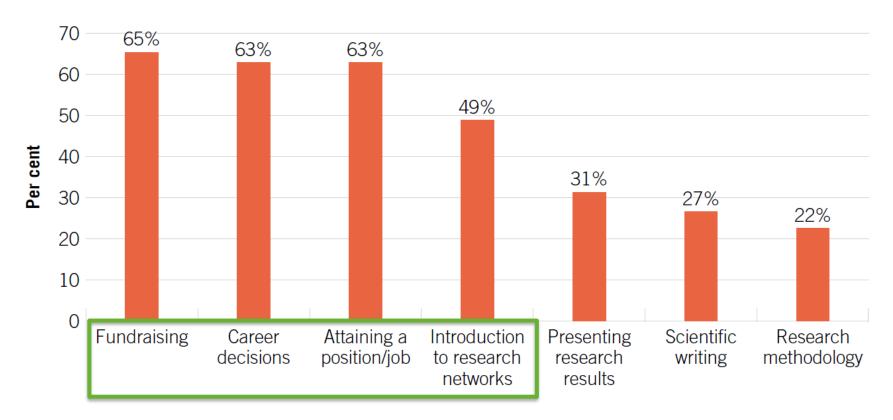


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CfA: "to develop a skilled workforce that can drive technological and scientific innovation"

Never/rarely received mentoring on specific issues (% of respondents younger than 40)



Lack of clarity on the requirements involved in pursuing a successful research career

- Many young African scientists tend to be firstgeneration academics
 - Understanding of university culture
 - Expectations and roles associated with their positions
- The struggle to find suitable mentors (brain drain, power differentials and competition)

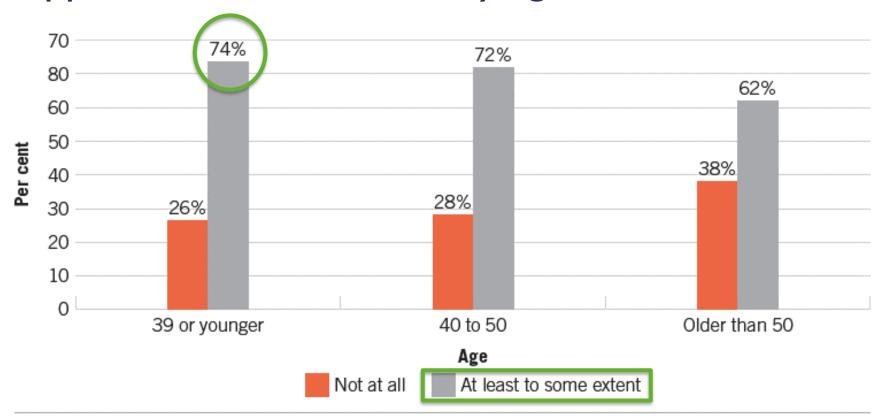


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Scientometrics and Science, Fechnology and Innovation Policy 37% of the respondents younger than 40 had an opportunity to study and/or work abroad in preceding 3 years

Negative impact of lack of mobility opportunities on career, by age



International collaboration

- Barriers to international collaboration
 - Inability to find partners
 - Lack of resources
 - Language barriers
 - Institutional barriers
- Negative experiences of international collaborations
 - Local institutions are the weaker partner
 - Loss of research autonomy
 - Unequal distribution of workload



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Research funding

- Dedicated funds for early-career scientists
- Support in sourcing research funding

Mentoring and training

- More detailed, constructive feedback on unsuccessful grant proposals and rejected papers
- Formal mentoring programmes



Mobility

- More information and funding
- But encourage brain gain



Institutional environment conducive for research

- University and line managers (e.g., HoDs, deans)
- Senior academic staff



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