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Academic systems, career models, and experienced performance pressure—a comparative study of Sweden and Finland

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Abstract
As universities compete for higher standings in global rankings and implement performance management measures, performance pressure is imposed on scholars. This paper explores the influence of academic systems and career models on scholars in Sweden and Finland, with a focus on experienced performance pressure. Comparable qualitative and quantitative data from these Nordic countries were collected. Despite their numerous similarities, the external contingency factors related to academic systems and career models differ between Sweden and Finland. We found that due to systemic differences the nature of experienced performance pressure differs between the two countries. While scholars in both countries experience high pressure related to performance management, the analysis indicates that the Swedish system primarily directs the pressure to the organizational level, whereas the Finnish system causes more explicit and intense individual level performance pressure. The analysis further indicates that the disparities are most pronounced in the experiences of scholars on fixed-term contracts. The paper suggests that the most decisive characteristic of performance pressure in scholarly work is not its overall magnitude but its nature and intensity from the perspective of individual scholars.

Keywords Performance pressure · Performance measurement · Universities · Fixed-term employment · Career systems

Introduction

As universities compete in global rankings (Brankovic et al., 2023), and performance management in the form of meticulous measurement and external accountability is implemented (Sousa et al., 2010; ter Bogt & Scapens, 2012), individual scholars experience performance pressure (Becker & Lukka, 2023; Bedford et al., 2023; Berman & Paradeise, 2016; Grossi et al., 2019; Mizrahi, 2021; van Helden & Argento, 2019; Xu et al., 2021). Universities today constitute a global market where they are evaluated and ranked by, for example, The Academic Ranking of World Universities (Shanghai Ranking), QS World University Rankings®, and The Times Higher Education. Academic journals, too, are

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ranked and publications in highly ranked journals become key performance indicators and thus crucial for pursuing a career in academia (Hermanowicz, 2016; Mizrahi, 2021). In this paper, we study performance pressure experienced by scholars in these conditions, following Xu et al., (2021, 3), who proposed that 'Performance pressure arises from demands for improved results and the need for employees to constantly upgrade how they work, as they worry about whether their efforts can meet the performance goals'.

We acknowledge that pressures such as time constraints and increased workload can under some conditions lead to creative and innovative outcomes (Blomberg et al., 2017) and drive scholars to increase their work efforts. However, pressure can compromise output quality (van den Broeck et al., 2021; Ellemers, 2021). Existing research shows that performance pressure affects scholars in numerous ways, ranging from stress and mental problems (Driskell & Salas, 1996; Kinman, 2001) to gaming behaviours (Aboubichr & Conway, 2023; Benaine & Kroll, 2020; Spence, 2019) and cheating (Mitchell et al., 2018). These effects have been found to be intensified when scholars are in precarious employment (Rogler, 2019). In contemporary universities, academic systems emphasising performance measurement are a major factor causing performance pressure, which mediates the measurement's negative effects on work outcomes and employee well-being (Aboubichr & Conway, 2023; Kallio et al., 2017, 2020). At the same time, performance measurement forms the basis for academic career models today. By career model, we refer to the set of principles that outline the pathways, expectations, and progression opportunities for individuals pursuing an academic career. This encompasses stages of career progression, criteria for advancement, and influence of national or organizational traditions, funding structures, and governance on career trajectories (Baruch & Hall, 2004).

In this paper, we look beyond performance management (PM) in individual universities and employ a system level approach to examining performance pressure in Sweden and Finland. Our study comprises document analysis as well as qualitative and quantitative analyses of survey data from academic faculty members (932 in Sweden and 795 in Finland). Sweden and Finland are Nordic countries, established democracies and member-states of the European Union, and they are characterized by advanced social policies, relative trust in institutions, and values such as democracy and equality (Martela et al., 2020). However, in universities, the traditional ethos of freedom and collegiality among academic faculty members or scholars is giving way to competition and individualism (Becker & Lukka, 2023; Kallio et al., 2016, 2020; Spence, 2019). In line with developments across the world, scholars in Sweden and Finland experience intensified control over their work, referred to as managerialism (e.g. Billsberry et al., 2023). This serves to erode academic freedom, which can be understood as scholars' autonomy and self-determination in their work (Åkerlind & Kayrooz, 2003).

Sweden and Finland offer a fruitful setting for a comparative study focused on experiences of academic scholars. Beyond their similarities in societal governance, their academic systems and career models differ (Kallio & Kallio, 2023; Aarnikoivu et al., 2019), and this may lead to differences in experienced performance pressure. To complement existing understandings of sources, mechanisms, and effects of performance pressure in academia, then, we pose the following research questions: (1) How do academic systems and their career models vary between Sweden and Finland in terms of general structure and the type of performance pressure they create?, (2) How do academic systems and career models influence the experience of performance pressure in the two countries?, and (3) What insights can the observed differences provide regarding PM practices in universities more broadly?

The remainder of the paper is structured as follows. Next, we explicate the nature of performance pressure in academia based on existing research. We then present the study's empirical design. We describe the Swedish and Finnish academic systems and career models based on our document analysis, and based on analysing our survey data, we identify the effects caused by performance pressure and highlight the differences in the experienced pressure in the two countries. Finally, we answer our research questions, and offer conclusions and ideas for future research.

Performance pressure in academia

Universities are under constant pressure to compete for funding, students, faculty, and positions in rankings nationally and internationally. This pressure, manifesting at both the field and organizational levels, is cascaded to the individual level among scholars in universities (Becker & Lukka, 2023; Bedford et al., 2023; Berman & Paradeise, 2016; Burton & Bowman, 2022; Mizrahi, 2021; Rogler, 2019). According to a global survey, 74% of scholars reported experiencing intense pressure to perform (van Dalen & Henkens, 2012). In Dutch universities, Leišytė (2016) found that among already highly productive scholars, 85% felt increased pressure to perform even better. Increasing performance pressure thus affects the lives of academic faculty (Becker & Lukka, 2023; Grossi et al., 2019; van Helden & Argento, 2019). While pressure originates from numerous sources and has different mechanisms and effects (Grossi et al., 2019), it typically manifests in two ways: through intensifying competition and increasing demands for accountability (Berman & Paradeise, 2016; Melo et al., 2010; Pinheiro et al., 2019).

Performance pressure is mediated from the organizational to the individual level, for instance, through universities' PM systems and measurement practices (Kallio et al., 2017; Vogel & Hattke, 2018; Bedford et al., 2023; Ekman et al., 2018). Scholars also experience pressure through changing demands and patterns regarding academic career making (Becker & Lukka, 2023; Hermanowicz, 2016; Mizrahi, 2021). A widely recognized source of performance pressure stems from the need to publish in highly ranked journals (Aboubichr & Conway, 2023; Aguinis et al., 2020; Bedford et al., 2023; Leišytė, 2016). In contemporary academic systems, these publications advance one's career, help avoid career stagnation, or prevent employment termination (Becker & Lukka, 2023; Mitchell et al., 2018). At the same time, however, they represent a significant cause of performance pressure (Aboubichr & Conway, 2023; Ellemers, 2021; Miller et al., 2011). For instance, while Miller et al. (2011) reported that over 90% of their survey respondents experienced publication pressure, Tijdink et al. (2014) reported that 72% of their respondents felt that the pressure to publish was too high.

Although performance pressure may increase publication output (Dahler-Larsen, 2014; Heywood et al., 2011) and enhance scholars' accountability for external stakeholders such as funders (Sousa et al., 2010; ter Bogt & Scapens, 2012), it can have negative consequences by incentivizing scholars to pursue secondary outcomes in their work. For instance, performance pressure has been found to predict self-reported scientific misconduct (e.g. Bedeian et al., 2010; Clair, 2015; Tijdink et al., 2014). Further, excessive pressure can lead to 'effort substitution' (Kelman & Friedman, 2009, 922) where the pursuit of high-quality work is substituted with the pursuit of quantity, and the focus in terms of scholarly attention shifts from the pursuit of knowledge to publications (Adler & Harzing,

2009; Vogel & Hattke, 2018). Evidence also suggests that excessive pressure leads to negative consequences, such as gaming the system (Aboubichr & Conway, 2023; Kallio & Kallio, 2014; Mouritzen & Opstrup, 2019) and abandoning scientific integrity (Anderson et al., 2007). Pressure to publish may also lead to identity tensions (Ylijoki & Ursin, 2015) and call for scholars' emotional resilience (Yang et al., 2022).

