This is a preprint of an article published by *Discourse: Studies in the Cultural Politics of Education*.

**Publisher version:**
Krawczyk, S., Szadkowski, K., & Kulczycki, E. (2021). Identifying top researchers in highly metricized academia: Two discursive strategies of senior officials in Poland. Discourse: Studies in the Cultural Politics of Education, 1–12. DOI: 10.1080/01596306.2021.1993792

---

# Identifying top researchers in highly metricized academia: Two discursive strategies of senior officials in Poland

Stanisław Krawczyk[1], Krystian Szadkowski[1], Emanuel Kulczycki[1*]

[1]*Scholarly Communication Research Group, Adam Mickiewicz University in Poznań*

*emek@amu.edu.pl

Our study examines the discursive construction of academic subjectivity within the context of the current reforms of academia, driven by the forces of economization and metricization. We focus in particular on the construction of two models of top researchers. Drawing from the theory of Pierre Bourdieu, we call these models 'autonomous' and 'heteronomous'. We investigate 22 in-depth interviews and construct the ideal types of two discursive strategies that Polish senior academic officials use to build the respective models. We also inspect the empirical signs of a tension between those strategies, as well as three ways to deal with low levels of this tension: using disclaimers, leaving the tension unaddressed, and attempting to reconcile the two strategies. Further, we demonstrate how a high-level tension results in a discursive split, which can be hypothetically linked to the divided habitus of some Polish academics.

Keywords: top researchers, research evaluation, discursive strategies, heteronomy, autonomy, senior officials

## Introduction

Any reform of the academic field needs to form new subjectivities, that is, people who internalize new values and follow new rules (Cannizzo, 2015). If the designed change is to last, it must rely on specific subjects (for example, researchers and managers) who act effectively in the newly created conditions. This goal is often partly reached through modification of the organizational incentives and disincentives system, but it also requires a new discursive model of the top researcher, in current public policy called 'excellent researcher' (Angervall, 2015; Tol, 2013). Top researchers are said to be a key for reaching 'excellence' in science (Antonowicz et al., 2017). They are shown as role models. Their research practices and publication patterns are presented as exemplary. The model of the top researcher can encourage people to enter the field, motivate experienced researchers to change their career choices, and improve the position of academics who had been following some of the now prevalent norms even before their dominance was enforced by a policy change. However, the new model rarely supersedes entirely the old one, especially in a short period of time. The tension between the models reverberates through academia, and its study may provide information not just on a handful of top researchers, but also on the more general construction of scholarly subjectivity.

In this study, we reconstruct one instance of such a tension by using interviews with senior officials (deans, rectors, and heads of institutes of the Polish Academy of Sciences) influential in the Polish academic field. For over two decades Poland has had one of the most metricized systems in Europe (Kulczycki, 2017). Bibliometric indicators have been used to fund, govern, and monitor researchers and higher education institutions at the national and local levels (Kulczycki et. al, 2020). In this context, we investigate how two models of top researchers are discursively constructed by senior officials, who employ strategies focusing, respectively, on metrics-oriented outputs and intellectual ethos. In other words: we systematize the ongoing transformations of the discourse on top researchers, and we examine how senior officials cope with the tension that appears when state science policy imposes metricized rules on the governance of higher education institutions. By this, we address the main research question: What discursive strategies for constructing the models of top researchers exist in a highly metricized academia?

The recent Polish and global reforms originate from a complex context, which can be construed in three dimensions. The first dimension is the grand social processes like bureaucratization (Weber, 1978) and quantification (Espeland & Stevens, 2008). The second dimension is the logics driving these processes in academia, like economization (Berman, 2014) and metricization (Muller, 2018). The third dimension is the technologies of power attending these logics, like university rankings (Hazelkorn, 2015), productivity indicators (Godin, 2009), and performance-based research funding systems (Hicks, 2012). Since the emergence of neoliberalism in the 1970s (Harvey, 2005), these processes, logics, and technologies of power have converged to reshape the academic world.

