

# THE MANAGERIALIZATION OF HIGHER EDUCATION IN GERMANY AND ITS CONSEQUENCES: CHANGES IN JOB ADVERTISEMENTS FOR PROFESSORSHIPS IN GERMAN UNIVERSITIES, 1990 TO 2010

Lisa-Maria Gerhardt, Jan Goldenstein, Simon Oertel,  
Philipp Poschmann and Peter Walgenbach

## ABSTRACT

*Higher education institutions have undergone a transformation over the past few decades, from loosely coupled systems to more centrally managed organizations. Central to this ongoing development is the increasing competition for resources and reputation, driving higher education institutions to rationalize their structures and practices. In our study, we focused on changes in job advertisements for professorships in Germany from 1990 to 2010. Findings showed that the requirements stipulated by universities for professorial positions have become increasingly differentiated (and measurable) over time. In this context, competitive aspects, such as third-party funding, international orientation, or publications, have particularly come to the fore and grown significantly in importance. We discuss these findings in light of an increasing*

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*managerialization of higher education institutions, which has a direct effect on collegiality. We argue that the differentiation of professorial job profiles leads to even more formalized appointment processes and may push collegial governance into the background.*

**Keywords:** Managerialization; higher education; universities; professorships; job advertisements; Germany

## INTRODUCTION

Over the past few decades, universities worldwide have experienced increasing competition for students, researchers, financial resources, and reputation (Engwall, 2020; Wedlin, 2020). At the same time, national and international rankings, which have driven this trend, have become increasingly important in higher education (Ramirez, 2010; Sahlin, 2013; Wedlin, 2006; Wilbers & Brankovic, 2021).

In response to these competitive pressures, universities have grown more managerialized and have become organizational actors (Brunsson & Sahlin-Andersson, 2000; Drori et al., 2003; Krücken & Meier, 2006; Lee & Ramirez, 2023, Vol. 86; Oliver-Lumerman & Drori, 2021; Ramirez, 2010; Ramirez & Christensen, 2013), that is, autonomous, goal-oriented, and accountable entities (Bromley & Meyer, 2017; Krücken & Meier, 2006; Meyer & Bromley, 2013). The managerialization of universities – that is, the implementation of managerial practices – is, at the same time, a consequence and driver of rationalization (i.e., the construction of new means-ends-relationships). This is made evident in the rising use by universities of standardized metrics to measure their academic excellence, including third-party funding, publications, patents, and graduates (Krücken, 2020; Ramirez, 2010). Indeed, to improve their competitive position, universities systematically measure their research output (Aguinis et al., 2020; Engwall et al., 2023; Marques & Powell, 2020) and engage in reputation management (Christensen et al., 2019; 2020; Ma & Christensen, 2019).

In such an increasingly competitive environment, a university's academic staff, particularly its professorial staff, is a key resource for its strategic positioning. Consequently, performance expectations from universities' institutional environments are passed on to the academic staff to ensure uniform goal orientation. Indeed, most university performance criteria strongly depend on the performance of the university's professors (Engwall et al., 2023). Consequently, the appointment of professors is a highly significant decision for universities (Harley et al., 2004; Harroche & Musselin, 2023, Vol. 87). It is, therefore, not surprising that recent studies have underscored that academic recruiting processes are affected by managerialization (Harley et al., 2004; Mantai & Marrone, 2023; Reymert, 2022).

Despite this recent research on the reactions of universities, we know relatively little about how the requirements for professorships have evolved over time and how the new requirements may affect collegiality in universities. Understanding this long-term trend is crucial, as these new requirements may have strong and

frequently direct effects on the behavior of the professoriate as well as on relationships and collaboration between professors. Thus, the increasing managerialization apparent in academic recruiting may challenge and erode academic collegiality as the *modus operandi* of universities (Kallio et al., 2016; Mignot-Gérard et al., 2022; Sahlin & Eriksson-Zetterquist, 2016, 2023, Vol. 86).

The purpose of our research is to study how the managerialization of higher education has changed the requirements for applicants to university professorships. Based on this analysis, we draw conclusions about the consequences for collegiality in universities. Empirically, we focus on how job requirements for professorships have changed over time by performing a descriptive analysis of the total of 579 job advertisements for professorships in Business, Economics, and Sociology at German universities published in 1990, 1995, 2000, 2005, and 2010 in *Die Zeit* – a German weekly newspaper in which professorships are generally advertised. In our study, we consider these job advertisements to be a statement of a university's expectations of its future professors (Mantai & Marrone, 2023).

In this context, Germany is a fruitful research setting for two reasons. First, there is a historically rooted academic model based on collegial governance (Hüther & Krücken, 2016; Kehm, 2013), which was expected to be strongly affected by rationalization efforts associated with competition. Second, in German universities, this new form of rationalization is apparent but still ongoing. In this regard, Germany is also an interesting context for discussion of the potential unintended consequences of these developments.

Our findings show that the requirements listed in job advertisements for professorships have become more differentiated and measurable. Competitive aspects such as third-party funding, international orientation, or publications have particularly become increasingly important. These requirements reflect the core criteria that define a successful academic in the modern university and, in the aggregate of all professors, the criteria of a successful university. More specific and measurable requirements make the appointment process more manageable with regard to the goals of the university and thus reflect attempts to rationalize. At the same time, the implementation of measurable criteria may affect academic collegiality within the faculty in terms of the two dimensions of collegiality elaborated by Sahlin and Eriksson-Zetterquist (2023, Vol. 86), that is, the role of faculty in decision-making processes (vertical collegiality) and social relations and companionship based on shared norms (horizontal collegiality), which we will subsequently discuss in more detail.