All these insights raise questions of how experienced performance pressure manifests itself, and what kind of effects it has on academic work. At the same time, experiences of performance pressure illustrate the profound tensions between PM and academic freedom—between external control, on the one hand, and autonomy and self-determination in scientific work, on the other. This is a fundamental question for researchers, as autonomy is argued to be essential for creative outputs (see, e.g. Amabile & Pratt, 2016). However, academic freedom is argued to be deteriorating across the world given the increasing external demands and pressures (see, e.g. Tierney & Lechuga, 2010; Morrish & Sauntson, 2016; Chankseliani et al., 2021; Lott, 2024).

In all, while existing research offers understandings of sources, mechanisms, and effects of performance pressure in academia, the contributions tend to focus on how universities and their PM put pressure on scholars (see e.g. (Berman & Paradeise, 2016; Rogler, 2019; Mizrahi, 2021; Burton & Bowman, 2022; Bedford et al., 2023; Becker & Lukka, 2023). To complement this research, through our comparative study of Sweden and Finland, we examine the effects of academic systems and prevalent career models in these two countries on performance pressure experienced by scholars.

Research context, design, and methodology

Sweden and Finland are neighbouring countries in the Nordic region in Europe. Similarities between the two societies are grounded in shared history. Finland was part of the Kingdom of Sweden from 1323 until 1809, and many of its societal institutions originate from this period. The university sector in both countries is geographically dispersed and predominantly publicly funded. Esping-Andersen (1990) depicted Nordic countries to be united by a 'welfare state model' straddling free market capitalism and social democracy. While Nordic countries are characterized by advanced social policies, trust in institutions, and values such as democracy and equality (Elgström & Delputte, 2016; Leitner & Wroblewski, 2006; Martela et al., 2020), universities have in recent decades become increasingly competitive and individualistic (Kallio et al., 2016, 2020). However, academic systems and their career models differ in Sweden and Finland especially when it comes to teaching loads and the amount of fixed-term positions, as we shall explain in the next section.

In our mixed methods study, we gathered comparable survey datasets from Sweden and Finland that incorporated both qualitative and quantitative data. We use document data to ground our analysis and to account for differences in the Swedish and Finnish survey data. Table 1 describes our data and analysis methods. Appendix summarizes the document data used in the analysis.

In combining three data sets, we apply the mixed methods approach to gain complementary insights into the studied empirical phenomenon (Modell, 2009; Morse, 2003; Wheeldon & Ahlberg, 2012). Wheeldon and Ahlberg (2012) argue that the division between qualitative and quantitative research fails to recognize that qualitative and quantitative data are inherently interconnected, as all quantitative data are based on qualitative judgment, and all qualitative data can be described quantitatively. Our data triangulation can

be justified by its potential to generate a comprehensive view of the research subject. This enables us to draw empirically and theoretically grounded conclusions, while accounting for the contextual nature of the findings.

First, our document analysis gave us important insights on the similarities and differences in the academic systems and career models in Sweden and Finland. The data (reports and statistics) were collected from the national authorities of higher education in each country. In Sweden, data was collected from UKÄ (Swedish Higher Education Authority) and The Swedish National Agency of Higher Education (HSV) [1], which compile statistics on higher education institutions. In Finland, data was collected from Vipunen, a statistical service maintained by the Ministry of Education and Culture, and the Finnish National Agency for Education. These serve as essential resources for higher education research and policy development [2]. Our analysis targeted the elements of the career model that influence the perceived pressure experienced by scholars in the two countries. A Swedish and a Finnish author conducted a comparative study of the career models, examining their similarities and differences in terms of career trajectories, expectations, and advancement opportunities for individuals. The analysis extended to academic systems and their funding structures and governance. This highlighted significant disparities between the two career models in terms of nature of employment, career structure and promotions, tenure track, the role of fixed-term employment, and the role and funding of doctoral students, as well as the motivation for seeking external funding. These differences were scrutinized with the premise that they help explain our survey findings. Document analysis based on statistics complements the survey data and offers explanations for how the academic systems and their career models vary between Sweden and Finland in terms of general structure and the type of performance pressure they create.

Second, our survey data consists of commensurate data sets collected from Sweden and Finland. The primary role of the qualitative data (answers to an open-ended question) and analysis was to understand the experienced performance pressure in the two countries and how the respondents described them. The quantitative data complemented our analysis of the open-ended question in explaining the performance pressure and whether there is a statistically significant difference between Swedish and Finnish scholars in terms of how it is experienced.

Regarding our survey data, to reflect the size of the countries and the number of universities in each country, four universities were selected from Sweden and three from Finland. The targeted universities were chosen based on geographical spread, representing old and younger as well as large and smaller universities. Four fields—humanities, natural sciences, educational sciences, and business and economics—were targeted. A total of 28 schools from seven universities were included in the study. The survey was sent by email to all members of the teaching and research faculty in the selected schools. Typical titles of the respondents were professors, lecturers, researchers, and doctoral students [3]. The data were collected in 2019 and 2020. The total number of targeted respondents was 4309 in Sweden and 3656 in Finland. After reminders, the response rates exceeded 20%, which was considered satisfactory. The final response rates were almost equal: 21.6% (932 respondents) in Sweden and 21.7% (795 respondents) in Finland. Thus, the study involved a total of 1727 scholars.

Our qualitative data consists of answers to an open question placed at the top of the survey. Instead of asking clearly focused questions (e.g. 'Do you experience performance pressure?' or 'What implications does performance pressure have?'), we approached performance pressure indirectly. We stated the question as follows: *How does performance measurement affect your work?* This avoided a provocative tone and was presented on the survey form before the structured statements to avoid steering the respondents' answers (cf. Kovalainen & Eriksson,

Table 1 Types of data and analysis

Data	Source	Analysis
Document data	Reports and statistics collected from the publicly available resources of the *Swedish Higher Education Authority* and the *Finnish National Agency for Education*, and a detailed list of the used documents is presented in Appendix	Content analysis focusing on the empirical domain as observed events, concentrating on facts; focus on differences in career models
Survey data—open-ended question	A survey by the authors with 1727 respondents in total	Content analysis focusing on the occurring experiences and events, concentrating on the reflections by the survey respondents
Survey data—Likert statement	A survey by the authors with 1727 respondents in total	Statistical exploratory analyses regarding the association between experienced publication pressure and the type of employment in Sweden and Finland

2008). It provided rich data from both countries, as we received more than 1500 answers in total. Our qualitative analysis concentrated on understanding which aspects in the Swedish and Finnish datasets were similar or different and why. Our content analysis (Hsieh & Shannon, 2005) focused on (1) what the respondents wrote and (2) how they wrote it. This offers an overview of what the respondents perceive as the most significant effects of PM on their work.

The document material and the survey responses made it possible to develop a thorough understanding of the academic systems and career models in Sweden and Finland as well as how they are experienced by scholars. A qualitative content analysis was performed on the documents and the open-ended survey data (Hsieh & Shannon, 2005). In the document analysis, the focus was on the manifest content; when possible, the data was used to find 'facts' (i.e. obvious and visible content) concerning the academic systems and career models. In the analysis of the open-ended question, also latent content was studied, meaning that interpretation was necessary (Graneheim & Lundman, 2004) when analysing how scholars wrote about their experiences. To ensure analytical consistency, two of the authors jointly discussed and interpreted the material to refine the thematic structure and ensure coherence in meaning-making. The coding process was guided by the principles of data-driven content analysis, where categories were developed inductively through close reading and iterative comparison (Hsieh & Shannon, 2005). For example, expressions such as 'pressure to publish' or 'external funding stress' were grouped under broader themes such as 'quantitative performance expectations' and 'employment insecurity'.