What is crucial to our study is the current interplay between economization and metricization, which we consider to be intertwined but analytically different forces. One might examine many different connections between processes and logics, but our interests lie in how economization and metricization work together as the driving forces of neoliberalism in today's academia. Like the economic discourse of neoliberalism itself (Olssen & Peters, 2005), neoliberal academia is grounded in increasing competition among researchers. The logic of economization gradually erodes the intellectual ethos of modern science (Merton, 1973/1942), replacing it with the focus on accumulating resources and outbidding competitors in the market (Münch, 2013). Metricization, in turn, involves the growth of the practices of monitoring this competition, reporting on it, and evaluating its results. The use of metrics in itself does not have to be related to economization, but in the present circumstances it is subordinate to that logic.

Neoliberalism casts its subjects as entrepreneurial, competitive individuals (Cannizzo, 2015). The construction of subjectivity in academia is similarly influenced by economization and metricization. Research evaluation systems in particular aim to encourage certain practices in individual researchers, as stated explicitly at an early stage in the history of the Research Excellence Framework in the United Kingdom (Ball, 2012). All this is rarely problematized in quantitative studies that employ phrases like ‘best scholar’, ‘best researcher’, ‘excellent researcher’, or ‘top performer’ and define outstanding academic work through frequent citations (Meyer, 2006), high numbers of peer-reviewed publications (Kwiek, 2018), high numbers of articles in quality journals (Palali et al., 2018), or varied sets of productivity indicators (Fukuzawa, 2014). One could, in fact, argue that the very preponderance of such studies helps legitimize the above-mentioned construction of academic subjectivity. More helpful to our research is the information found in the qualitative studies – notably less frequent – that examine the discursive model of the top researcher.

Wylie (2018) has carried out an ethnographic analysis of two engineering laboratory communities in the United States of America. To her interviewees, the key qualities of future professional researchers are enthusiasm (excitement, interest, passion) and assertiveness (self-awareness, self-direction). The first of these findings is in line with our paper, as we demonstrate that intellectual curiosity is an enduring part of the model of the top researcher. However, it is also important to locate that part in the context of economized, metricized academia. A useful reference here is Tusting’s study (2018) of 16 researchers representing Mathematics, History, and Marketing at English universities. Tusting observes how the Research Excellence Framework influences their writing choices and publication decisions. Among other things, it leads to the establishment of a new identity category, ‘the REF-able academic’: the academic who produces outputs acceptable to REF. At the same time, particular researchers follow their own disciplinary knowledge traditions, too, and in certain cases a conflict appears between institutional success and reputational success within one’s research community. The author also remarks that this kind of research evaluation system may be harmful to the researchers' intrinsic motivation. The emergence of new academic subjectivities, the conflict between traditional and newly formalized evaluation criteria, the shift towards output-based motivation – all these processes are important to our study.

Further results are given by Mouritzen and Opstrup (2020), who have conducted a multifaceted study of the Bibliometric Research Indicator – a Danish performance-based system of research funding. One of their data sources has been intensive interviews with the chairs of 64 university departments (out of a total of 179 departments in Denmark in 2010). With regard to intrinsic motivation, the authors report that most – though not all – interviewees say that BRI reduces their autonomy. A parallel quantitative analysis supports the argument that the academics' intrinsic motivation can be reduced (though not necessarily replaced) by performance-based incentives and monitoring systems (Mouritzen & Opstrup, 2020, p. 158). Finally, Angervall's interviews with 18 successful researchers in Sweden indicate that even among researchers with excellent academic careers, who generally seem aware and confident in their strategic moves, there are some – mostly women – who experience uncertainty and anxiety (Angervall, 2015).

As implied by these qualitative studies, it would be an oversimplification to analyze the discourse on the top researchers only insofar as it reflects the economization and metricization of academia. Accordingly, we trace both the new model and the previous one, showing how they manifest in our interviews with senior officials in the Polish academic field. On the one hand, the interviewees speak about institutionally desirable outputs; on the other hand, they emphasize intellect and passion. Without attempting to capture both, we might miss something vital about the academic world, such as the fact that intellectual ethos can remain part of the discourse on top researchers even after decades of metricization. Furthermore, we track the tension between the strategies that produce the two models. We also demonstrate how a heightened tension takes the form of a discursive split, which is likely to reflect a divided habitus of some senior officials, forced to work simultaneously with two sets of academic rules that are by no means congruous.