## GERMAN UNIVERSITIES IN TRANSITION

### *The Historical German Academic Model*

Higher education systems and the academic labor market are historically anchored and nationally specific (Krücken & Meier, 2006; Ramirez, 2010). Despite the homogenization efforts under the Bologna reforms of 1999, they differ considerably between European countries (Dobbins et al., 2011; Musselin, 2005).

In Germany, higher education was particularly influenced by the ideas of Wilhelm von Humboldt at the end of the eighteenth and beginning of the nineteenth centuries. It is characterized by

the combination of research and teaching; academic freedom (often expressed as *Lehr- and Lernfreiheit*); education rather than training; the idea of the unity of science and scholarship; and the community of students and teachers. (Östling, 2020, p. 63)

The role of the academic community is thereby central not only to research but also to the governance of universities, as universities in Germany are traditionally understood to be self-governing communities of scholars (Dobbins et al., 2011). That is, a high level of academic autonomy and strong self-administration protect the interests of the professoriate and reflect academic collegiality as the *modus operandi* in German universities (Enders, 2001; Hüther & Krücken, 2016; Schimank, 2005). In line with this, within the traditional collegial academic governance system, a university rector was “*primus inter pares*,” elected by the academic community, and charged with representing the professoriate’s interests, without intervening in the core activities of teaching and research (Enders, 2001; Sahlin & Eriksson-Zetterquist, 2016). Such rectors typically act based on a collegial approach, as they commit to serving the academic community (Sahlin & Eriksson-Zetterquist, 2016).

This historical academic model enjoyed a strong reputation worldwide (Östling, 2020) and is largely shaped by its traditional recruitment, promotion, and appointment policies (Enders, 2001). The traditional postdoctoral academic university career in Germany was characterized by a habilitation system (Hüther & Krücken, 2018). This system typically consisted of three phases: first, the preparation for habilitation, usually in a temporary civil servant position; second, attaining a habilitation and subsequently becoming a so-called “private lecturer” (*Privatdozent*), authorized to teach but not endowed with a professorial position; and third, after successful application, appointment to a professorship or a chair at another university by the respective federal state (Enders, 2001).

The appointment procedures at German universities are historically regulated by the government of each federal state (Ferlie et al., 2008) and differ considerably in detail between these. However, a commonality is that academic self-administration plays a central role (Kleimann, 2019) and, as a general pattern for these procedures, the following applies (see for more detail, Enders, 2001; Hüther & Krücken, 2018): An appointment commission is established by the faculty, composed of professors, representatives of the mid-level academics (*akademischer Mittelbau*), an equal opportunities officer, and student representatives. The position and key requirements for the specific professorship are then defined and subsequently announced in a public job advertisement. The appointment commission reviews the application documents and invites prospective candidates for interviews and oral presentations. Following this, the appointment committee asks external reviewers (professors in the field of the advertised professorship at other universities) to evaluate the remaining candidates. The resulting shortlist of candidates for the vacant position must then be confirmed by several academic bodies, including, for example, the academic senate. Historically, the federal state

(its Ministry of Education) chose one of the applicants and offered this person a *Ruf* (a call). More recently, in several federal states, the appointment decision has been delegated to the university leadership (Hüther & Krücken, 2018; Schimank, 2005). Negotiations between the candidate and the university determine the final appointment of the new professor.

Against the backdrop that German professors receive permanent employment contracts (i.e., an appointment as a tenured civil servant) and enjoy a high degree of academic freedom (Enders, 2001; Hüther & Krücken, 2018), it is not surprising that the appointment procedures were and still are strictly regulated by the government of each federal state (Ferlie et al., 2008; Hamann, 2019). Nonetheless, in the traditional appointment system, the faculty was granted a central and decisive role in the selection of appropriate candidates.

### *Rationalization and Managerialization Attempts in German Universities*

The traditional German academic model is now contrasted by a new rationality, characterized by a much more managerial understanding of the university, in which competition for resources and reputation has become central (Drori et al., 2016; Gumpert, 2019; Harley et al., 2004; Y.-N. Lee & Walsh, 2022).

A number of events have contributed to this development. First, several reforms over the past several decades were particularly significant for developments in higher education in Germany. This began in 1998 with the fourth amendment to the Framework Act for Higher Education (*Hochschulrahmengesetz*), which served to equalize the academic systems between the federal states (Hüther & Krücken, 2018). In addition, the pan-European Bologna process for harmonizing student programs, initiated in 1999, facilitated comparison and competition between universities throughout Europe (Enders, 2001; Fischer & Kampkötter, 2017; Hüther & Krücken, 2018). Second, with respect to research activities, international rankings, which began to flourish in the 2000s and 2010s (Hedmo et al., 2001; Sahlin, 2013; Wilbers & Brankovic, 2021), further drove competition between universities around the world, including in Germany (Hüther & Krücken, 2018; Krücken, 2020). Third, from 2000 on, the German “Excellence Initiative” (*Exzellenzinitiative*) particularly underscored the need to strive for excellence. This initiative was the German government’s response to the EU’s Lisbon Program of 2000, in which the EU member states committed to investing in their education and science systems to make Europe the most competitive and dynamic knowledge-based economy in the world by 2010. The Excellence Initiative was intended to strengthen Germany as a center of science, improve its international competitiveness, and make top-level research at German universities visible. A total of 4.6 billion euros in funding was thereby made available to the 44 German universities that successfully applied to the program (Fischer & Kampkötter, 2017; Hüther & Krücken, 2018). The Excellence Initiative pushed competition between universities and reinforced the focus on excellence in research and corresponding measurable performance indicators (Fischer & Kampkötter, 2017; Hüther & Krücken, 2018; Kehm, 2013; Krücken, 2020; Östling, 2020).