The quantitative analysis targeted publication pressure that earlier research suggests to lie at the heart of performance pressure. We measured publication pressure with the following structured item: 'Due to performance measurement, I feel pressure to publish' using a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The quantitative data was analysed using a one-way analysis of variance (ANOVA) and its nonparametric equivalent, the Mann–Whitney *U* test. This allowed us to test whether the level of publication pressure was different in Sweden and Finland given the differences in the academic systems and career models. Our focus was on examining whether the pressure was different for respondents with similar types of employment, i.e. permanent or fixed-term positions.

Findings

Document analysis: academic systems and career models in Sweden and Finland

Our document analysis shows that academic systems and their career models vary significantly across countries, both in terms of general structure and the type of performance pressure they create. As we are interested in examining how the experience of performance pressure differs between Sweden and Finland, the academic systems and career models in these two countries are described. They are strikingly different (see Table 2). This is despite the fact that the two countries share societal values and have similar institutions.

As shown in Table 2, compared with the Swedish, the Finnish academic career model is much more uncertain from an individual scholar's perspective [5]. Fixed-term positions are common in Finnish universities. A constant need exists to secure one's continuity of employment. This applies from doctoral students to professors (Kallio & Kallio, 2023). At the time of our study in 2019–20, at the highest level of the academic career ladder (full professors in Sweden and full professors and research directors in Finland), the number of fixed-term positions in Finland was more than three times as high in Sweden:

7.5% in Sweden and 23.3% in Finland (UKÄ, 2021; Vipunen, 2021). While the excessive use of fixed-term employment in Finland may not be exceptional in international terms (Aarnikoivu et al., 2019), compared with Sweden it is obvious that Finnish scholars have a manifold chance of ending up in the academic precariat characterised by job insecurity.

Qualitative findings: effects of performance pressure on academic careers

Although performance pressure was not explicitly mentioned in the framing of the open-ended question in our study (*How does performance measurement affect your work?*), it was constantly brought up, both explicitly and implicitly, by the respondents, as shown in the following quotes:

> The research performance measurements I'm referring to here, which I don't see as suitable for research work, restrict my ability to pursue scientific 'leads' or ideas when I'm uncertain of publishable outcomes (especially in 'high impact' journals). This limitation curtails the creativity I can apply to my work and significantly narrows the range of scientific questions I can explore. Everything must be safe. Everything must also lead to quick publication – which excludes 99% of research topics and eliminates the kind of transformative, extensive studies that have shaped my field. With current practices favouring misleading performance metrics like publication quantity and impact factor, I'm compelled to opt for the 'low hanging fruit' just to get by. Such an approach is not the way to achieve scientific breakthroughs! (Swedish respondent)

> I find these kinds of 'more, more' demands distressing. They make me feel like I'm not enough, and I do too little. This has caused me to suffer burn-out a couple of years ago, manifested as an outbreak of asthma and a complicated migraine. Couldn't they [management] sometimes just say that you're [doing] enough? Why do they always have the assumption that people are lazy, unwilling, and unable to be productive? At least I want to do my job as well as possible. I would do it well without performance measurement and constant demands. In fact, I would do it better without them. (Finnish respondent)

Our qualitative analysis shows that PM causes performance pressure among scholars, and that increased pressure is one of the most significant implications of PM in academia. We focused on how the experienced pressure manifests itself and why. Our findings indicate that performance pressure caused by PM and measurement practices manifests in both Swedish and Finnish universities in ways that are notably similar. In general, the respondents in both countries report far more negative than positive effects. Nonetheless, some positive—or potentially positive—aspects of PM and measurement were recognized, too. These included notions like 'it kicks you in the ass', meaning that performance pressure forces one to work harder even when work motivation is low. Positive aspects of PM are depicted in the following excerpts from the qualitative data:

> On the one hand it pushes me to focus on performing according to what is valued within my department rather than exclusively on the quality of my research; on the other hand, it affects my work positively as I feel that my achievements are appreciated. (Swedish respondent)

Table 2 Differences in academic systems and career models in Sweden and Finland [4]

	Sweden	Finland
Nature of employment	• All faculty members are civil servants working in public service employment	• All faculty members are contractual workers
Career structure and promotions	• A four-level career structure • Promotions from one stage to another are possible. External reviewers assess whether or not a person meets the competence criteria for the next stage • It is possible (in some universities) to be promoted to a full professor even if there is no chair available; this type of promotion requires no open recruitment process	• A four-level career structure • Excluding tenure-track positions, promotions from one level to another are usually possible only by applying for an open (higher) position • Even if a person has the competence for full professorship (a level 4 position) she/he cannot become a professor unless there is an open chair, and s/he is employed to fill it
Tenure track	• Tenure-track as such does not exist. New professors are recruited on a permanent basis, with some exceptions	• Most new professors are recruited through a three-stage tenure-track; only the final stage (full professor) is a permanent position • In the tenure-track, assistant and associate professors work on fixed-term contracts, and their competences with regard to progressing to the next stage are evaluated after the predetermined time period; if one does not meet the promotion criteria, the employment contract is terminated
The role of fixed-term employment	• Approx. 28% of all faculty members work in fixed-term positions • The largest share of fixed-term positions is in career development positions, i.e. post-doctoral positions, research assistants, and assistant professors	• Approx. 72% of all faculty members work in fixed-term positions; the equivalent number is 58% when excluding doctoral students working as faculty members • Once their fixed-term contracts end, employees often need to re-apply to the same position through an open recruitment process

Table 2 (continued)

	Sweden	Finland
The role and funding of doctoral students	• Doctoral students can be taken on only if the university can guarantee full-time funding for them for four years in full-time employment • A doctoral student can extend his/her employment if s/he is sick, on parental leave, or has a trust-based assignment for a trade union • A doctoral student has the right to vacations, parental leave, and pensions • To obtain the full 4-year funding, doctoral students must show progress, which is evaluated each year as a new plan is signed by management	• If a doctoral student is employed by the university, she/he works in a level 1 position as a faculty member • Most doctoral students in most universities (the situation varies between fields) are not employed by their universities; they either have no funding or have short-term funding (typically 6–12 months) from external funders, such as foundations • Most doctoral students must constantly apply for new funding or fund their studies themselves by taking on paid labour (typically) outside the university
Motivation for applying for external funding	• The teaching load of faculty is typically high, and through external funding, faculty members can focus on research with their reduced teaching loads	• The teaching load is typically lower than in Sweden (the situation varies considerably between fields); through external funding, faculty members can, in some cases, reduce their teaching load • External funding is mostly used to employ faculty to fill (typically fixed-term) research positions

> I'm the Dean of Education (Vice Dean), and as part of my job, I have to think about how performance indicators are developing.... I also have to translate the issues stemming from performance management into the practical work of scholars. For example, I have discussions about course pass rates. The thing is, a course with a low pass rate isn't necessarily a good course just because it's demanding. I've realized that it's possible to both improve learning outcomes and increase pass rates. It's possible to achieve both quality and results at the same time. In this sense, I see the impact of performance management as positive.... Performance management pushed me to apply for research funding, something I might not have done otherwise. I don't see this as a negative thing either. (Finnish respondent)

However, in numerous responses, PM and measurement were deemed unsuited to scholarly work in academia and described by scholars as dysfunctional management doctrines and practices. In many instances, the respondents dug deeper into the reasons why PM has negative implications, and many of them identified the excessive performance pressure created by PM as the ultimate reason (see Tables 3 and 4).