**Theory and Methods**

In *Homo Academicus* Pierre Bourdieu pointed out the two main kinds of rules at play in the academic field, which allows us to explore the logic of economization in more detail. The first kind are the specific, autonomous rules of a given field, centered around the pursuit of knowledge and intellectual recognition by scholarly peers. Focusing on these may lead one to publishing in prestigious venues, directing research teams, or getting acknowledged abroad through citations and translations. The second, opposite kind are heteronomous rules, which represent the similarity to – and the ongoing influence of – other fields, mostly economic and political ('heteronomous' literally means 'related to a different law'). By following these rules one can expect to gain managerial power, including a degree of control over academic reproduction: the questions asked at state examinations, the supervision of doctoral theses, the contents of handbooks, etc. (Bourdieu, 1984). Although *Homo Academicus* only concerns the case of France in the late 1960s, the general theoretical framework is applicable to different national fields of higher education, from the United Kingdom (Smith et al., 2011), to Argentina and Australia (Mollis & Marginson, 2002).

An older, Kantian sense of heteronomy implies relying on external authority instead of following one's own reason. Some critics of the contemporary university apply the concept in this manner (Rider, 2013; Tomicic, 2019). Similarly, the scholarly defense of academic autonomy concentrates on institutional autonomy, which may be defined as the freedom to pursue one's own goals, not the ones set by external institutions. While this approach is useful in the inspection of salient threats to academic autonomy, it runs the risk of underplaying the more elusive ones.

For Bourdieu, heteronomy is not just an outside force that meets the resistance of researchers and their institutions. It is also always present, in various degrees, within the academic field itself. Indeed, if that field were completely autonomous, in the sense of full liberation from selecting leaders or managing financial resources, it would fall into disarray. Moreover, the heteronomization of the academic field happens in many ways, including the often-subtle alterations of its discourse.

Likewise, no academic subjectivity can be absolutely free from heteronomy and exclusively interested in the quest for knowledge. But there are no purely heteronomous researchers, either, not even under the current reforms. This includes the senior officials interviewed for our study, who are responsible for identifying top researchers in rewarding, assessments, or promotion procedures in institutions they manage (though they are not obliged to be top researchers themselves). Therefore, we do not try to find perfect instances of the two discursive strategies in our interviews. Rather, we construct these strategies as ideal types, helpful in discussing the empirical material but not represented fully, or exclusively, in any single interview.

Poland has a large science and higher education system. The country has reached the stage of universal access to higher education, and is composed of almost 400 higher education institutions in both the public and private sectors. As in other post-socialist Eastern European countries, part of its Soviet legacy is a separate research subsystem that is comprised of the Polish Academy of Sciences (PAS) and its numerous institutes. A distinctive feature of the Polish system is the collegial nature of its national governance structure, in which the academic community exercises a substantial level of autonomy both at the national and local levels. The Polish performance-based research funding system is one of the longest-running in the world (Kulczycki et al., 2017). It is also one of the most metricized (i.e., dozens of metrics attempt to capture every aspect of academic activity and type of research output) and economized (the results have a great impact on university funding). After the fall of the Iron Curtain, as part of broader state-wide reforms, the Polish version of the socialist system was replaced by a neoliberal one. Various cycles of the reforms and related economization of the higher education and science system in Poland have caused different form of resistance and various conflicts between researchers and management officers, which was analyzed, among others, by Stankiewicz (2020), Ostrowicka (2020), and Antonowicz et al. (2020). By this paper, we aim to clarify how the metricization of Polish academia has redefined the discursive strategies of constructing the model of the top researcher.

For this study, we conducted 46 in-depth interviews. We interviewed 30 deans of faculties of the social sciences and humanities and 10 rectors of universities in which these faculties were located (the rectors' background included mostly the natural sciences). Moreover, we conducted 6 interviews with the president of the PAS and five heads of PAS institutes focused on research in the social sciences and humanities. The interviews were conducted in Polish, and the average interview length was approximately 40 minutes. All the interviews were audiotaped, independently transcribed, and processed in *MaxQDA 12*. The transcripts were coded, and the categories were developed, refined, and validated.

