

AN INVESTIGATION OF RESEARCHERS' VIEWS OF THE IMPACT OF RESEARCH INCENTIVES ON SCIENTIFIC AUTHORSHIP IN SOUTH AFRICA

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SciSTIP

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on Evaluation,
Science and Technology



BACKGROUND & SOUTH AFRICAN CONTEXT

- South Africa is a LMIC country facing a very wide range of challenges relating to poverty, historical disadvantage, high burden of disease i.e. rich potential for R&I
- Several research intensive universities that collaborate extensively with international research and funding partners
- Anecdotal evidence suggest authorship disputes or perceived unfairness not uncommon in authorship allocation
- Publish or perish environment as common here as elsewhere



DHET FUNDING MODEL FOR INSTITUTIONS

- Department of Higher Education and Teaching (DHET) awards subsidies to universities based on
 - Publications, and degrees awarded, especially Masters and doctoral degrees
 - Publication subsidy is based on **publication units**. 1 unit is awarded for every article published in a list of accredited journals which includes many local journals as well as all those in recognized journal indices Web of Science etc.
 - Annual report published comparing all outputs across SA institutions, affects reputation of university considerably, feed into international rankings.
 - Each university decides how to use the subsidy.
 - Most do give a proportion directly to faculties for distribution either as direct incentives or to establish research funds, support junior researchers etc.



RESEARCH QUESTIONS

1. What monetary incentives are given to individual researchers and departments at respective institutions?
2. How do researchers in South Africa understand **authorship principles**? How do they perceive their ability to put their understanding of authorship principles into practice?
3. What are participants' perceptions regarding the impact of **publication incentives** on authorship practices?
4. What are participants' perceptions of authorship principles and related politics of capacity building in academia, including issues of redress?



METHODOLOGY

- 3 phase study with ethics approval
- I: Fact finding investigation (websites, policy docs, request for information from research directors- How do institutions spend/ distribute DHET subsidy
- II: Invitation to participate in a survey sent to all SA scholars who have published at least one article, listed in the WEB of Science; Survey sent to those who indicated willingness to participate.
- III Qualitative
 - in-depth interviews of +/- an hour with academics from a broad spectrum. Sample of convenience and a selection of survey participants who indicate a willingness to be interviewed.
 - Qualitative data from open questions in survey



SOME KEY SURVEY RESULTS

- 980 Responses
- Sample size not calculated (not all emails would have reached participants; in some cases survey link was forwarded on. Invitations mailed to South African scholars and scientists who have published in peer-reviewed journals = 22 832)



GENDER, AGE & EXPERIENCE

GENDER:

Female- 40%

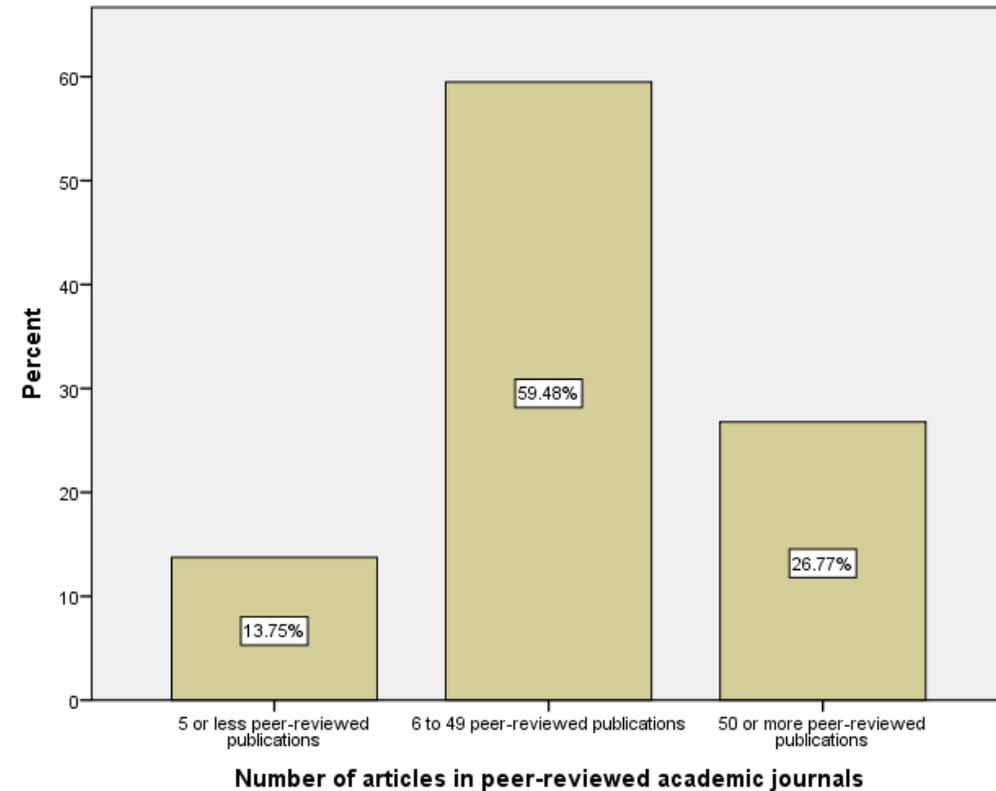
Male- 55%

Missing: 5%

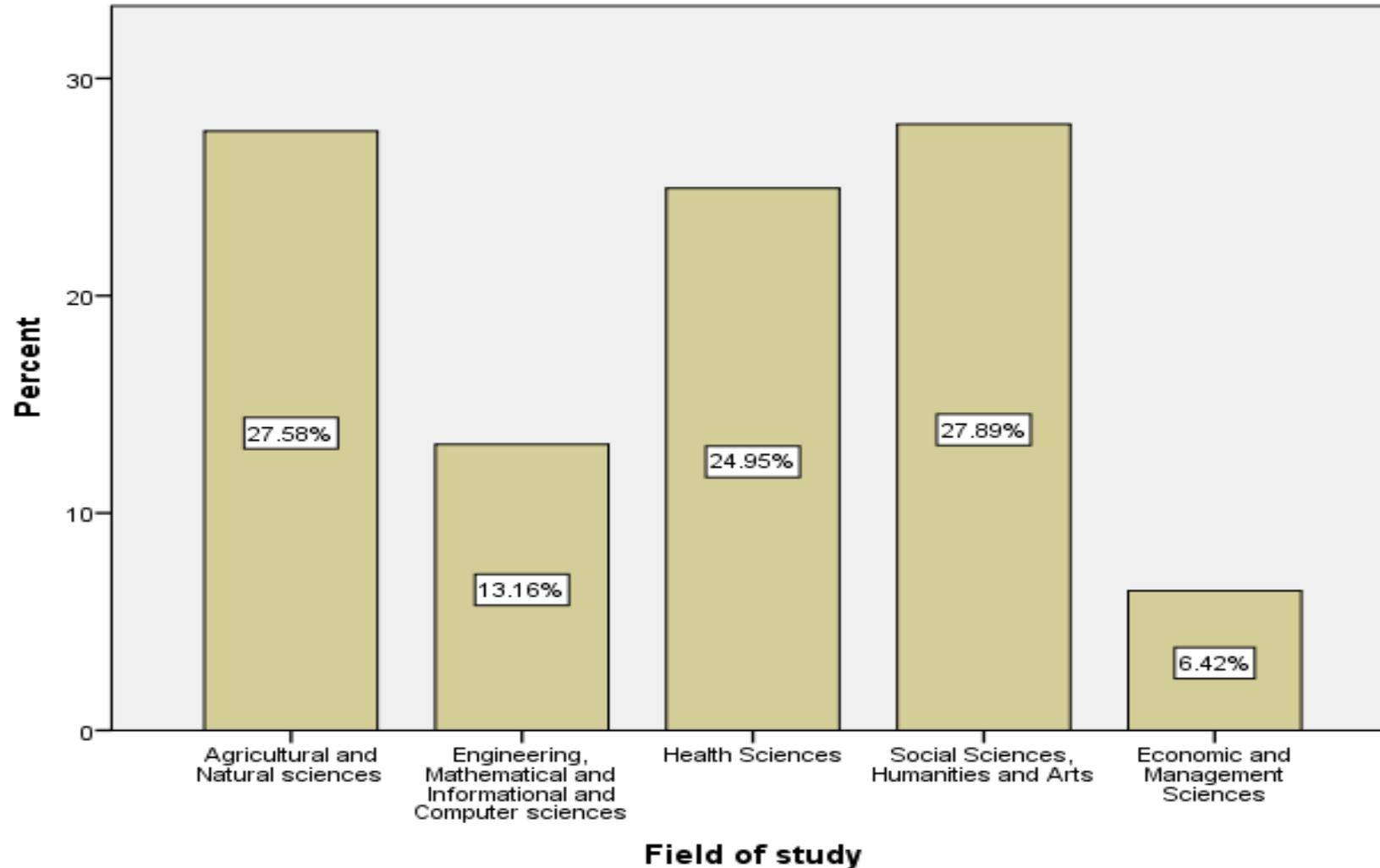
AGE:

Variable	Total	%
20 to 30 years	19	2.0
31 to 40 years	210	21.8
40 to 50 years	259	26.9
51 to 64 years	318	33.0
65 years and older	122	12.7
Total	928	96.3
Missing	36	3.7

■ Number of publications



NO. OF RESPONDENTS BY FIELD OF STUDY



AUTHORSHIP DISPUTES

	Yes	No	Total	Mean
I have encountered disagreement regarding whether people QUALIFY to be named as authors on an academic article, chapter, or book	59.61% 555	40.39% 376	931	1.40
I have encountered disagreement regarding AUTHORSHIP ORDER	48.87% 454	51.13% 475	929	1.51

	Agree	Neither agree nor disagree	Disagree	Don't know
It is easy to implement the principles and criteria for authorship and authorship order	52.7% 489	20.37% 189	25.3% 235	1.62% 15



A FEW PARTICIPANT COMMENTS (>300 AND SOME ESSAYS!):

- *As opposed to the current unethical practice still taking place in many labs where the supervisors or ""senior"" academics put themselves down as first author, the postgraduate student who performed the experimental work should be the first author whether being MSc/Phd candidate or PostDoc.*
- *Authorship and authorship order is very difficult to implement and 'enforce' since there is no governing structure or body that controls proof of good authorship practices. The aspect of good authorship practices resides on the understanding and belief that each and every researcher will always act in an honest and professional manner. Although this would've been a 'nice-to-have' within the research community it must be realized that it is an impossibility.*
- *Authorship difficulty when a thesis is being written is commonplace*
- *Basically, people are very self-involved, greedy, not caring, and disrespectful, and these basic physiological and personality orders may leads to disagreements with regards to authorship order for a publication.*
- *There is for me one principle: mutual generosity. When that is absent, I suppose one can fall back on individual generosity. Apply those, and at least the generous individual should be happy.*



PUBLICATION INCENTIVES

	Agree	Neither agree nor disagree	Disagree
Publication incentives and rewards directly linked to number of publications promote the practice of publication of ‘smallest publishable units’, often called “salami slicing”	67.4% 630	23.21% 217	9.42% 88
Publication incentives and rewards may lead to the inappropriate allocation of authorship	56.5% 524	28.66% 266	14.9% 138
Publication incentives and rewards that are paid directly to individual authors may lead to unethical publication behaviour	58.9% 550	23.55% 220	17.6% 164
Publication incentives and rewards should be abolished	13.3% 124	21.94% 204	64.7% 602
Publication incentives and rewards stimulate scholarly activity	68.0% 636	16.90% 158	15.1% 141



PUBLICATION INCENTIVES

- General positive attitude toward publication incentives, by field of study

Variable	Mean Health Sciences	Mean Agri- and Natural Sciences	Mean Engineering Maths, IT	Mean Social Sciences	Mean Economic & Management science
General positive attitude toward publication incentives	16.1	16.8	17.4	18.2	19.4

Note. Total score out of 36.

- A higher mean indicates a higher general positive attitude toward publication incentives.
- The Economic and Management Sciences reported the highest mean general positive attitude toward publication incentives.



PUBLICATION INCENTIVES

- General positive attitude toward publication incentives, by discipline

LEVEL OF EXPERIENCE	LOW (5 or less)	MEDIUM (6 to 49)	HIGH (50 or more)
General positive attitude toward publication incentives	17.2	17.3	17.1

Note. Total score out of 36.

n1=5 or less peer-reviewed publications; n2=6 to 49 peer-reviewed publications; n3=50 or more peer-reviewed publications.

- A higher mean indicates a higher general positive attitude toward publication incentives.
- **EXPERIENCE UNRELATED TO POSITIVE ATTITUDE!**



CONCLUSION

APPLYING AUTHORSHIP PRINCIPLES

- a larger proportion (60%) of respondents experienced disagreement with regard to qualification for authorship compared to authorship order (49%)
- Extensive comments reflecting largely negative experiences support findings

THE UTILITY OF PUBLICATION INCENTIVES

- Generally viewed as positive even though there is agreement that they can promote unethical behaviour
- Appear to be more valued in domains in SA that are known to attract less external funding (data in the process of being sourced to support this assertion)

NEXT STEP: Interviews with selected scholars and scientist to understand these findings;
Analysis of extensive comments.



THE EVOLUTION OF ACADEMIA