Both Swedish and Finnish scholars repeatedly expressed that performance measurement causes stress and feelings of insufficiency highlighting the negative consequences of performance pressure. A topic that was constantly brought up in the responses in both countries was the use of journal rankings to evaluate publication quality. These rankings—the 'Norwegian List' in Sweden and 'Julkaisufoorumi' ('JUFO') in Finland—were not only perceived as sources of performance pressure per se but also received fierce criticism. Pressure to publish was the most frequently mentioned form of performance pressure in the Swedish and Finnish datasets. Scholars from both countries seldom saw anything positive about this. It was not only presented as a factor causing exhaustion and feelings of insufficiency among scholars, but a major risk for lowering research quality. This is due to its effects such as avoiding uncertain and risky but potentially highly important research topics and slicing findings and insights thinly into separate publications. Pressure to publish in a limited set of 'top' journals accentuated feelings of inadequacy among Swedish and Finnish scholars.

Differences in experienced performance pressure between Sweden and Finland

While performance pressure has a significant impact on the lives of scholars in Swedish and Finnish universities, our analysis of the qualitative data also indicates some clear differences between Sweden and Finland in terms of experienced performance pressure. Our analysis indicates that the differences are related to (1) pressure to publish and obtain external funding, (2) nature of employment and competition in the workplace. These factors are not only mutually interrelated, but relate to how universities are organized in Sweden and Finland and how their academic systems and career models differ.

Pressure to publish and obtain external funding In the Swedish data, numerous respondents brought up constant pressure to publish because not succeeding in publishing may mean losing one's research time. In Sweden, faculty members typically have high teaching loads and limited time for research. By securing external funding it is possible to reduce one's teaching load. As mentioned by Swedish respondents, this creates a peculiar situation in which faculty members who have research time can secure even more of it (assuming they are successful at publishing), whereas those who have no research time (and thus do not produce publications) are unlikely to get more research time. This phenomenon causes

Table 3 Sample excerpts from Swedish faculty responses reflecting performance pressure

It [performance measurement] mainly creates stress and a general feeling of distrust and inadequacy. I feel that [in the case of research] the focus has shifted from discussing and evaluating the content of the research we conduct to counting the number of publications and 'collecting points'. Excessive success is rewarded over slow and thorough work. Regarding research funding, sometimes it's required to report what you've accomplished just a few months after the research has begun. Just when you've started to ponder a bit more and have time for in-depth study, you're expected to have already published results. It's laughable, but truly depressing
[My university] evaluates the number of publications and then assigns yearly budgets for research time based on publication performance. Consequently, the professor who is responsible for research issues within my department encourages faculty to prioritize publishing in journals above all else. According to this reasoning, faculty members are considered directly responsible for failing to secure year-on-year internal research funding if our publication record is low, which is, to say the least, ridiculous. This is because even if we manage to write and submit consistently, the duration of peer-review processes in competitive journals tends to be longer than a year
I see how performance measurement creates stress, competition, and adversely affects working relationships. Colleagues who best fit the current so-called 'performance criteria' often confuse high scores on the Norwegian List with real skills. Many are chasing quick results. This fast food culture is particularly destructive in the humanities, which have a long tradition of engaging in popular science lectures, collaborations with daily press, libraries, schools, student associations, cultural associations, etc. These types of assignments have, quite literally, become pointless

Table 4 Sample excerpts from Finnish faculty responses reflecting performance pressure

I have had big problems getting international publications. These problems partly originate from the performance pressures that make writing difficult for me; the pressures are just too constantly present. For me, the performance pressures and problems with writing led to severe depression diagnosed a year and a half ago, and I am still treated with weekly psychotherapy. Of course, the negative effects of performance measurement are downplayed in official speeches, and it is said that other areas of academic work [besides journal articles] are also valuable. The measurement mantra comes from colleagues who are constantly talking about JUFO rankings and impact factors and highlighting how their publications have been cited. This mantra is allowed to poison the atmosphere
Performance measurement has made researchers' work distressing—the more intense the performance measurement, the more distressing the work becomes. Last fall, it felt like the management's actions simply went too far: I had to calculate my personal JUFO points to convince the school management that I was doing valuable work. The result of the calculation was that due to my publications and obtained external funding, I had produced 60,000€ every year, and this was IN ADDITION to my own salary, which I had obtained from external sources myself. […] Despite these facts, I received a clear message: 'This is not enough; your research work has absolutely no value'. I wish someone would set a limit that would tell me how much is enough
Even though the real focus of my work is on teaching, there's pressure to publish and apply for external research funding, since these are what you're recognized and rewarded for. The pressure to get students to graduate is intense, and it serves as a constant reminder. There's always pressure to find new, more efficient ways of working. It's impossible to do all the work, especially research, during work hours. As a result, all research happens in the evenings and weekends—that is, during the time when I should be recovering from the workload

pressure to succeed in publishing whenever one has research time and often means lowering the level of the target journals to ensure that the submitted articles are accepted for publication.

The same effect was also observed in the Finnish data, albeit to a more limited extent. Compared with Sweden, faculty members in Finland have on average more research time. While some Finnish respondents mentioned that they may lose some of their (extra) research time unless they are successful at publishing, the underlying logic of their

performance pressure derives mostly from a different source: the uncertainty of employment. The Finnish data prominently highlights the precarious nature of academic employment. In Finland, as many as 72% of scholars work in fixed-term employment. Employment uncertainty gives a specific meaning to performance pressure: success in applying for external funding and in publishing can become—and often does—a prerequisite for the continuation of employment.

In Finland, fixed-term faculty members are often responsible for obtaining external funding to cover their salaries and thus live under constant uncertainty. Securing external funding is often linked to the ability to publish; that is, scholars who actively publish are more likely to obtain external funding for their research. Consequently, in Finland, the failure to publish and/or to acquire external funding may mean losing one's job, unlike in Sweden, where it 'only' results in losing one's research time.

Nature of employment and competition in the workplace Due to employment uncertainty, the pressure to achieve success in performance measurement is explicitly pushed to the individual level in Finland. Our analysis indicates that the extensive use of fixed-term employment in Finnish universities represents the most striking difference from the academic system and prevalent career model in Sweden. It is the single most important factor explaining the qualitative difference in experienced performance pressure in these countries. Table 5 provides excerpts that illustrate the precarious nature of academic careers in Finland.

The nature of employment is clearly connected to experienced competition in the workplace. It is not surprising that our Swedish and Finnish respondents depicted competition in different ways. Whereas promotions in academia are possible in Sweden, in most cases in Finland, promotions are only possible by applying for higher positions via open competitive recruitment. Numerous Finnish respondents reported that PM increases competition among colleagues and causes a negative atmosphere in the workplace. The same effect was recognized in the Swedish data, albeit to a lesser extent. Moreover, the positions of Finnish academic faculty are easier to terminate than those of their Swedish colleagues, and Finnish universities have actively used this option. Over the past 15 years, hundreds of employment contracts have either been terminated or not renewed after the employees' fixed-term periods have ended and positions have been eliminated after their holders have retired. Uncertainty thus casts a shadow on academic work communities in Finland. At the same time, performance metrics provide a concrete tool for calculating and comparing the success of individual faculty members.

Quantitative results: fixed-term employment and publication pressure

Our quantitative analysis complements the qualitative inquiry. Given that our qualitative inquiry indicated a link between the level of experienced performance pressure and the type of employment, we conducted separate quantitative analyses for those in permanent and fixed-term positions. We focused on the most central dimension of performance pressure in universities, namely, the pressure to publish. Publication pressure was measured using the following item: 'Due to performance measurement, I feel pressure to publish' [6].

