

and for several very large countries the situation is very worrying, to put it lightly. In some countries the whole scholarly communication and academic reputation domains are completely altered by this new phenomenon. It is mostly true for those nations where the majority of researchers have no experience of publishing papers in respectable peer-reviewed international journals. For them simply buying a Scopus article is the most natural reaction towards governmental- or institutional-level pressure. Some of these researchers are so disconnected from the international academic community that they simply don't understand that they are doing something wrong and spoil their CVs instead of improving them.

The situation for universities in the affected countries is even worse. Most of them are desperately trying to gain international recognition and get into ranking tables; they are subject to regular government evaluations based on primitive Scopus and WoS indicators. Increasing publication counts in “predatory” journals not only makes direct reputational damage clearly visible for anyone with access to Scopus but also significantly decreases the average number of citations per paper, which is the main indicator used in several international rankings. Citations are slow to accumulate and because of that we cannot yet measure the effect of the recent “predatory” boom in Russia. Nevertheless, we can use the share of publications in the most cited journals (top 10% by SNIP, SciVal data accessed on Feb 17, 2016) as a rough proxy. One of the leading Russian universities, a participant of the 5-100 excellence initiative which published 1500+ articles in Beall's List journals, managed to bring this share down to 2.5% in 2014. This is really low comparing not only to Harvard (39%) or EU average (23%) but even to Russia's average of 7.6%.

In line with well known earlier research (Butler 2003), our findings show that when oversimplified metrics turn up, quality goes down. This is an important lesson for those who devise such metrics, and they'd better learn from it as quick as possible.

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Publish or Perish? The Highly Productive Research Elite in European Universities from a Comparative Quantitative Perspective

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Introduction

Research in higher education has consistently shown that some academics publish a lot, while others publish at moderate rates or not at all. Institutional reward and promotion structures have always been focused on research achievements — that is, on publications, and academic prestige comes almost exclusively from research. As shown over the decades by Alfred Lotka, Derek de Solla Price, Robert K. Merton, Jonathan R. and Stephen Cole, Paula Stephan, and Philip G. Altbach, among many others, the majority of university research production comes from a minority of highly productive academics.

Literature identifies a number of individual and institutional factors that influence research productivity, including size of the department, disciplinary norms, reward and prestige systems, and individual-level psychological constructs such as a desire for an intrinsic reward of puzzle-solving. Faculty orientation towards research is generally believed to predict higher research productivity; so are: the time spent on research, being a male, faculty collaboration, faculty academic training, years passed since PhD completion, as well as a cooperative climate and support at the institutional level.

The “publish or perish” theme refers to both research non-performers (or non-publishers) and top performers. Here we shall focus on high research performance and its correlates from a comparative European perspective.

Data and Methods

Primary data come from the global CAP and European EUROAC research projects on the academic profession (“Changing Academic Profession” and “Academic Profession in Europe”). The total number of returned surveys was 17,211; it included 1,000 to 1,700 surveys from most European countries and 3,700 surveys from Poland. There were 13,908 usable cases of research-involved academics from 11 countries: Austria, Finland, Germany, Ireland, Italy, the Netherlands, Norway, Poland, Portugal, Switzerland, and the United Kingdom. The combined CAP/EUROAC

dataset is the most comprehensive source of cross-national attitudinal and behavioral data on academics available today. In particular, the data refer to a subpopulation of highly productive academics (N=1,583), contrasted with a subpopulation of 90 percent of the remaining academics (N=12,325). Specifically, a subsample of 1,583 highly productive academics produced 32,706 out of 71,248 journal articles and book chapters (or 45.9%) in the three-year period studied (moreover, the upper 5% of highly productive academics produce on average 33% of all journal articles). We explored research productivity defined as the self-reported number of refereed journal articles and chapters in academic books that the respondent had published in the three years prior to the survey (2007-2010). "Research top performers" were identified as those ranked among the top 10% of academics with the highest research performance in each of the 11 national systems and five major clusters (by research field).

Summary of Research Findings

Research top performers give substance to European research production: without them, it would be halved. Consistently across all the 11 European systems studied, on average, slightly less than half (45.9%) of all academic research production comes from about 10% of the most highly productive academics. And in four systems, the share is near to or exceeds 50% (Austria, Finland, Poland, and Portugal). If the research-active European academic profession employed full-time at universities is divided into two halves, the upper most productive half produces more than 90 percent of all articles (91.5%), and the lower most productive half produces 8.5% (as reported in full in Kwiek 2015b and 2015c)

Top performers work much longer hours, as t-tests for the equality of means show: week by week, month by month, and year by year. Their longer total working time is statistically significant for all countries. The mean for the annualized total working time differential between them and the rest of academics is 6.2 hours, ranging from 2.2 hours in Italy to 9.4 hours in Norway and 10.2 hours in Germany. In other words, for example, German top performers, when compared with the rest of research-involved German academics, spend on average extra 66.3 full working days in the academia per year (10.2 hours times 52 weeks divided by 8 hours per day). There is a standard average working pattern for top performers: the time they spend on research is on average 28.5% higher. They also spend more time on teaching, service, and administration.

The division in role orientation (teaching/research) between top performers and the rest is clear (and all differences are statistically significant): top performers are more research-oriented than the rest, as z-tests for the equality of fractions show. Statistically, being interested "primarily in teaching" virtually excludes such European academics from the class of research top performers, and being research-oriented is statistically a must. The distribution of research role orientation is almost universal across all the countries studied.

Based on the combination of inferential and multiple regression findings, top performers emerge as much more cosmo-

politan (the power of internationalization in research, see a detailed report in Kwiek 2015a), much more hard-working (the power of long overall working hours and long research hours), and much more research-oriented (the power of a single academic focus) than the rest of European academics, despite differentiated national contexts.

Conclusions and Policy Implications

The European research elite is a highly homogeneous group of academics whose high research performance is driven by structurally similar factors. The variables increasing the odds of entering this class are individual rather than institutional. From whichever institutional and national contexts they come, they work according to similar working patterns and they share similar academic attitudes. Highly productive academics are similar from a European cross-national perspective, while at the national level they differ substantially from their lower-performing colleagues. They represent a universal academic species and they share roughly the same burden of academic production across Europe.

Policy implications are more important in systems where research funding is increasingly based on individual research grants rather than in systems with primarily institutionally-based research funding, and are different for competitive and non-competitive systems. The tension between teaching and research time investments is likely to increase when more competitive research funding schemes are introduced.

A new typology of the European academic profession emerges: there are top performers, moderate and low performers, as well as non-performers when it comes to research. The academic behaviors and academic attitudes of research top performers are worlds apart from those of other academics. In terms of research productivity, there is no single "academic profession" — there are only "academic professions" in the plural. Consequently, the "publish or perish" principle relates to different segments of the academic profession to different degrees: those who publish a lot are likely to keep publishing at the same high rates, while those who do not publish still seem unlikely to perish. However, the coexistence of the two contrasting segments of academics may raise ever more intra-institutional tension.

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