To meet the new expectations and demands emerging from this competition, formal organizational structures and processes were accordingly rationalized at German universities (Hüther & Krücken, 2016). German universities thereby experienced a “shift from a loosely coupled, decentralized expert organization to a strategically acting, managed organization” (Krücken, 2020, p. 165). Indeed, an increasing differentiation of organizational units was seen in universities; they prepared mission statements (Oertel & Söll, 2017) and shifted toward a more professional, management-oriented governance system (Hamann, 2019; Krücken, 2020; Reihlen & Wenzlaff, 2016; Sahlin & Eriksson-Zetterquist, 2016). University leadership is now increasingly staffed with managers, that is, university presidents often come from outside the individual university and are responsible for ensuring progress with the competition-oriented goals of the university (Sahlin & Eriksson-Zetterquist, 2016). Not surprisingly, an award for the best university manager (i.e., president) of the year has been established in Germany. It is awarded, for example, for the integration of structural elements typically found in business organizations, such as sustainability management, into the formal organization of a university. This finding is in line with Bromley and Meyer’s (2021) observation that universities, as organizational actors, are expected to expand their goals and vision beyond their core purpose (e.g., by addressing sustainability and health protection issues).

Although the academic community in Germany still maintains significant influence and decisions are still made rather collegially compared to other countries (Krücken, 2020), in the new paradigm, university leadership gains power and influence relative to the academic community. For example, some responsibilities for research and teaching agendas have shifted from the academic community to university leadership and the external actors with whom it has contracted (Ferlie et al., 2008; Fleming, 2022; Musselin, 2005). It is argued that these developments have weakened the role of the academic community in decision-making within universities (Kehm, 2013).

These developments have also affected procedures for the appointment of professors, which have changed since the 2000s (Hüther & Krücken, 2018). Power in the professorial recruitment process has shifted from the faculty and the state to university leadership (Hamann, 2019). Subsequently, university leadership has aimed to rationalize professorial recruitment, for example, by providing appointment guidelines and criteria to which the faculties must adhere. The collegial decision-making process has thus been altered by managerial practices to formalize it in line with the new competitive goals of the university. Moreover, final decision-making power in appointment procedures is increasingly concentrated in the president’s office (Hamann, 2019). As Harley et al. (2004, p. 337) describe:

It is suggested that the introduction of strong management structures, modern management techniques, performance related pay, the abolition of lifetime employment, and the evaluation of teaching and research would make universities competitive and efficient organizations.

These rationalization efforts by the university are said to diminish the role of the faculty community in selecting future colleagues (Harley et al., 2004; Reymert, 2022; van den Brink et al., 2013).

## ANALYSIS OF JOB ADVERTISEMENTS FOR PROFESSORSHIPS AT GERMAN UNIVERSITIES, 1990–2010

In light of these developments in the higher education system, how should researchers demonstrate and investigate this focus on the new rationality at German universities? In our study, we analyze job advertisements for professorships and examine how the tasks and requirements that universities communicate to applicants have changed over time.

We argue that academic job advertisements represent the qualifications universities are seeking and therefore reflect what they consider to be their organizational needs with respect to their competitive goals (Mantai & Marrone, 2023; Rafaeli & Oliver, 1998; Reymert, 2022). The announcement of a vacant position in public job advertisements is part of the appointment process, and, as illustrated above, these processes may be superficially diverse but are similar at their core. We will, therefore, not analyze in great detail the complex decision-making processes and criteria applied in the selection of applicants (for an overview of studies on this, see Hüther & Krücken, 2018). This is because we neither can generalize as to who may be responsible for the emphasis on specific requirements in academic job advertisements, nor is this crucial for our study. On the contrary, we argue that recurring patterns in academic job advertisements should be understood as socially constructed. They result from implicit or even unconscious isomorphic processes that reflect a variety of expectations, demands, and actors in society (Rafaeli & Oliver, 1998).

With regard to the changes at universities outlined above, we thus argue that the job advertisements will be found to be increasingly shaped by managerialization and competition (Mantai & Marrone, 2023). Indeed, we assume that the requirements in job advertisements correspond to a large extent with the ongoing changes to the understanding of the objectives of universities (Bromley & Meyer, 2021) in the sense of a means-ends relationship. To succeed competitively, universities define criteria in job advertisements that favor their competitive position. The criteria in job advertisements, thus, represent a proxy for the imagined relationship between means (specific profiles of future professors) and ends (favorable competitive positioning of the university).

### *Data and Analysis*

The data in our study are based on job advertisements for professorships at German universities published in *Die Zeit* – the central outlet for academic job advertisements in Germany – in 1990, 1995, 2000, 2005, and 2010. This time period was chosen because it covered periods of major change in the German higher education system, as illustrated above (Hüther & Krücken, 2018).

We focus our analysis on professorships in the social sciences as we consider them to be a “middle ground” in the context of the rationalization trend: between the natural sciences, where research excellence has long been measured (Enders, 2001) and the humanities (in Germany, termed *Geisteswissenschaften*), where this is

not yet common. We consider disciplines in the social sciences to be a fruitful context in which to observe the impact of the current rationalization attempts. Within the social sciences, we chose disciplines that are particularly relevant in Germany in terms of size (student and staff numbers) and are sufficiently similar (overlapping research areas). We therefore focus on the disciplines of Business Administration, Economics,<sup>1</sup> and Sociology. There is a particular affinity within the Business Administration and Economics areas for a more market-oriented understanding of the university and there has been an increasing push for excellence there.