Table 5 Sample excerpts describing scholars' experiences of fixed-term contracts in Finland

I am probably a typical representative of the humanities who gathers funding from wherever and conducts research in one's own private time (and one's own money) alongside other work, and whose (unpaid) work then produces money for the university in the form of articles and degrees [for which the university receives funding from the Ministry]. Bringing external money to the university is one of the indicators that affects one's possibility of getting a job in the future, but it seems unfair that you yourself do not get any financial recognition for this. Since universities are now run according to the rules of the business world, it is only fair that the employees should also get the same bonuses for productive and high-quality work
I have always conducted my job as well as I can, although I've had about 15 short-term, fixed contracts during the five-year period. This also includes several short periods, a month or two, of unemployment. The answer concerning the continuation of my employment has always been 'maybe/quite likely, yes' […]. More than the job itself, it [performance measurement] affects my work motivation and the attractiveness of an academic career
I have been working in academia in Finland for almost 20 years on short-term contracts/project funding, without possibilities for career advancement. Somehow, it has become an acceptable practice to offer senior professionals contracts that are worse than their previous ones […]. This erodes daily work motivation and makes many people cynical towards their workplaces. Definitely, this is not something that attracts international scholars to work in Finnish universities

First, we conducted a one-way ANOVA to determine whether the level of pressure to publish differed for employees in permanent positions in Finland and Sweden (Table 6). The results showed no differences, $F\,(1, 928) = .61$, $p = .43$. We also ran a Mann–Whitney U test to confirm our findings, and the results showed no difference in the level of publication pressure among permanent Swedish and Finnish scholars, $U = 98{,}593$, $z = -.504$, $p = .61$. Next, we performed the same analysis for employees in fixed-term positions in the two counties. The results showed a statistically significant difference between the publication pressure experiences of fixed-term employees in Sweden and Finland, $F(1, 647) = 6.179$, $p = .013$. Fixed-term position scholars in Finland experienced stronger publication pressure than their colleagues in Sweden. The Mann–Whitney U test replicated this finding, $U = 48151.50$, $z = -2.065$, $p = .039$.

Next, we performed exploratory analyses regarding the association between experienced publication pressure and the type of employment in Sweden and Finland. Although the mean levels of publication pressure were not different for employees in fixed-term and permanent positions in Sweden, a statistically significant difference was observed for Finnish scholars. The one-way ANOVA results showed that the publication pressure level in Finland was higher for fixed-term employees ($M = 5.26$; $SD = 1.48$) than for permanently employed employees ($M = 4.90$; $SD = 1.67$), $F(1, 730) = 8.796$, $p = .003$.

The results of our quantitative analysis reveal that, while the levels of experienced performance pressure in the form of publication pressure are high in Sweden and Finland, the effect of publication pressures on Finnish fixed-term scholars is greater than the effect on their Swedish counterparts. Thus, regarding the role of fixed-term employment in

Table 6 The levels of publication pressure among fixed-term and permanent faculty

	Finland			Sweden		
	M	*SD*	*N*	*M*	*SD*	*N*
Fixed-term faculty	5.26	1.48	377	4.96	1.67	272
Permanent faculty	4.90	1.67	342	4.81	1.76	588

understanding experienced performance pressure, the quantitative analysis supports our qualitative findings which suggest that the observed differences in the academic systems and career models are reflected in scholars' experiences of performance pressure.

Discussion

Performance management (PM) has been introduced to academic systems and universities across the world (Melo et al., 2010; Mizrahi, 2021), and the performance of scholars is meticulously measured (Sousa, de Nijs & Hendrisk, 2010; ter Bogt & Scapens, 2012). Universities are also actively mimicking each other's PM practices (Decramer et al., 2012; Kallio et al., 2016). This is done in a global academic marketplace that is increasingly determined by university rankings and their standardized ranking criteria (Brankovic et al., 2023). While PM practices are reflected in the career models of universities (Herbert & Tienari, 2013), as Becker and Lukka (2023) show, the nature of PM may vary between different universities and schools in what the authors call narrow and rigid systems and broad and flexible systems. Existing research has also established that PM causes various kinds of performance pressure (Becker & Lukka, 2023; Bedford et al., 2023; Berman & Paradeise, 2016; Grossi et al., 2019; Mizrahi, 2021; van Helden & Argento, 2019; Xu et al., 2021). Instead of analysing the nature of performance pressure produced by PM and measurement in individual universities and schools, our comparison of Sweden and Finland shifts the focus to the broader academic systems and career models in these countries.

Our analysis indicates that the performance pressure caused by PM does not operate in isolation from the level of academic systems that conditions universities and schools. Performance pressure is thus linked to external contingency factors, including the career model in place (Kroll, 2015). In other words, depending on the nature of the academic system and career model, it may (as in the case of Finland) or may not (as in the case of Sweden) amplify the effect of performance pressure caused by PM and measurement and potentially also change its nature. From the perspective of individual scholars, discerning the origins of performance pressure may not be essential. However, for the theoretical understanding of the phenomenon, it is crucial to recognize that performance pressure does not arise solely from the internal actions and practices of universities, schools, and departments in designing and implementing their respective PM systems (Kallio et al., 2020; Melo et al., 2010). Performance pressure at the university level, which is trickled down by the actions of managers (e.g. the rector, deans, and heads of departments and units) (Kallio et al., 2020), arises from external contingency factors (Kroll, 2015). These factors typically include such elements as funding schemes (Kallio et al., 2017, 2022), demands for accountability (Melo et al., 2010; Pinheiro et al., 2019), accreditations (Alajoutsijärvi et al., 2018), university rankings (Brankovic et al., 2023; Hazelkorn, 2007; Nelson & Saunder, 2016), and competition for students and faculty (Björkman et al., 2022; Ferlie et al., 2008; Gebreiter & Hidayah, 2019; Kallio et al., 2020). Individual universities, schools, and departments may in practice have limited influence over these external contingency factors that contribute to performance pressure experienced by scholars.

Another source of performance pressure comprises internal contingency factors. Unlike externally induced pressures, performance pressures stemming from internal factors are directed at schools, departments, and scholars. Universities typically exert a greater degree of control over these because they usually have discretion in shaping their internal resource allocation schemes, PM systems, and recruitment principles. Nevertheless, even if

universities and/or schools can, for instance, influence whether their respective PM systems become narrow, broad, or in between (Becker & Lukka, 2023; ter Bogt & Scapens, 2012), they cannot fully control how performance pressure manifests at the individual level. This is because individual universities and schools cannot control external contingency factors such as academic systems and career models in society, affecting the nature and intensity of performance pressure.

Regarding our first research question (How do academic systems and their career models vary between Sweden and Finland in terms of general structure and the type of performance pressure they create?), our analysis shows that while the general performance pressure levels are high in Sweden and Finland, the nature of this pressure is distinct to each academic system. In Sweden, performance pressure predominantly targets the organizational level (universities, schools, and departments) because most scholars hold permanent positions and do not need to constantly compete with their colleagues for employment, or to apply for open positions to be promoted. When scholars in Sweden experience performance pressure at the individual level, this is largely implicit and has relatively few direct implications for them. The incentive value of performance pressure thus seems less salient in Sweden.

In contrast, the academic system and career model in Finland creates significant uncertainties for individual scholars, especially because most work in fixed-term positions and must regularly compete with their colleagues for employment, promotions, and external funding. This uncertainty creates significant pressure to perform, as one's employment (i.e. livelihood)—not only career advancement—is contingent on the capability to produce publications and obtain funding. Also, the intertwined and judgmental nature of the Finnish PM and career model amplifies performance pressure, explicitly pushing it to the individual level. In Finland, a genuine risk of job loss exists when performance targets are not met. As a result, the nature and intensity of performance pressure experienced at the individual level differ from those observed in Sweden. This difference stems from differences in the academic systems and career models.

Regarding our second research question (How do academic systems and career models influence the experience of performance pressure in the two countries?), we found that while performance pressure has a significant impact on the lives of scholars in both countries, there some clear differences. These differences are related to the pressure to publish and obtain external funding, and the nature of employment and competition in the workplace. These factors are not only mutually interrelated, but relate to how universities are organized in Sweden and Finland and how their academic systems and career models differ.

Regarding our third research question (What insights can the observed differences provide regarding PM practices in universities more broadly?), we can offer four theoretical postulations. First, the intensity of performance pressure is likely to increase when the prevailing academic system and career model in a country is predominantly based on non-tenured, fixed-term positions, and when inherent uncertainty prompts colleagues to compete for employment and promotions. Second, even if PM in a university or school is not designed to be judgmental and rigid, it can become so when influenced by an academic system and career model that promotes uncertainty and competition (Ylijoki & Ursin, 2015). Third, when a dominant academic system and career model breeds uncertainty and competition, as is evident in the Finnish context, it can itself become a source of individual level performance pressure.