The interviews are part of a bigger project on playing the evaluation game in Polish and global academia, in which we investigate the forms of adaptations and resistance of researchers and managers to the metricization and economization of the field of science and higher education. In these interviews, we focused on the strategies of managing institutions, the systems of assessing and rewarding researchers, as well as the transformations of management practices caused by the reforms of the national research evaluation system. In this paper, we take the whole interviews into consideration, but we focus on results related to three questions: What are the characteristics of the top researchers in your institution? Are the top researchers better paid or otherwise rewarded by the institution? How does your institution identify the top researchers?

During the coding process for this study, we introduced a preliminary distinction between two opposed subgroups of interviewees. 12 officials spoke favorably about the personal qualities of the top researchers and did not express a positive attitude toward metrics with regard to such researchers. 10 others painted the image of the top researcher in opposite colors (affirmative towards metrics, not towards personal qualities). The two areas in which these groups differed became our starting point for the inspection of autonomous and heteronomous aspects of our research material. We decided to focus on these 22 interviews.[1] For each of them, we wrote a conceptual note (about 1,000 words on average), and we summarized the findings in a cross table.

These procedures finally yielded a division into 8 heteronomous, 8 autonomous, and 6 mixed interviews. In this usage, the terms „heteronomous" and „autonomous" indicate which discursive strategy is dominant in a given interview. Below we analyze both strategies in turn, examining also how the senior officials' views on the academic field are related to their models of the best researchers. Then we inspect the complications that arise in the attempt to classify the empirical reality in a clean, binary manner.

## Results

### *The heteronomous strategy*

A typical heteronomous interview presents the recent policy of the interviewee's institution mostly in terms of adaptation to the Polish research evaluation system. The policy focuses on

[1] This group was comprised of 1 rector, 5 deputy rectors, 1 head of a PAS institute, 3 deputy heads, 5 deans, and 7 deputy deans. Elsewhere in the paper, we omit the deputy titles for brevity.

internationalization, grants, publication venues, and bibliometric indicators (either global, like the Journal Impact Factor, or local, like the so-called Polish points, the key metric of the Polish performance-based research funding system). The top researchers are defined through similar criteria. The overall tone is calm; the interviewees usually speak in a detached, descriptive manner.

Most interviewees mention the change of individual researchers' practices and attitudes. The process is described as 'paying attention to what others do, adapting certain patterns' and as 'a gradual change in how people see the actual role of a university worker' [10]. High point scores 'can be evidence that someone adapts well to a particular system. Which is a certain skill' [40]. One interviewee specifies that 'these effects were not that clear in the natural sciences, but they were very clear in the humanities. People began to send their work abroad to good journals and the deans were very pleased' [15]. The heteronomous strategy thus recognizes the fact that changes in individual subjectivities are needed for the success of the reforms.

Furthermore, most heteronomous interviews present younger researchers in a better light than older ones. The former tend to find their place in the system more easily [42], working more actively [40] and having more experience in publishing abroad [26]. Some of the older researchers, in turn, 'give away their texts for free' [20], publishing in places that do not generally grant evaluation points in Poland, such as festschrifts and edited volumes. Some remain on their posts long after they have stopped being active researchers, which can provoke caustic comments: 'As long as they can hold their chalk and their urine, they can teach' [15]. One interviewee offers a helpful generalization by distinguishing between the younger generation as 'catching up' and the older as 'the establishment' [10]. As a general rule, it is the younger researchers who are thought to be more likely to adapt to the new system.

The heteronomous strategy does not involve direct attacks on academic autonomy. The interviewees may not talk much about intellectual motivation but they never state outright that it is superfluous. They do criticize some institutional arrangements of the receding system, like the difficulties in firing inactive researchers, but this is not a significant part of the interviews. The strategy works mostly by underscoring that the currently dominant system is new and that it requires adaptation, both on the organizational and the individual levels.