**Table 1.** Examples of Job Requirement Coding in the Job Advertisements.

Requirement	Coding Examples
Research	Representation of the discipline in research Should be designated in research in the field of the position Be proven by research work Research achievements at the international level
Teaching	Represents the subject in teaching Teaching experience Teaching in the above fields Teaching on a high didactic level Qualification with regard to assigned teaching duties Participation in the teaching program
Habilitation	Proof of habilitation in economics Be proven by a habilitation Habilitation is a requirement for employment
Doctoral degree	A doctorate is a prerequisite for employment Doctoral degree required Scientific achievements (doctoral degree) Should hold a doctoral degree
International orientation	International research and practical experience Research achievements at the international level Projects at the international level International relations International network International research collaborations
Foreign language skills/ teaching in English	Command of the English language at an appropriate level Ability to offer courses in the English language
Third-party funding	Third-party funding is expected Experience in the acquisition of third-party funds Implementation of third-party funded projects
Publications	Proven through relevant publications Scientific publications Evidence of outstanding scientific qualifications through publications in high-quality international journals Relevant publications in national and international journals
Participation in academic self-administration	Willingness to actively and constructively participate in self-governing bodies of the university is required Participation in academic self-administration of the university
Practical (non-academic) work experience	Practical professional activity outside the university sector Professional practice in a field corresponding to the subject to be represented
Pedagogical skills	Recruitment requirement is pedagogical aptitude Appropriate pedagogical aptitude Should have the necessary pedagogical aptitude



Our data collection and analysis can be characterized as follows: First, we collected all job advertisements for university professorships related to business administration, economics, and sociology for the selected years. In a few cases, the assignment of a job advertisement to one of the aforementioned disciplines was not immediately clear, for example, when the position involved not only aspects of business administration but also of communication sciences. Such cases were then examined more closely (e.g., regarding assignment to a specific faculty) and accordingly included in or excluded from the dataset. The final dataset included 579 job advertisements from 81 universities in Germany.

Next, we carefully read all job advertisements to gain a better understanding of their content and structure. We then looked more deeply into the job-related descriptions provided in the job advertisement, that is, the tasks and requirements, which are the central subject of our study.<sup>2</sup> In a subsequent step, we developed codes for these. We began with an open coding scheme and coded 50 job advertisements from each year. Following discussion, we then standardized the coding criteria, resulting in 11 requirement categories (see [Table 1](#)), including more general tasks (e.g., research and teaching) and formal criteria (e.g., habilitation and doctorate) as well as concrete requirements (e.g., publications, third-party funding).<sup>3</sup>

Third, based on this coding scheme, we trained two student research assistants, who manually coded all job advertisements independently. In addition, we collected general information from each job advertisement, for example, the name of the university, the federal state in which the university was located, the field and focus of the individual professorship, the type of professorship, and the temporary/permanent status of the position. Once coding was complete, we reviewed the coding with the student research assistants and discussed differences until we ensured the coding was consistent.

## **CHANGES IN JOB REQUIREMENTS FOR PROFESSORSHIPS AGAINST THE BACKGROUND OF INCREASING RATIONALIZATION IN GERMAN UNIVERSITIES**

We began our analysis by obtaining a more precise overview of whether and in what way the number of coded job requirements per job advertisement for a professorship in Germany had changed over time. The results are provided in [Table 2](#). While job advertisements in the 1990s were shorter and more vague, in the two more recent decades studied, they included more explicit and specific requirements. For example, while a job advertisement in 1990 mentioned an average of 2.38 of the 11 coded requirements (i.e., mainly the general tasks of teaching and research), in 2010, the number had more than doubled to an average of 5.14 requirements per job advertisement.

This trend is illustrated by the two examples of job advertisements provided in [Figs. 1](#) and [2](#). Both are job advertisements for professorships in sociology. The first, from 1990, is relatively short and vague. The second, from 2010, is much longer and more detailed, with an extensive catalog of specific requirements.

**Table 2.** Number of Job Advertisements Analyzed Per Year, with Minimum, Maximum, Mean, and SD Number of Job Requirements for Each Year (Max. = 11).

Year	Number of Job Advertisements Analyzed	Number of Requirements Per Job Advertisement			
		Min.	Max.	Mean	Median
1990	96	0	6	2.38	2
1995	96	0	5	2.83	3
2000	90	0	7	3.67	4
2005	114	0	8	4.15	4
2010	182	0	10	5.14	5

**Christian-Albrecht University of Kiel**

**Professorship (C 4) in Sociology**

The Faculty of Economics and Social Sciences has a vacancy for a beginning in the 1990/91 winter semester.

Applications are sought from academics who, in addition to general Sociology, are also qualified in the field of empirical social research and in areas related to Economics.

We especially welcome applications from qualified female academics.

Applications, including the customary documents, must be sent by July 2, 1990, to the **Dean of the Faculty of Economics and Social Sciences at the Christian-Albrecht University of Kiel, Professor Dr. Jürgen Hauschildt, Olshausenstraße 40, D-2300 Kiel 1.**

*Fig. 1.* Example of a Job Advertisement for a Professorship in 1990, Translated and Replicated by the Authors Based on a German Language Job Advertisement by Christian-Albrecht University of Kiel, Published in *Die Zeit* (1990, Issue 24, p. 55). The Representation Is Not True to Original and the University Logo Included in the Original Is Omitted.

Not only did the overall number of coded requirements per job advertisement change over time, but so did the frequency with which particular requirements occurred in the job advertisements sampled. Table 3 shows these findings, providing the average frequency of each requirement during our observation period. Fig. 3 shows a graphical illustration of this development. The line graph indicates that the time window chosen for the analysis was well-suited, as from 1995 to 2000 and on, major changes in the requirements communicated to applicants can be observed. As previously stated, from the mid-1990s on, reforms and initiatives, such as the Framework Act for Higher Education, the European Bologna process, and the German Excellence Initiative, significantly affected the German academic system (Enders, 2001; Hüther & Krücken, 2018; Krücken, 2020; Östling, 2020). This had a noticeable impact on the content of job advertisements for professorships.