Fourth, and more generally, by highlighting sources, mechanisms, and effects of performance pressure, our study sheds light on tensions between PM and academic freedom. Academic freedom is a concept that is associated with the university institution as well

as with work in universities (Altbach, 2001; Tierney & Lechuga, 2010). It is, however, an ambiguous concept used in different ways in different circumstances (Henkel, 2005). It can refer to freedom of individual scholars or the autonomy and independence of an academic institution. For individual scholars, it can be about freedom *from* interference and freedom *to* engage in particular activities (Åkerlind & Kayrooz, 2003). Lott's (2024) study indicates that academic freedom is under threat across the globe, including liberal democracies such as Sweden and Finland. Academic freedom is argued to deteriorate with increasing PM (Tierney & Lechuga, 2010; see also Morrish & Sauntson, 2016) and with direct government interference in universities (Chankseliani et al., 2021). Our findings suggest that the performance pressure experienced by scholars in Sweden and Finland is grounded in the fact that policy-makers responsible for academic systems and universities implementing PM increasingly retain the right to decide which aspects of academic work are treated as questions of individual freedom (Herbert & Tienari, 2013). Marginson (2008) proposed different forms of academic freedom from the individual's point of view, including the capacity and power to determine the outcomes of activities; the ability to choose how given outcomes are achieved; and the possibility to create previously unimagined 'new' knowledge. The performance pressure voiced by scholars in our study suggests that all these forms of academic freedom are eroding.

Our findings offer ideas for further research. While we have shown how different academic systems and career models applied in Sweden and Finland are related to the manifestations of performance pressure among scholars, future studies could expand its geographical scope. More attention could be paid to different academic systems and career models that may play a major role in explaining the studied phenomena. Although fixed-term employment, for instance, may not necessarily be directly comparable between different academic systems and career models (e.g. a fixed-term position in a Finnish or Swedish university may not mean the same as a non-tenure position in the USA), more research is needed on fixed-term positions when studying university PM and performance pressure (Levin et al., 2012; Vogel & Hattke, 2018).

In terms of managerial implications, our findings point to the importance of designing meaningful PM systems. Decision-makers in universities and schools are advised not to copy their PM systems from other higher education institutions without careful consideration. This is especially so if the system level conditions vary between the mimicking and mimicked organizations. A PM system designed in a country where most employees are under permanent employment and do not have to constantly compete with their co-workers (e.g. Sweden) may produce excessive performance pressure in a country (e.g. Finland) where employees lack tenure and are forced to constantly compete with their co-workers. Our study also has policy implications, three of which stand out as particularly significant. First, revising career models to reduce job insecurity is essential, particularly in contexts like Finland, where fixed-term contracts are prevalent. Promoting permanent employment opportunities could mitigate the excessive performance pressures experienced at the individual level and contribute to a more stable and sustainable academic workforce. Second, policymakers and institutions must ensure that PM systems are appropriately tailored to the specific academic and institutional contexts in which they are applied. Adopting systems designed for settings characterized by stable employment may inadvertently intensify performance pressures in environments marked by high job insecurity. Third, universities should implement robust support mechanisms for fixed-term employees, such as mentorship programs, pathways to permanent positions, and equitable access to research time and funding. These measures would help mitigate the negative effects of precarious employment and foster equitable opportunities for academic career development.

Conclusion

Recent studies have reported escalation of performance pressure experienced by scholars in universities. We delved deeper into this phenomenon from a system level perspective, comparing performance pressure experienced in Sweden and Finland. We examined two similar countries that have implemented different career models in their universities, with different implications in terms of performance pressure. Our key findings indicate that due to systemic differences the nature of experienced performance pressure differs. Although scholars in both countries face significant pressure caused by performance measurement, our study reveals that in Sweden, this pressure is mostly exerted at the organizational level. In contrast, in Finland, the pressure is more overtly and intensely directed at individuals. The analysis further indicates that the disparities are most pronounced in the experiences of scholars on fixed-term contracts. Based on the identified differences and their underlying causes, we propose that studies dealing with performance pressure draw more attention to its nature and intensity from the perspective of individual scholars. We argue that the prevailing academic system and career model in a country can intensify the experienced performance pressure.

Endnotes

1. In Sweden and Finland, doctoral students who are on the payroll of universities are counted as faculty members.
2. The Swedish National Agency of Higher Education (HSV) was replaced by the Swedish Higher Education Authority (UKÄ) in 2013.
3. While these national sources offer systematic and publicly available information, it is important to note that their categorisations, reporting practices and emphases may differ slightly. In interpreting the material, we were aware of these possible discrepancies and focused on elements clearly articulated in both systems and relevant to the academic career model (see Appendix).
4. The percentages of fixed-term employment are from 2019 and are based on the statistics provided by UKÄ (Sweden) and Vipunen (Finland).
5. The proportion of fixed-term employment in Finland's university sector is notable, considering that the proportion of fixed-term contracts outside the university sector is not particularly high. The uncertainty of employment in Finnish universities has emerged as a societal issue and is regularly highlighted by, for instance, academic labour unions (Kallio & Kallio, 2023).
6. The item was measured on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree)

Appendix

Materials used in the document analysis.

Sweden

1. Agevall, O. & Olofsson, G. (2019) Universitetslärarna och den högre utbildningen, in Brante, T., Svensson, K. and Svensson, L.G. (eds.) Ett professionellt landskap i förvandling, Studentlitteratur, Lund
2. Sørensen, M. P., et al. (2015) Autonomi och kvalitet – ett uppföljningsprojekt om implementering och effekter av två högskolereformer i Sverige, Rapporter från Riksdagen, 2014/15:RFR5, Riksdagstryckeriet, Stockholm
3. HSV (Swedish National Agency for Higher Education) (2007) Nationellt kvalitetssäkringssystem för perioden 2007–2012. Report 2007:59 R. Stockholm
4. HSV (Swedish National Agency for Higher Education) (2012) Högskoleverkets system för kvalitetsutvärdering 2011–2014. Examina på grundnivå och avancerad nivå. Report 2012:15 R. Stockholm
5. Prop. 2009/10:149. En akademi i tiden—ökad frihet för universitet och högskolor
6. SOU 2015:92. Utvecklad ledning av universitet och högskolor, Stockholm
7. UKÄ homepage. www.uka.se (accessed 2022–02-01)
8. HSV (Swedish National Agency for Higher Education) (2007) Befordran till professor och lektor—en rättslig översikt. Report 2007:55 R. Stockholm

Finland

1. Välimaa, Jussi; Stenvall, Jari; Siekkinen, Taru; Pekkola, Elias; Kivistö, Jussi; Kuoppala, Kari; Nokkala, Terhi; Aittola, Helena; Ursin, Jani (2016) Neliportaisen tutkijanuramallin arviointihanke: Loppuraportti. Opetus- ja kulttuuriministeriö. https://urn.fi/URN:ISBN:978-952-263-401-6
2. Vipunen (2025) Education Statistics Finland. https://vipunen.fi/en-gb/ (accessed 2022–02-01)
3. Opetusministeriö (2008) Neliportainen tutkijanura. Opetusministeriön työryhmämuistioita ja selvityksiä 2008:15
4. Opetus- ja Kulttuuriministeriö (2022) Korkeakoulu- ja tiedepolitiikka ja sen kehittäminen, https://okm.fi/korkeakoulu-ja-tiedelinjaukset (accessed 2022–02-01)
5. Pekkola, Elias, Siekkinen, Taru, Kujala, Emmi-Niina & Kanniainen, Jari-Pekka (2020). Professoreiden rekrytoinnit. https://www.professoriliitto.fi/app/uploads/2023/11/Professoreiden-rekrytoinnit-Pekkola-ym.–22.10.2020.pdf (accessed 2022–02-01)
6. Pietilä, Maria (2019) *Making Finnish universities complete organisations: Aims and tensions in establishing tenure track and research profiles*. Helsinki: Valtiotieteellisen tiedekunnan julkaisuja
7. Tieteentekijät (2021). Määräaikaiset työsuhteet. https://tieteentekijat.fi/tieteentekijan-arki/maaraaikaiset-tyosuhteet/ (accessed 2022–02-01)

Author contribution Tomi J. Kallio, Aki Lehtivuori, and Kirsi-Mari Kallio jointly designed the data collection and were responsible for collecting the survey data. Tomi J. Kallio, as the first author, led the theoretical framework development, conducted the qualitative analysis, and prepared the initial draft of the manuscript. Aki Lehtivuori, as the second author, was primarily responsible for the quantitative data analysis and contributed to the writing of the initial draft. Kirsi-Mari Kallio contributed actively to the manuscript's writing and refinement following the initial draft, participated in theory development, and was involved in the overall design of the study. She also played an active role in the review rounds. Janne Tienari contributed to the theory development and provided critical input on the overall manuscript design throughout all phases. Elin K. Funck conducted the document analysis in collaboration with Tomi J. Kallio and contributed to the manuscript's development across all phases.