### *The autonomous strategy*

Autonomous interviews are visibly oriented toward resistance, defending the institutional autonomy of the academic field against external threats. We can construe this defense in three aspects. First, the autonomous goals of academic institutions are defined as 'basic research' [1] or 'carrying out studies of the highest quality' [7]. Second, the internal goals are contrasted with the ones imposed from the outside. One of the interviewees talks about 'the actual goals' and the goals 'subordinate to evaluation' [1]; another claims that 'every faculty [at university X] has a [research] strategy, and not because of the requirements of some state accreditation commission, but because of a certain tradition' [25]. Third, there is a villain: the ministry of science, perceived mostly as the source of unnecessary pressures and botched evaluation procedures. In fact, one interviewee appears to imply that there is no need for a ministry-level evaluation: 'If we have a research institute that has results, that is evaluated by others in the field . . . then it should just be decently funded' [34]. This is all in stark contrast to the heteronomous strategy, which implies that the aim of research policy is adaptation and which maintains a largely dispassionate tone.

Accordingly, evaluation metrics are hardly mentioned in the autonomous characterization of the top researchers (although grants and internationalization often are, which suggests some common ground with the heteronomous strategy). Individual qualities, especially intellectual motivation, play a much more important role. Apart from the organizational talents or the ability to interact well with other people, including students, the interviews mention such traits as courage and responsibility, and the most prevalent term is 'passion', defined by one person as 'the will to do something for the sole sake of research and its result, and not due to requirements, notes, pressures, and so on' [21].

Moreover, when the interviewees directly mention the impact of the reforms on individual researchers, they seem anxious. One says that „people began to pay more attention to the journals' points than to what the journal in question is dealing with" [7]; another notes that following the demands of evaluation 'is currently shaping the actions of many young researchers, and this process may turn out to be incorrigible: they will begin to count everything up' [27]. In line with this, the interviewees seem to value older researchers a little more highly than younger ones. Indeed, there are occasional instances of the master-apprentice narrative, which can be accompanied by an openly moral language: 'There is still this thing called normality . . . And I try to – so to speak – raise my younger colleagues [in the conviction that] it is not only the impact factor that counts . . . If you don't know how to act, act decently' [18]. Broadly speaking, the autonomous strategy correlates with a positive attitude to the past.

This strategy is not necessarily opposed to any application of metrics. One interviewee is pleased with faculty colleagues publishing their work in journals that have the Journal Impact Factor [25]. Another discusses both advantages and disadvantages of the system of Polish points, blaming it for 'many pathological things', but also naming several benefits, from 'verifying everything', to making evaluation easier and cheaper, to enforcing attempts at publication in international journals [7]. Some use of indicators seems acceptable to most interviewees as long as it does not distort the institutional autonomy of the academic field.

***Dealing with the tension***

We have observed that the coexistence of autonomy and heteronomy creates a tension in the academic field. Let us look into some of the ways the senior officials deal with that tension.

To begin with, the heteronomous strategy encompasses certain reservations. There is some criticism regarding the overuse of metrics, the bureaucratization of academia, or the unpredictability of evaluation rules. At the same time, a number of rhetorical tactics are used to reduce the weight of this criticism and avoid generalizing particular issues to the entire research evaluation system. These tactics range from saying that there is no better solution (or that change may come in unspecified future), to claiming that metrics are flawed but inevitable (e.g., rigid but objective), to qualifying their disadvantages as accidental rather than integral to the system (e.g., bibliometric indicators can be applied to larger academic units and across larger time spans to minimize the role of outliers, and the deans can devise evaluation subsystems tailored to specific disciplines).

Three other solutions are visible in the mixed interviews. First, let us examine this reply to the question about the qualities of top researchers:

> Apart from passion, they had a great intellectual potential, because grants don't come out of nowhere . . . I also think that they were motivated by degrees and titles. Getting a higher degree or title, this is motivation. I think that the most active researcher is the one after a PhD, until the habilitation. They give the most of themselves [17].

Although mentioning 'passion' and 'intellectual potential' is part of the autonomous strategy, the interviewee immediately proceeds to external, institutionally based motivation. Other contrasts can also be seen across the interview. For instance, it is claimed that 'we don't verify what people are writing because we can't do it. Somebody is given points, and we don't actually know what they've written and if it's worth it'. However, the interviewee has also put out a printed list of highly rated journals before the dean's office so that 'someone waiting for an interview, or for some meeting . . . can look and see in what journals they should publish'. The tension is there but it remains unaddressed.