In the following sections, we illustrate the changes to the requirements for professorships over time. In particular, we describe the traditional core tasks of professors in Germany, that is, research and teaching, and the traditional

## UNIVERSITY OF BAYREUTH

### W2 Professorship in Political Sociology

The University of Bayreuth is a research-oriented university with an internationally competitive and interdisciplinary-oriented research and teaching profile. The Faculty of Cultural Studies at the University of Bayreuth has a vacancy for a tenured including permanent civil servant status, beginning on October 1, 2011.

Applicants should have a proven track record of research in the fields of political sociology, social structure analysis, and institutional studies as well as relevant publications in national and international journals. An international comparative quantitative orientation with a focus on North American studies as well as experience in the acquisition of third-party funding are expected. International research and teaching experience is desirable. Duties of the position include teaching responsibilities in the Faculty of Cultural Studies and the Faculty of Linguistics and Literature, especially in Sociology, History, and English Studies. Active contribution to the focus on “Central Europe and the Anglo-Saxon World” and the development of social-science-oriented graduate programs are expected as well as the ability to offer courses in English.

Requirements for employment are a completed university degree in sociology, possibly also in history or political science, pedagogical aptitude, doctorate and habilitation or proof of equivalent academic achievements, which may also have been earned in activities outside the higher education sector or in the context of a junior professorship. At the time of appointment, the candidate must not yet have reached the age of 52. The State Ministry of Science, Research, and the Arts may allow exceptions in urgent cases in agreement with the State Ministry of Finance (cf. also Art. 10 para. 3 p. 2 BayHSchPG).

The University of Bayreuth aims to increase the percentage of women in research and teaching and therefore strongly encourages female academics to apply. In 2010, the University of Bayreuth was re-audited by the Hertie Foundation as a family-friendly university.

Preference will be given to severely disabled persons with the required qualifications.

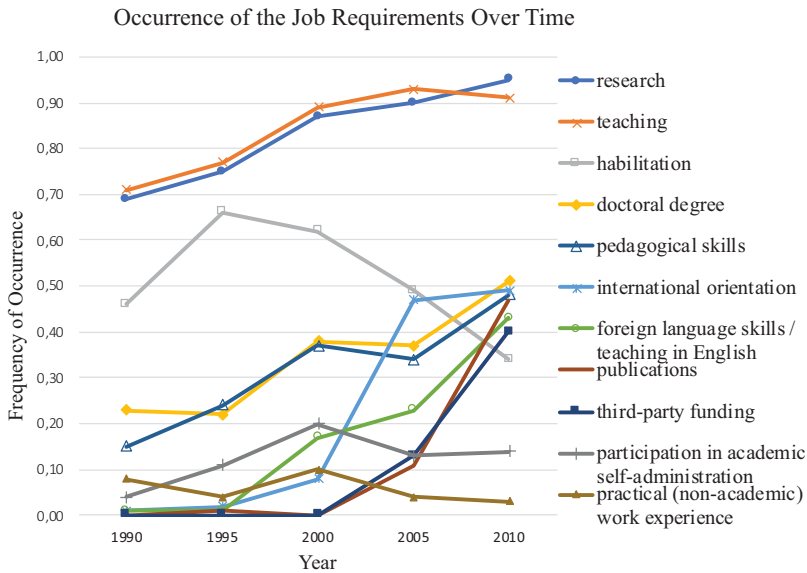
Applications, including curriculum vitae, academic background, list of publications, research and teaching concept as well as a list of third-party funding acquired should be sent by **January 31, 2011** to the Dean of the Faculty of Cultural Studies, University of Bayreuth, 95440 Bayreuth.

*Fig. 2.* Example of a Job Advertisement for a Professorship in 2010, Translated and Replicated by the Authors Based on a German Language Job Advertisement by University of Bayreuth Published in *Die Zeit* (2010, Issue 50, p. 7). The Representation Is Not True to Original and the University Logo Included in the Original Is Omitted.

formal requirement for attaining a professorship in the German academic system: the habilitation. We additionally show that with the move away from the habilitation system, the doctoral degree has become a more central formal requirement for professorships, accompanied by an increasing demand for pedagogical skills. We also make reference to several job requirements that appeared more frequently in job advertisements from 1995 to 2000 and on. We summarize these as “new competitive requirements,” as they reflect the increasingly competitive orientation of universities. Finally, we focus on a criterion that, we argue, should always have been self-evident for professorships but that tended to appear more frequently over time in job advertisements: participation in academic self-administration.

**Table 3.** Mean Frequency of Occurrence of Job Requirements Over Time.

	1990	1995	2000	2005	2010
Research	0.69	0.75	0.87	0.90	0.95
Teaching	0.71	0.77	0.89	0.93	0.91
Habilitation	0.46	0.66	0.62	0.49	0.34
Doctoral degree	0.23	0.22	0.38	0.37	0.51
International orientation	0.01	0.02	0.08	0.47	0.49
Foreign language skills/teaching in English	0.01	0.01	0.17	0.23	0.43
Third-party funding	0.00	0.00	0.00	0.13	0.40
Publications	0.00	0.01	0.00	0.11	0.47
Participation in academic self-administration	0.04	0.11	0.20	0.13	0.14
Practical (non-academic) work experience	0.08	0.04	0.10	0.04	0.03
Pedagogical skills	0.15	0.24	0.37	0.34	0.48

**Fig. 3.** Frequency of Occurrence of All Coded Job Requirements Over Time.

### *Traditional Characteristics and Formal Requirements*

In keeping with the Humboldtian tradition, teaching and research are the main missions of German universities (Engwall, 2020; Krücken, 2020). Thus, academic distinction in the areas of teaching and research is the central requirement for attaining a professorship (Östling, 2020). Indeed, our findings support this: In the job advertisements analyzed, research and teaching were the most frequently listed requirements across all years; in 2010, both appeared in more than 90% of job advertisements (see Fig. 4). This finding is not surprising, as research and teaching are still considered the central tasks of universities and professors. However, these requirements are abstract and leave open precisely what is expected, for example, the results of a professor's research activity.