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Declarations

Ethics approval Not applicable.

Consent to participate Acquired.

Competing interests Not applicable.

References

Aarnikoivu, M., Nokkala, T., Siekkinen, T., Kuoppala, K., & Pekkola, E. (2019). Working outside academia? Perceptions of early-career, fixed-term researchers on changing careers. *European Journal of Higher Education, 9*(2), 172–189.

Aboubichr, B., & Conway, N. (2023). The gaming of performance management systems in British universities. *Human Relations, 76*(4), 602–628.

Adler, N. J., & Harzing, A.-W. (2009). When knowledge wins: Transcending the sense and nonsense of academic rankings. *Academy of Management Learning & Education, 8*(1), 72–95.

Aguinis, H., Cummings, C., Ravini, R., & Cummings, T. G. (2020). "An A is an A": The new bottom line for valuing academic research. *Academy of Management Perspectives, 34*, 135–154.

Åkerlind, G. S., & Kayrooz, C. (2003). Understanding academic freedom: The views of social scientists. *Higher Education Research & Development, 22*(3), 327–344.

Alajoutsijärvi, K., Kettunen, K., & Sohlo, S. (2018). Shaking the status quo: Business accreditation and positional competition. *Academy of Management Learning & Education, 17*(2), 203–225.

Altbach, P. G. (2001). Academic freedom: International realities and challenges. *Higher Education, 41*, 205–219.

Amabile, T. M., & Pratt, M. G. (2016). The dynamic componential model of creativity and innovation in organizations: Making progress, making meaning. *Research in Organizational Behavior, 36*, 157–183.

Anderson, M. S., Ronning, E. A., De Vries, R., & Martinson, B. C. (2007). The perverse effects of competition on scientists' work and relationships. *Science and Engineering Ethics, 13*(4), 437–461.

Baruch, Y., & Hall, D. T. (2004). The academic career: A model for future careers in other sectors? *Journal of Vocational Behavior, 64*(2), 241–262.

Becker, A., & Lukka, K. (2023). Instrumentalism and the publish-or-perish regime. *Critical Perspectives on Accounting, 94*, Article 102436.

Bedeian, A. G., Taylor, S. G., & Miller, A. N. (2010). Management science on the credibility bubble: Cardinal sins and various misdemeanors. *Academy of Management Learning & Education, 9*(4), 715–725.

Bedford, D. S., Granlund, M., & Lukka, K. (2023). Safeguarding the unknown: Performance measurement, academic agency and the meaning of research quality in practice. *Accounting, Auditing & Accountability Journal, 36*(9), 281–308.

Benaine, S. L., & Kroll, A. (2020). Explaining effort substitution in performance systems: The role of task demands and mission orientation. *Public Management Review, 22*(6), 813–835.

Berman, E. P., & Paradeise, C. (2016). Introduction: The university under pressure. In E. Popp Berman & C. Paradeise (Eds.), *The university under pressure Research in the Sociology of Organizations*, 46, 1–22. Emerald Group Publishing Limited.

Billsberry, J., Ambrosini, V., & Thomas, L. (2023). Managerialist control in post-pandemic business schools: The tragedy of the new normal and a new hope. *Academy of Management Learning & Education, 22*(3), 439–458.

Björkman, I., Smale, A., & Kallio, T. J. (2022). Talent management in the business school context. In D. Collings, V. Vaiman, & H. Scullion (Eds.), *Talent management: A decade of developments* (pp. 127–145). Emerald.

Blomberg, A., Kallio, T. J., & Pohjanpää, H. (2017). Antecedents of organizational creativity: Drivers, barriers or both? *Journal of Innovation Management, 5*(1), 78–104.

Brankovic, J., Hamann, J., & Ringel, L. (2023). The institutionalization of rankings in higher education: Continuities, interdependencies, engagement. *Higher Education, 86*, 719–731.

Burton, S., & Bowman, B. (2022). The academic precariat: Understanding life and labour in the neoliberal academy. *British Journal of Sociology of Education, 43*(4), 497–512.

Chankseliani, M., Qoraboyev, I., & Gimranova, D. (2021). Higher education contributing to local, national, and global development: New empirical and conceptual insights. *Higher Education, 81*, 109–127.

Clair, J. A. (2015). Procedural injustice in the system of peer review and scientific misconduct. *Academy of Management Learning & Education, 14*(2), 159–172.

Dahler-Larsen, P. (2014). Constitutive effects of performance indicators: Getting beyond unintended consequences. *Public Management Review, 16*(7), 969–986.

Decramer, A., Smolders, C., Vanderstraeten, A., & Christiaens, J. (2012). The impact of institutional pressures on employee performance management systems in higher education in the Low Countries. *British Journal of Management, 23*(51), S88–S103.

Driskell, J. E., & Salas, E. (Eds.). (1996). *Stress and human performance*. Erlbaum.

Ekman, M., Lindgren, M., & Packendorff, J. (2018). Universities need leadership, academics need management: Discursive tensions and voids in the deregulation of Swedish higher education legislation. *Higher Education, 75*(2), 299–321.

Elgström, O., & Delputte, S. (2016). An end to Nordic exceptionalism? Europeanisation and Nordic development policies. *European Politics and Society, 17*(1), 28–41.

Ellemers, N. (2021). Science as collaborative knowledge generation. *British Journal of Social Psychology, 60*(1), 1–28.

Esping-Andersen, G. (1990). *The three worlds of welfare capitalism*. Polity Press.

Ferlie, E., Musselin, C., & Andresani, G. (2008). The steering of higher education systems: A public management perspective. *Higher Education, 56*(3), 325–348.

Gebreiter, F., & Hidayah, N. N. (2019). Individual responses to competing accountability pressures in hybrid organisations: The case of an English business school. *Accounting, Auditing & Accountability Journal, 32*(3), 727–749.

Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today, 24*(2), 105–112.

Grossi, G., Dobija, D., & Strzelczyk, W. (2019). The impact of competing institutional pressures and logics on the use of performance measurement in hybrid universities. *Public Performance & Management Review, 43*(4), 818–844.

Hazelkorn, E. (2007). The impact of league tables and ranking systems on higher education decision making. *Higher Education Management and Policy, 19*(2), 87–110.

Henkel, M. (2005). Academic identity and autonomy in a changing policy environment. *Higher Education, 49*, 155–176.

Herbert, A., & Tienari, J. (2013). Transplanting tenure and the (re)construction of academic freedoms. *Studies in Higher Education, 38*(2), 157–173.

Hermanowicz, J. C. (2016). Universities, academic careers, and the valorization of 'shiny things'. In E. Berman and C. Paradeise (Eds.), *The university under pressure Research in the Sociology of Organizations* (Vol. 46). Emerald Group Publishing Limited.

Heywood, J. S., Wei, X., & Ye, G. (2011). Piece rates for professors. *Economics Letters, 113*(3), 285–287.

Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277–1288.

Kallio, K.-M., & Kallio, T. J. (2014). Management-by-results and performance measurement in universities–Implications for work motivation. *Studies in Higher Education, 39*(4), 574–589.

