Beware the Ides of March: The Destiny of Highly Prolific Authors

Dimitrios Moris
Department of Surgery, Duke University Medical Center, Durham, NC, USA.

Summary

In medical science, academic productivity is considered to be a fundamental criterion to evaluate the cost-effectiveness and the reputation of institutions and individual scientists. In current academia, thousands of scientists demonstrate a hyperprolific academic behavior that is the resultant of multiple individual characteristics that can vary from extraordinary ability and teamwork to unjustified and unethical co-authorship. Editors, reviewers and readership should have high expectations from these authors in terms of research quality and ethos.

Key words: academic productivity, hyperprolific, authorship, research, scientist

Introduction

There is no doubt that the last many decades there is an increase in academic productivity around the globe [1]. Especially in medical science, the concept “the more is better” appears to be the notion that academic productivity is an adequate criterion to evaluate the cost-effectiveness and the reputation of institutions and individual scientists [2].

Assessing medical scientists based on their productivity can be applied in multiple settings and can be reflected in decisions about their hiring, academic promotion and tenure [3]. At the same time, writing, prioritizing, evaluating and selecting curriculum vitae is a time consuming, copious and prolific process for scientists and assessment committees, and many time scientists and institutions have to justify a decision making process for someone’s career based on numbers and data on a piece of paper.

In medical science, many evaluation efforts assess primarily what is easily determined, such as the number of publications and citations and -in some cases- the amount of funded grants. Of course, clinical competency and skills cannot be easily assessed with objective metrics despite the fact that they play-as they should- an important role in the decision making process to hire or promote a clinician-scientist [4]. Some institutions positively evaluate or even require some kind of additional training, either in research or clinical at foreign institutions. However, despite the readily measurable and-in some cases- well established aspects, the criteria used for assessment and decisions vary across settings and institutions and are not necessarily applied consistently, even within the same institution.

To date, there is no clear definition on what should be considered as hyperprolific authorship. A recent survey tried to give a figure of high productivity using the arbitrary cut-off of 72 publications in a calendar year, excluding case reports and letters to the editor [5]. The truth is that this definition is problematic since it does not take into account the level of training of authors as well as the research environment they work in.
The central thesis of the article is that being a hyperprolific author is the resultant phenotype of many diverse characteristics varying from meritocracy and extraordinary ability to unjustified horonary co-authorship and unethical academic behavior. I also highlight some strategies to differentiate and better evaluate highly prolific scientists in our current era.

How reliable are the bibliometrics to reflect the academic value of a scientist?

Citation indicators such as the h-index and i-10 index are becoming highly popular as scientific quality metrics [6,7]. All these metrics can be reflective of the quality of scientific product but also can be affected by its novelty. In other words, a published novel idea can generate many citations despite its quality [8]. Also, we have seen manuscripts that summarize the literature on a specific field in a systematic or narrative manner and can sometimes generate more citations than the individual original articles included in these reviews. This implies that a strategy to identify literature gaps and cover it with reviews can be efficient in increasing the number of individual citations. And this is where the responsibility of the readership comes, to be able to recognize and appreciate the scientific value of the original contribution and appropriately cite it. Besides being scientifically correct and accurate, authors have an ethical commitment to recognize the original research products.

In this setting, it is easy to understand that a hyperprolific author has higher chances of getting cited since there are more papers during a larger time scale available to be cited [9,10]. The latter can have an impact on the h- and i-10 indices as well. In order to overcome the shortcomings of individual metrics, it might be reasonable to introduce composite academic quality metrics [9] that can include multiple aspects such as average or median impact factor, number of citations, citation indices, total and annual number of publications, as well as number of publications in higher-tier journals [11]. These composite measures may better capture the bibliometric component of academic leverage of scientists besides the number of publications alone [12].

Is being a hyperprolific author a violation of the ethics of scientific discovery?

Philosophically, the ultimate purpose of research is the discovery of truth and the contribution and service to the society. Few assessments of medical scientists focus on the ethics of research practices and even fewer reflect the impact of research to society [13]. The reproducibility or the social effects of research findings are rarely systematically evaluated even in the setting of the current and problematic scientific methodologies [14]. The latter might be further discouraged by incomplete reporting and suboptimal transparency of scientific data [15]. Finally, there is definitely research that goes unpublished due to lack of interest from the journals [16]. This can definitely be a source of bias since it is not easy to confirm whether the medical science journals really understand the interests of the readership and the relevance of research to the needs of the society.

Promoting research that meets the societal needs requires a broader view of scientific discovery. And the truth is that very few scientists and institutions can provide the environment to succeed in this goal. Thus, the academic community should be open to scientific contributions that do not have a direct reflection and effect in the society. And it might be unrealistic to have this expectation from every article published in the literature. The expectation should be that every article should meet some specific standards that are well described and established and being evaluated under the view that scientifically sound research should be given the chance to be published since the final judge of it is the readership and the society in general [17].

In that setting, institutions should reward these behaviors and support practices that enhance the social benefit of research. Thus, being a highly productive author does not necessarily imply non-adherence to the realistic and philosophical requirements of research. There is no question that focusing on the volume of publications may lead to compromise in terms of quality of the scientific product. And hyperprolific authors are more at risk of that. But articles of questionable quality can be published even by less prolific authors. Overall, the expectations from highly productive authors should be higher from all involved parts including reviewers, journal editors, scientists and readership. But the etiquette of “hyperprolific” authorship should not imply “unethical” or “trash” science.

