Comments: Development of an early career academic supervisor in Statistics - a discussion on a guiding rubric

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I thank the editor for inviting me to comment on this fascinating paper. The authors must be commended for their detailed and engaging article on the well-known crisis in academic Statistics. What differentiates their discussion are its aspects regarding the challenges many early-career academics face and the consequences for research and postgraduate supervision capacity in South Africa. Next, I will summarise and elaborate on what I believe are the most pertinent aspects.

1 Highlights and comments

The crisis in academic Statistics is longstanding and well documented, locally and internationally (see, e.g., [1],[2] and [3]). The authors of this article not only highlight the main issues in the South African context but uniquely focus on the challenges of early-career academics. Over the last ten years, the number of academic statisticians in South Africa has been declining as professors reach retirement age and the pool of academics in the system are not being replenished. The authors unpack most of the contributing aspects, which I believe may primarily be explained by monetary factors, excessive workload and an identity crisis facing early-career academics in Statistics.

The monetary aspect is mainly driven by the onset of the fourth industrial revolution, to which Statistics is central. The industry absorbs Statistics graduates by offering lucrative salary packages that academia simply can't match. This discourages students from pursuing post-graduate studies since it is not a necessity to be successful, which

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is often measured by salary, in the industry; especially when considering the costs of being a full-time postgraduate student in South Africa. Furthermore, young individuals fortunate enough to have completed postgraduate studies in Statistics may attempt to pursue academic careers but are soon disheartened. This is largely due to heavy undergraduate teaching loads, and pressure to produce research output and supervise post-graduate students. This is all expected to occur without experienced mentorship from senior professors of whom there aren't many available, and for a relatively low salary. It is also worth noting that, at the undergraduate level, the number of students serviced through a Statistics department has recently experienced rapid growth. This is motivated by the importance of statistical training becoming widely acknowledged and requested by other disciplines. This all creates what the authors describe as a "complicated cycle to escape from" — fewer postgraduate students lead to fewer academics, resulting in increased teaching loads and therefore limiting the development of postgraduate supervision capacity. The authors describe the identity crisis as the "discourse between theoretical and applied statistics". Due to the challenges mentioned above, early-career academics often focus on interdisciplinary collaborations to meet short-term research goals and key performance indicators. Although all research is important and may highlight where core statistical development is needed, simply applying existing statistical theory in other disciplines does not advance Statistics. Herein also lies one of the biggest misconceptions about the Statistics discipline — data analysis alone cannot suffice for a doctoral or master's study. Therefore, as an early career academic, developing one's own theoretical statistical research capability is of vital importance. This builds capacity for doctoral supervision, where a candidate must undertake core statistical research and advance the field of Statistics.

As a possible solution, the authors propose a "guiding rubric in conjunction with an active network of early-career academic Statisticians". While the development of such a rubric will require careful consideration of all the criteria listed in their discussion, it will certainly aid the process if widely adopted. As a first step, they intend on engaging with the available senior professors. Their experience will be imperative. They also plan to initiate discussions with all the Statistics departments in South Africa which will give an overview of the core statistical research conducted at each department and help build the above-mentioned active network.

2   Conclusion

It is known that academic Statistics has been in crisis for some time. The authors cite ample literature supporting this and add several of their accounts as early-career academics of Statistics. This paper not only delves into the consequences this crisis may have for early-career academics and doctoral studies, but also focus on a solution — a guiding rubric. Several promising strategies are proposed. While a lot still needs to be done, I find it overwhelmingly positive that these discussions are taking place and are even being implemented by early-career academics. I believe this initiative can be instrumental in driving Statistics forward, especially in the South African context.

References

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