Kallio, K.-M., Kallio, T. J., & Grossi, G. (2017). Performance measurement in universities: Ambiguities in the use of quality vs. quantity in performance indicators. *Public Money and Management, 37*(4), 293–300.

Kallio, K.-M., Kallio, T. J., Tienari, J., & Hyvönen, T. (2016). Ethos at stake: Performance management and academic work in universities. *Human Relations, 69*(3), 685–709.

Kallio, T. J., & Kallio, K.-M. (2023). Tutkimus- ja opetushenkilökunnan määräaikaiset työsuhteet suomalaisissa yliopistoissa. *Hallinnon tutkimus, 42*(3), 341–359. (Article published in Finnish in Administrative Studies).

Kallio, T. J., Kallio, K.-M., & Blomberg, A. (2020). From professional bureaucracy to competitive bureaucracy–Redefining universities' organizational principles, performance measurement criteria, and reason for being. *Qualitative Research in Accounting and Management, 17*(1), 82–108.

Kallio, T. J., Kallio, K.-M., Huusko, M., Pyykkö, R., & Kivistö, J. (2022). Balancing between accountability and autonomy: The impact and relevance of public steering mechanisms within higher education. *Journal of Public Budgeting, Accounting & Financial Management, 34*(6), 46–48.

Kelman, S., & Friedman, J. N. (2009). Performance improvement and performance dysfunction: An empirical examination of distortionary impacts of the emergency room wait-time target in the English National Health Service. *Journal of Public Administration Research and Theory, 19*(4), 917–946.

Kinman, G. (2001). Pressure points: A review of research on stressors and strains in UK academics. *Educational Psychology, 21*(4), 473–492.

Kovalainen, A., & Eriksson, P. (2008). *Qualitative methods in business research*. SAGE.

Kroll, A. (2015). Drivers of performance information use: Systematic literature review and directions for future research. *Public Performance & Management Review, 38*(3), 459–486.

Leišytė, L. (2016). New public management and research productivity–A precarious state of affairs of academic work in the Netherlands. *Studies in Higher Education, 41*(5), 828–846.

Leitner, A., & Wroblewski, A. (2006). Welfare states and work-life balance. *European Societies, 8*(2), 295–317.

Levin, J. S., Shaker, G., & Wagoner, R. (2012). Post-neoliberalism: The professional identity of faculty off the tenure track. In B. Purser, K. Kempner, S. Marginson, & I. Ordorika (Eds.), *Universities and the public sphere: Knowledge creation and state building in the era of globalization* (pp. 197–217). Routledge.

Lott, L. (2024). Academic freedom growth and decline episodes. *Higher Education, 88*, 999–1017.

Marginson, S. (2008). Academic creativity under New Public Management: Foundations for an investigation. *Educational Theory, 58*(3), 269–287.

Martela, F., Greve, B., Rothstein, B., & Saari, J. (2020). The Nordic exceptionalism: What explains why the Nordic countries are constantly among the happiest in the world. In J. F. Helliwell, R. Layard, J. D. Sachs, & J. E. De Neve (Eds.), *World happiness report* (pp. 129–146). Sustainable Development Solutions Network.

Melo, A. I., Sarrico, C. S., & Radnor, Z. (2010). The influence of performance management systems on key actors in universities. *Public Management Review, 12*(2), 233–254.

Miller, A. N., Taylor, S. G., & Bedeian, A. G. (2011). Publish or perish: Academic life as management faculty live it. *Career Development International, 16*(5), 422–445.

Mitchell, M. S., Baer, M. D., Ambrose, M. L., Folger, R., & Palmer, N. F. (2018). Cheating under pressure: A self-protection model of workplace cheating behavior. *Journal of Applied Psychology, 103*(1), 54–73.

Mizrahi, S. (2021). Performance funding and management in higher education: The autonomy paradox and failures in accountability. *Public Performance & Management Review, 44*(2), 294–320.

Modell, S. (2009). In defense of triangulation: A critical realist approach to mixed methods research in management accounting. *Management Accounting Research, 20*(3), 208–221.

Morrish, L., & Sauntson, H. (2016). Performance management and the stifling of academic freedom and knowledge production. *Journal of Historical Sociology, 29*(1), 42–64.

Morse, J. M. (2003). Principles of mixed methods and multimethod research design. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 189–208). Thousand Oaks.

Mouritzen, P. E., & Opstrup, N. (2019). *Performance management at universities: The Danish bibliometric research indicator at work*. Palgrave Macmillan.

Nelson, W., & Saunder, M. (2016). *Engines of anxiety: Academic rankings, reputation, and accountability*. The Russell Sage Foundation.

Pinheiro, R., Geschwind, L., Foss Hansen, H., & Pulkkinen, K. (Eds.). (2019). *Reforms, organizational change and performance in higher education: A comparative account from the Nordic countries*. Palgrave Macmillan.

Rogler, C. R. (2019). Insatiable greed: Performance pressure and precarity in the neoliberalised university. *Social Anthropology, 27*(S2), 63–77.

Sousa, C. A., de Nijs, W. F., & Hendriks, P. H. (2010). Secrets of the beehive: Performance management in university research organizations. *Human Relations, 63*(9), 1439–1460.

Spence, C. (2019). 'Judgement' versus 'metrics' in higher education management. *Higher Education, 77*(5), 761–775.
ter Bogt, H. J., & Scapens, R. W. (2012). Performance management in universities: Effects of the transition to more quantitative measurement systems. *European Accounting Review, 21*(3), 451–497.
Tierney, W. G., & Lechuga, V. M. (2010). The social significance of academic freedom. *Cultural Studies - Critical Methodologies, 10*(2), 118–133.
Tijdink, J. K., Verbeke, R., & Smulders, Y. M. (2014). Publication pressure and scientific misconduct in medical scientists. *Journal of Empirical Research on Human Research Ethics, 9*(5), 64–71.
UKÄ – Swedish Higher Education Authority. https://www.uka.se/. Accessed 8 Apr 2021.
van Dalen, H. P., & Henkens, K. (2012). Intended and unintended consequences of a publish-or-perish culture: A worldwide survey. *Journal of the American Society for Information Science and Technology, 63*(7), 1282–1293.
van den Broeck, A., Howard, J. L., Van Vaerenbergh, Y., Leroy, H., & Gagné, M. (2021). Beyond intrinsic and extrinsic motivation: A meta-analysis on self-determination theory's multidimensional conceptualization of work motivation. *Organizational Psychology Review, 11*(3), 240–273.
van Helden, J., & Argento, D. (2019). New development: Our hate–love relationship with publication metrics. *Public Money & Management*. 40(2), 174–177. https://doi.org/10.1080/09540962.2019.1682353
Vipunen – Education Statistics Finland. https://vipunen.fi/en-gb. Accessed 8 Apr 2021.
Vogel, R., & Hattke, F. (2018). How is the use of performance information related to performance of public sector professionals? Evidence from the field of academic research. *Public Performance & Management Review, 41*(2), 390–414.
Wheeldon, J. & Ahlberg, M.K. (2012). Mapping mixed-methods research. In J. Wheeldon & M.K. Ahlberg (Eds.), *Visualizing Social Science Research. Maps, Methods, and Meaning* (pp.113–147).
Xu, X., Wang, Y., Li, M., & Kwan, H. K. (2021). Paradoxical effects of performance pressure on employees' in-role behaviors: An approach/avoidance model. *Frontiers in Psychology, 12*, 44404.
Yang, S., Shu, D., & Yin, H. (2022). "Teaching, my passion; publishing, my pain": Unpacking academics' professional identity tensions through the lens of emotional resilience. *Higher Education, 84*, 235–254.
Ylijoki, O.-H., & Ursin, J. (2015). High-flyers and underdogs: The polarisation of Finnish academic identities. In L. Evans & J. Nixon (Eds.), *Academic Identities in Higher Education: The Changing European Landscape* (pp. 187–202). Bloomsbury Academic.

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