Now consider the second, more vivid excerpt:

> – Would you tell me what characterized the top researchers at your faculty? . . . What I mean is their traits. That is, in your opinion, what was it that made them the best?
> – First of all, the quality of publications in the sense of points, right? In the sense of points. And it's a race, isn't it? A race, I think, for a bonus, for the career, for degrees, and so on . . . And the new system eliminated the incentive to publish monographs, it pays more – note the language I'm speaking, it pays more – to publish in journals . . .
> – How did you select them for the [publication] bonus? I understand, like you've said, that the points were the…
> – …The points. The best [people] simply had the most points . . . The points decided. Because we wanted to avoid the quasi-discussions that tend to take place with various ministerial awards, and so on [9].

This interviewee's perspective is not just shifting; it is riven. They accept 'the points' as a criterion defining the top researchers but they also appear very close to criticism in their reflections about 'a race' or about their own economic language ('it pays more'). Elsewhere they use such phrases as 'neo-liberal' and 'corporate-like' to describe the emerging evaluation system, and they note that 'the rat race' had begun before they took office. There is even the following unfinished sentence concerning the most recent stage of the reforms: 'I think it is our fundamental task: to endure, not to lose face in this, and not to lose…'. This is strong, morally laden language, which one might expect from the harshest critics of heteronomy, and yet the critical potential remains subdued. These are all signs of a high tension, and in such cases it is justified to speak of a discursive split.

In our third case, the interviewee recollects that the research policy of their faculty before the reforms was largely a composite of academic tactics of particular 'distinguished scholars', 'strong personalities' with their own ideas of 'doing science', 'collecting funds', and 'surrounding themselves with capable apprentices'. Yet the interviewee also notes the merits of the current evaluation system, such as a recent regulation that puts a cap on the number of each researcher's evaluated publications in a given timeframe. Within this context, the old system is juxtaposed with the new one:

> What I think is a chance is an attempt at a conversation between these two publication cultures, or two epistemological cultures, and an attempt to explain to one another that the person on the one side is not a demon, and the person on the other side is [not] some, well, loser, to put it strongly [12].

This element of the interview highlights a conscious effort to reconcile autonomy and heteronomy. In this way, the tension is – apparently – alleviated.

## Conclusions

We have used our interviews with senior officials in Polish academia to distinguish two discursive strategies, autonomous and heteronomous, each of which produces a corresponding model of the top researcher. While we construe these strategies as ideal types, on the empirical level we note the manifestations of a tension between the two models. Autonomy and heteronomy coexist in the academic field, and every interview displays instances of both. As long as the tension is low enough, the interviewees can offer qualified disclaimers, simply leave the tension unaddressed, or attempt to reconcile the opposing strategies. When the tension gets high, a discursive split can be seen: not only does the discourse switch between the two strategies without an attempt at reconciliation, but it is also laden with strong emotional or moral formulations. Since we have limited personal information about our interviewees, we cannot state with any certainty that such splits result from a deep incongruency between one's biographical background and one's current position in the academic field. As a hypothesis, however, this interpretation would be in keeping with Bourdieu's notion of divided habitus (Friedman, 2016).

While the division of Polish academia along different lines – reformists vs. status quo defenders, young vs. old, Humboldtian vs. technocratic, collegial vs. managerial – has been reported in many previous studies (e.g. Shaw 2019; Ostrowicka 2020; Stankiewicz 2020), our findings contribute to the understanding of the hybridized subjectivities of Polish academics.

In their study of 16 monographs published between 2011 and 2014, Falkowski & Ostrowicka (2021) observed a consistent reference to the intellectual ethos on both sides of every binary division line that traverses the Polish academic reality. In our material from 2018 and 2019, the heteronomous interviews tend to omit this reference, but it is clearly present in the mixed interviews. Moreover, our findings highlight the persistence of another crucial component that goes beyond the existing binary lines – a reference to the logic of metrics, described as alien to the tradition of academic autonomy. While the new model of the top researcher has not erased the old one, we have shown how the elements of heteronomous logic are becoming constitutive even within the discursive strategy that aims at active resistance towards it.