Hyperprolific authors are not necessarily experts in a field.

Being hyperprolific author in a scientific field does not necessarily imply expertise. I will provide an interesting example to support this thesis. The purpose of the platform “Expertscape” [18] is to “objectively rank people and institutions by their expertise in more than 29,000 topics”. In this free platform, the
user can search for clinicians and scientists in various medical fields. The search results on a ranking list of “expertise” that interestingly is based on the number of subject-specific publications. And there are many cases where highly ranked physicians and scientists are considered “experts” despite the fact that they are at early stages in their careers. Even if this platform is not official or accredited, it might falsely coincide hyperprolific authorship to expertise.

Despite that highly productive scientists are not always experts in their field, they have higher chances to become ones since they usually work at prestigious institutions. Similarly, prestige of academic institutions is related to most measures of the quantity and quality of the scholarly outputs of their faculty [19]. It is well reported in the literature that faculty at more-prestigious institutions produce more of the scientific literature and receive more citations [19], that can be attributed to the selection of scientists with known reputation and record of past academic productivity, including their publication and citation records.

Scientific reputation and academic productivity may be explained by meritocratic characteristics, such as individual skills, extraordinary ability and effort as well as natural potential and talent but also by non-meritocratic characteristics such as age, gender and “family tradition” or by external factors such as team effort, work environment, social connections, or even chance events [20-22]. The contribution of individual characteristics is difficult to captured due to “endogenous cumulative advantage”, in which past achievements are generally correlated with future achievements [22].

All hyperprolific authors do not have the same phenotype due to different mixture of individual characteristics. Some authors tend to have many publications in one field. This phenotype shows a scientific commitment and often leads to early recognition and expertise. Other authors tend to have publications in different fields. This phenotype might imply an inherent curiosity for discovery and science but also might reflect a strategy to increase the pool of potential citations. The development of a mechanism of untangling these characteristics would help clarifying differences in scholarly output at individual and institutional level and can shed some light on the degree to which academia operates according to meritocratic principles. The assumption that academic productivity mainly reflects the scientific skills is not always true and many times the individual productivity is driven by non-meritocratic causes such as horonary co-authorship that will be discussed in detail below.

Highly prolific authorship and horonary co-authorship

A recent survey showed that 33.4% of corresponding authors admitted that they had added authors in their manuscripts who did not justify co-authorship credit. Of interest, studies from Europe and Asia (p≤0.001 and 0.005, respectively) and study type as case report/case series (p=0.036) were found to be the contributed factors to this phenomenon. The striking finding of the study was that the reasons for adding honorary co-authors were complimentary (39.4%), to avoid conflict at work (16.1%), to facilitate article acceptance (7.2%), and other (3.6%) [23].

Unjustified horonary co-authorship might contribute to a highly prolific academic behavior that in general—should not be encouraged and accepted [24]. Authorship that is “gamed, secured through coercion or provided as a favor” [5] can reflect an unwholesome academic environment where meritocracy does not govern the scientific discovery. The main idea behind authorship is to confer credit for the scientific contribution but also requires responsibility and accountability from all authors listed in a publication [25]. On the contrary, the belief among junior scientists that the inclusion of a senior, highly published and reputed author can affect the way that a submission will be perceived by the editors and reviewers might be true in many cases and can be perceived as a form of recognition in both directions. First of all, the recognition of the lead author to the creditability and reputation of the horonary co-author as well as acknowledgement from the horonary co-author of the scientific merit and work ethic of the lead author.

Of interest, teamwork research model appears to have had a positive effect on publishing productivity [26], quality [27], as well as visibility and prestige. In the same frame, eminent hyperprolific scientists can have a positive effect on the productivity and impact of young faculty, as well as on the likelihood that these young researchers to become a leading personality in science, since they can play a prime role in the development of a scientific system that will support the academic productivity and visibility of science [28]. A recent study showed that scientists who enter the system by the hand of a highly productive researcher increased their productivity on average by 28% and the ones that did it by the hand of a highly visible scientist received on average 141% more citations, vis-à-vis scholars that did not publish their first manuscripts with an eminent scientist. Furthermore, scholars that enter the system by the hand of a highly productive researcher were on average 2.5 more likely to also become an eminent scientist [29].
Final Remarks

Hyperprolific authors can definitely be astute scientists and they can be useful in rapid promotion of scientific discovery. Such mode of publishing might reflect extraordinary skills, great teamwork or even "personality norms". High academic productivity does not come for free since it generates high expectations from readers, reviewers and editors. Unjustified co-authorships along with loose definitions of authorship should not be accepted at scientific and ethical basis. Since no established definition for high productivity exists, total publishing output should be benchmarked against norms for their field and career level. In conclusion, I will use the analogy from Konstantine Kavafy’s poem “The Ides of March” where the poet highlighted the challenges that hyperprolific authors, as modern “Caesars”, can face in current Academia.

“Fear grandeurs, O soul. And if you cannot overcome your ambitions, pursue them with hesitation and caution. And the more you advance, the more inquisitive, careful you must be”


Conflict of interests

The author declares no conflict of interests.

References

8. Waheed AA. Citation rate unrelated to journals’ impact factors. Nature 2005;426:495.