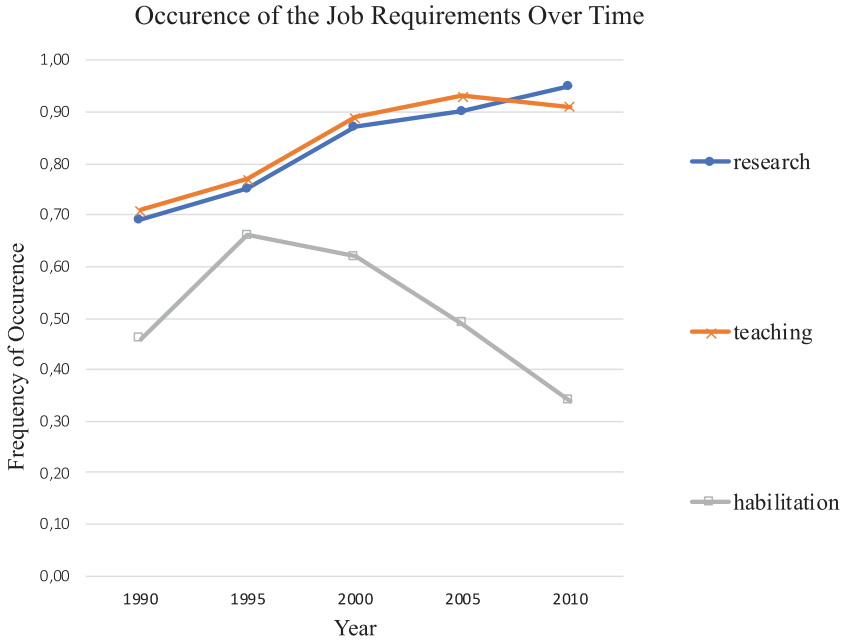


Fig. 4. Frequency of Occurrence of Research, Teaching, and Habilitation Requirements Over Time.

In the traditional German academic career system, the habilitation was the primary formal requirement for applicants to a professorship for demonstrating experience in research and teaching (Enders, 2001; Harley et al., 2004; Hüther & Krücken, 2018; Musselin, 2005). In 1995, 66% of the job advertisements analyzed called, therefore, for a habilitation (it was not even explicitly mentioned in every job advertisement, because it was a formal criterion for attaining a professorship).

Obviously, the importance of the habilitation has decreased significantly. In 2010, it was required in only 34% of job advertisements (it is no longer a legal requirement, i.e., criteria considered to be equivalent may be substituted). This trend of the decreasing relevance of the habilitation was observed earlier in the natural sciences, where, to demonstrate the qualifications necessary for a professorship, publications, and third-party funding were being substituted for the formal habilitation (Enders, 2001).

#### *The Move Away From the Habilitation System*

In order to better understand the substitutions German universities now accept in lieu of the habilitation for applicants to professorships, we plotted the occurrence over time of the requirement for a doctoral degree and the demand of pedagogical skills, as compared to the requirement for the habilitation (see Fig. 5). As our results show, with the move away from the habilitation system, reference was made to the doctoral degree as a minimum requirement of formal qualification

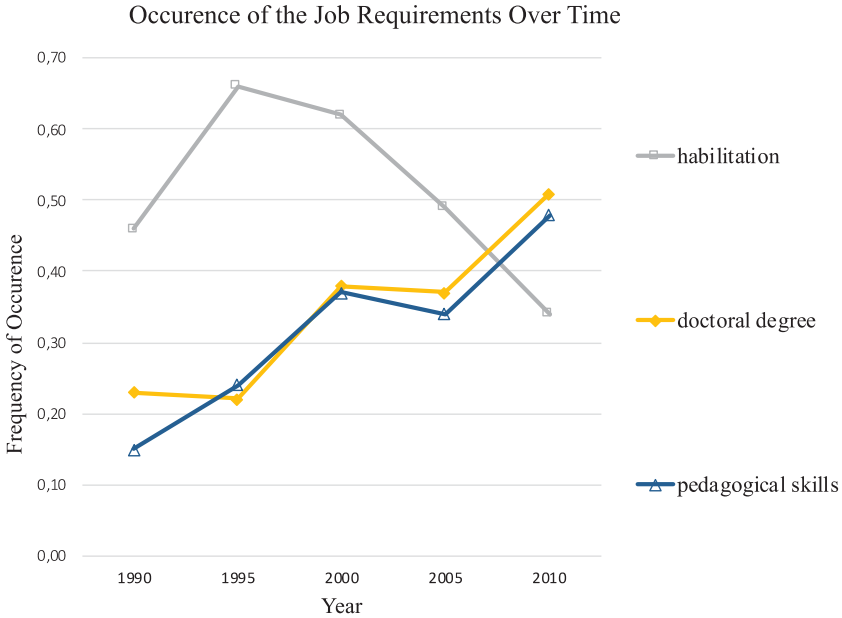


Fig. 5. Frequency of Occurrence of Requirements for Habilitation, Doctoral Degree, and Pedagogical Skills Over Time.

and proof of a candidate's competence in research. However, what cannot be proven by a doctoral degree – in contrast to the traditional habilitation – is teaching experience.

To compensate for this, in tandem with the rise of the doctoral degree as a minimum formal requirement, there was an increased call for pedagogical skills – that is, by 2010, the prevalence of pedagogical skills as a requirement increased from 15% to 48%. In Germany, pedagogical competence was historically proven through teaching trials held before the members of a faculty, that is, the professors, at the time of habilitation. With the erosion of the habilitation and a stronger focus on research accomplishments, the requirement for pedagogical skills may now be met in other ways, for example, through certified participation in pedagogy courses or, as in the American model, through student evaluations.