Furthermore, our results suggest that the post-Kantian, institutional concepts of academic autonomy and heteronomy are insufficient for discourse-oriented studies. In our case, those concepts would not be enough to capture the heteronomous discursive strategy displayed in the interviews, or the tension that can ultimately reach the form of a discursive split. Bourdieu's theory seems to provide a more comprehensive understanding of the interplay of autonomy and heteronomy in the academic field.

Polish academics are concerned with the threats to institutional autonomy (Shaw 2019). The results of our study imply that the post-Kantian approach to autonomy may be widespread in academia, and that some forms of heteronomization tend to go unnoticed. This is one of the factors which hinder the efforts of some academics to resist the impact of economization and metricization brought by the neoliberal reforms.

## Disclosure statement

No potential conflict of interest was reported by the authors.

## Funding

This work was supported by the National Science Centre in Poland under Grant UMO-

2017/26/E/HS2/00019.

## References


Angervall, P. (2015). The excellent researcher. *Policy Futures in Education*, *14*(2), 225–237. https://doi.org/10.1177/1478210315614747

Antonowicz, D., Kohoutek, J., Pinheiro, R., & Hladchenko, M. (2017). The roads of 'excellence' in Central and Eastern Europe. *European Educational Research Journal*, *16*(5), 547–567. https://doi.org/10.1177/1474904116683186

Antonowicz, D., Kulczycki, E., & Budzanowska, A. (2020). Breaking the deadlock of mistrust? A participative model of the structural reforms in higher education in Poland. *Higher Education Quarterly*. https://doi.org/10.1111/hequ.12254

Ball, S. J. (2012). Performativity, commodification and commitment: An I-spy guide to the neoliberal university. *British Journal of Educational Studies*, *60*(1), 17–28. https://doi.org/10.1080/00071005.2011.650940

Berman, E. P. (2014). Not just neoliberalism: Economization in US science and technology policy. *Science, Technology, & Human Values*, *39*(3), 397–431. https://doi.org/10.1177/0162243913509123

Bourdieu, P. (1984). *Homo Academicus*. Stanford University Press.

Cannizzo, F. (2015). Academic subjectivities: Governmentality and self-development in higher education. *Foucault Studies, 11*(2), 199–217. https://doi.org/10.22439/fs.v0i0.4937

Espeland, W. N., & Stevens, M. L. (2008). A sociology of quantification. *European Journal of Sociology / Archives Européennes de Sociologie*, *49*(3), 401–436. https://doi.org/10.1017/S0003975609000150

Falkowski, T. & Ostrowicka H. (2021) Ethicalisation of higher education reform: The strategic integration of academic discourse on scholarly ethos, *Educational Philosophy and Theory*, *53*(5), 479–491. DOI: 10.1080/00131857.2020.1740684

Friedman, S. (2016). Habitus clivé and the emotional imprint of social mobility. *The Sociological Review, 64*(1), 129–147.

Fukuzawa, N. (2014). An empirical analysis of the relationship between individual characteristics and research productivity. *Scientometrics*, *99*(3), 785–809. https://doi.org/10.1007/s11192-013-1213-3

Godin, B. (2009). The value of science: Changing conceptions of scientific productivity, 1869 to circa 1970. *Social Science Information*, *48*(4), 547–586. https://doi.org/10.1177/0539018409344475

Harvey, D. (2005). *A brief history of neoliberalism*. Oxford University Press.

Hazelkorn, E. (2015). *Rankings and the reshaping of higher education: The battle for world-class excellence* (2nd ed.). Palgrave Macmillan UK.

Hicks, D. (2012). Performance-based university research funding systems. *Research Policy*, *41*(2), 251–261. https://doi.org/10.1016/j.respol.2011.09.007

Kulczycki, E. (2017). Assessing publications through a bibliometric indicator: The case of comprehensive evaluation of scientific units in Poland. *Research Evaluation*, *26*(1), 41–52. https://doi.org/10.1093/reseval/rvw023

Kulczycki, E., Korzeń, M., & Korytkowski, P. (2017). Toward an excellence-based research funding system: Evidence from Poland. *Journal of Informetrics*, *11*(1), 282–298. https://doi.org/10.1016/j.joi.2017.01.001

Kulczycki, E., Rozkosz, E. A., Szadkowski, K., Ciereszko, K., Hołowiecki, M., & Krawczyk, F. (2020). Local use of metrics for the research assessment of academics: The case of Poland. *Journal of Higher Education Policy and Management*, 1–19. https://doi.org/10.1080/1360080X.2020.1846243

Kwiek, M. (2018). High research productivity in vertically undifferentiated higher education systems: Who are the top performers? *Scientometrics*, *115*(1), 415–462. https://doi.org/10.1007/s11192-018-2644-7

Merton, R. K. (1973). The normative structure of science. In *The Sociology of Science: Theoretical and Empirical Investigations* (pp. 267–280). The University of Chicago Press.