#### *New “Competitive” Requirements*

As the requirement for habilitation vanished as proof of an applicant's aptitude, new requirements arose. These, as we argue, reflect the orientation of universities toward international rankings and competition in the market for academic knowledge.

As can be seen in Fig. 6, since 1995, the international orientation of candidates as well as their foreign language skills, including the ability to teach in English, have become more relevant for professorial appointments. This indicates an

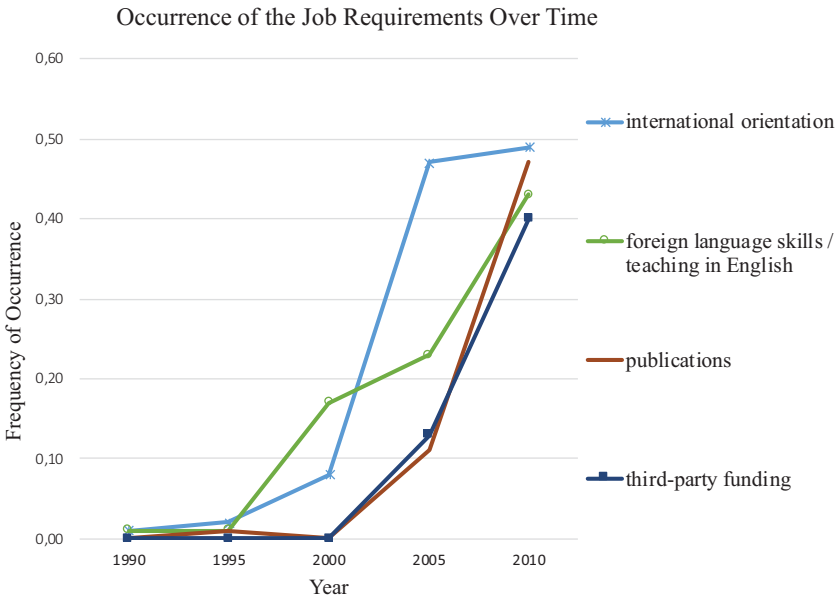


Fig. 6. Frequency of Occurrence of “Competitive” Requirements Over Time.

increase in both the internationalization and international competition of universities (Krücken, 2020).

From 2000 on, a sudden increase could be observed in the occurrence of two further requirements: publications and third-party funding. As illustrated in Fig. 6, in the 1990s, these requirements were not relevant, but in 2010, they appeared in over 40% of the job advertisements. Both are measurable criteria that refer to (actual or potential) research output. While publications in top-tier journals display research achievements, third-party funding indicates candidates’ outstanding research ideas and the financial resources that will accompany them. These requirements replace the habilitation as a formal criterion and facilitate a quantitative comparison between applicants. While the habilitation had been a binary criterion, performance measures, such as the number of publications in top-tier journals or the acquisition and level of third-party funds, are competition-oriented and enable an easy comparison between candidates.

Overall, the increasing relevance of these four requirements in job advertisements is hardly surprising as universities have needed to compete in international rankings and excellence in research has become the ultimate goal (Krücken, 2020; Paradeise & Thoenig, 2013).

#### *Formalization of a Formerly Self-evident Fact*

At first glance, it seems surprising that participation in academic self-administration – a historically self-evident fact in the job profile of a professor – has recently been listed more frequently in job advertisements. However, the increase in the

demand for participation in academic self-administration in the job requirements, from 4% in 1990 to 14% in 2010, is significant.

Since decision-making within the faculties of German universities has been and remains characterized by a collegial approach (Krücken, 2020; Schimank, 2005), participation in university self-administration is not only a natural part of a professor's job profile but also an opportunity to represent the interests of the professoriate and to epitomize collegiality (Harley et al., 2004). So, why would it be necessary to explicitly list this task in job advertisements? One explanation may be that this matter-of-course activity had to be made more explicit so as not to be pushed to the background in job advertisements that increasingly focused on numerous criteria in the areas of research excellence and internationalization. Nevertheless, compared to these "competitive" requirements, participation in academic self-administration is of subordinate importance in job advertisements.

## DISCUSSION

Analyzing job advertisements for professorships at German universities from 1990 to 2010, we observed increasing differentiation as the mean number of coded job requirements increased over time. Our findings further demonstrate that internationalization and competitive, market-oriented criteria, especially in terms of measurable research output, have gained relevance in academic recruiting. The hiring of professors in German universities has always been organized "to rank a set of external candidates to find the best one" (Enders, 2001, p. 11). Nevertheless, as a result of increasing attempts to standardize job requirements, the criteria for who "the best" qualified person is and the means by which this qualification can be demonstrated have changed significantly. We argue that the more recent requirements placed on applicants for professorships reflect the central criteria constituting the definition of a successful academic in the modern university and, in the aggregate of all professors, the criteria considered to reflect a successful university today. A large body of literature on higher education has documented changes at universities that correspond to our findings, which we briefly discuss below.

First, scholars of higher education have observed an increasing competition for resources and reputation (Engwall, 2020; Hüther & Krücken, 2016; Wedlin, 2020) and a growing relevance of national and international rankings (Christensen et al., 2019; Krücken & Meier, 2006; Ramirez, 2010, 2020; Wedlin, 2006; Wilbers & Brankovic, 2021). Consequently, to keep up with the competition, the strive for excellence (especially in research) and strategic positioning (preferably in the top positions of rankings) has become more relevant (Marques & Powell, 2020; Ramirez & Tiplic, 2014). Triggered by this, the measurement of (research) performance and the comparison of this performance between scientists and universities has become an established practice (Aguinis et al., 2020; Brankovic et al., 2018; Engwall et al., 2023; Marques & Powell, 2020). The standardization and use of performance measures in universities have increased, and government funding for German universities is increasingly based on performance indicators (Kehm, 2013).