Meyer, M. (2006). Are patenting scientists the better scholars? An exploratory comparison of inventor-authors with their non-inventing peers in nano-science and technology. *Research Policy*, *35*(10), 1646–1662. https://doi.org/10.1016/j.respol.2006.09.013

Mollis, M., & Marginson, S. (2002). The assessment of universities in Argentina and Australia: Between autonomy and heteronomy. *Higher Education*, *43*(3), 311–330. https://doi.org/10.1023/A:1014603823622

Mouritzen, P. E., & Opstrup, N. (2020). *Performance management at universities: The Danish Bibliometric Research Indicator at work*. Springer International Publishing. https://doi.org/10.1007/978-3-030-21325-1

Muller, J. Z. (2018). *The tyranny of metrics*. Princeton University Press.

Münch, R. (2013). *Academic Capitalism: Universities in the global struggle for excellence*. Routledge.

Olssen, M., & Peters, M. A. (2005). Neoliberalism, higher education and the knowledge economy: From the free market to knowledge capitalism. *Journal of Education Policy*, *20*(3), 313–345. https://doi.org/10.1080/02680930500108718

Ostrowicka, H. (2020). Economization of discourse on education and pedagogization of economic problems: Media debate on higher education reform in Poland. *Discourse: Studies in the Cultural Politics of Education*, 1–15. https://doi.org/10.1080/01596306.2020.1811957

Palali, A., van Elk, R., Bolhaar, J., & Rud, I. (2018). Are good researchers also good teachers? The relationship between research quality and teaching quality. *Economics of Education Review*, *64*, 40–49. https://doi.org/10.1016/j.econedurev.2018.03.011

Rider, S. (2013). Higher heteronomy: Thinking through modern university education. In S. Rider, Y. Hasselberg, & A. Waluszewski (Eds.), *Transformations in Research, Higher Education and the Academic Market: The Breakdown of Scientific Thought* (pp. 171–186). Springer. 10.1007/978-94-007-5249-8_12

Shaw, M. A. (2019). Public accountability versus academic independence: Tensions of public higher education governance in Poland. *Studies in Higher Education*, *44*(12), 2235–2248.

Smith, S., Ward, V., & House, A. (2011). 'Impact' in the proposals for the UK's Research Excellence Framework: Shifting the boundaries of academic autonomy. *Research Policy*, *40*(10), 1369–1379. https://doi.org/10.1016/j.respol.2011.05.026

Stankiewicz, Ł. (2020). Discourse, resistance and organization: Critical discourse analysis of the 'revolt of the humanities' in Poland. *Discourse: Studies in the Cultural Politics of Education*. https://doi.org/10.1080/01596306.2020.1830032

Tol, R. S. J. (2013). Identifying excellent researchers: A new approach. *Journal of Informetrics*, *7*(4), 803–810. https://doi.org/10.1016/j.joi.2013.06.003

Tomicic, A. (2019). American dream, Humboldtian nightmare: Reflections on the remodelled values of a neoliberalized academia: *Policy Futures in Education*, *17*(8), 1057–1077. https://doi.org/10.1177/1478210319834825

Tusting, K. (2018). The genre regime of research evaluation: Contradictory systems of value around academics' writing. *Language and Education*, *32*(6), 477–493. https://doi.org/10.1080/09500782.2018.1505905

Weber, M. (1978). Bureaucracy. In *Economy and Society: An Outline of Interpretive Sociology*. University of California Press.

Wylie, C. D. (2018). 'I just love research': Beliefs about what makes researchers successful. *Social Epistemology*, *32*(4), 262–271. https://doi.org/10.1080/02691728.2018.1458349