Further driven by the Excellence Initiative, German universities strive for excellence and increasingly focus on high-quality research (Hüther & Krücken, 2018; Kleimann, 2019; Krücken, 2020). A recent study in France indicates that such excellence initiatives have implications for academic hiring (Harroche & Musselin, 2023, Vol. 87). Further, third-party funding has become a more relevant performance indicator within universities both at the organizational and the individual level (Kosmützky & Krücken, 2023, Vol. 86) and is visible in recent academic job advertisements as well (Mantai & Marrone, 2023).

Similar developments have also become evident in the job requirements for professorships, as publications and third-party funding are more frequently called for. Both criteria serve as measurable indicators of research excellence (Aguinis et al., 2020) that allow for comparison and competition between candidates as well as for ranking universities. One could argue that the requirement for publications in top-tier journals is merely another, perhaps more modern, version of the research requirement. However, we do not support this interpretation. The requirement for such publications does, of course, reflect the desire for excellent research. Nevertheless, while the older and broader “research” requirement allows latitude in the interpretation of how an applicant’s ability to do outstanding research may be demonstrated, the newer “competitive” requirements provide hard criteria by which to measure outstanding research and communicate those expectations to candidates. Accordingly, scholars have already observed that measurable research performance (i.e., top-tier journal publications) rather than the actual quality of the research content, has become central to the evaluation of scientific work (Aguinis et al., 2020; Lutter & Schröder, 2016).

Second, internationalization has become increasingly important for (German) universities (Kehm, 2013). The identities of universities have shifted away from being national institutions toward becoming organizational actors focused on the greater world, with their own goals and missions, which expand beyond the historical university aims of research and teaching (Bromley & Meyer, 2021; Engwall, 2020; Krücken, 2020; Mizrahi-Shtelman & Drori, 2021). In this way, internationalization, in the context of cooperation with international researchers and students, has emerged as a new institutional mission (Krücken, 2020). Modern organizational actors, which is what (German) universities are becoming, must be oriented toward the world, and they must convey this orientation to the outside world (Drori et al., 2014; Mizrahi-Shtelman & Drori, 2021). The need to be international becomes apparent in the job advertisements for professorships at German universities as well, where international orientation, as well as foreign language skills and the ability to teach in English, are increasingly required of candidates.

Third, the increasing managerialization of universities has driven the use of more standardized criteria and the focus on “competitive” requirements. University presidents – as managers, not as rectors acting as “primus inter pares” – have been given more power and are expected to guide their universities to excellence. As Engwall et al. (2023, p. 7) describe, “such reputation stands largely on the research output produced by researchers at the individual level.” The standardization of performance profiles thereby offers more control over hiring decisions,

enables comparison, and initiates competition between researchers. Vague job descriptions have thus been transformed into explicit, operationalizable requirements. The ability to compare performance measures aids university leadership in finding those candidates who may help to raise the university's ranking in the medium term (Engwall et al., 2023; Reymert, 2022). New professors with outstanding publication histories are seen as supporting the university's claim to excellence and increasing its competitiveness in national and international rankings (Harley et al., 2004). The level of third-party funding acquired serves as a criterion for measuring the quality of a candidate's research ideas. Moreover, candidates who are able to acquire third-party funding provide an additional benefit to the university in the form of the additional financial resources the new professor brings with them. The exploitability of research activities has thereby become more central to universities in their efforts to compete. Consequently, these factors increasingly made their way into job advertisements, observable as current key (research) performance indicators, such as top-tier journal publications or acquisition of third-party funding. Given this development, it is no wonder that currently, the acquisition of additional external funding and the future publication of papers in top-tier journals (usually within a defined time period) following appointment are regularly part of agreements with newly appointed professors in Germany. Achievement or non-achievement is thereby linked to the new professor's salary in the appointment negotiations. Universities are thus embracing the ideas, regularly used in businesses, of management by objectives (MBO) and performance-based compensation (Birnbaum, 2000; Decramer et al., 2013) to increase the performance of the university. The selection process for professors is thus less geared toward finding a candidate who fits in well with the faculty than it is toward strategically improving the university's position in the national and global competition between universities for resources and reputation.

### *Implications for Collegiality*

We argue that the managerialization of universities affects the requirements placed on applicants for professorships and subsequently has a significant effect on collegiality as the modus operandi of universities (Sahlin & Eriksson-Zetterquist, 2023, Vol. 86).

First, as requirement profiles become more specific and differentiated, the authority of faculties in the decision-making process of the appointment procedure may be diminished. Faculties continue, of course, to have a high degree of autonomy in formulating requirements for job advertisements for professorship – however, in doing so, whether intentionally or not, they are constrained by isomorphic processes and a socially constructed understanding of what comprises the desired skills and attributes for professors. Appointment decisions are of utmost importance for faculties and universities. Professors at public universities in Germany are civil servants and are generally tenured. Vague job descriptions and requirements, as found in the past, had an advantage in collegial decision-making: they offered latitude for interpretation and opportunities for evaluating an applicant holistically based on numerous aspects, future collegial cooperation

being one of them. However, collegial governance in the old appointment system brought with it disadvantages – for example, when collegial decisions did not lead to the selection of the best candidate but to the appointment of close colleagues or even friends – something that needs to be discussed as the dark side of collegiality (Eriksson-Zetterquist & Sahlin, 2023, Vol. 87). Nevertheless, defining more differentiated requirements does not necessarily lead to an optimal selection but rather to a selection based on previously defined criteria considered to be central and intended to make it possible to compare individual scholars. As Musselin (2005, p. 146) describes,

[I]n Germany, departments threatened by the suppression of posts “decide” to modify their scientific and pedagogical aspirations and, consequently, the profile of the candidate they are looking for. The academic profession has more and more to cope with institutional constraints and their integration into “its” criteria, which is an insidious way of lessening academic independence.

Thus, faculty members have less freedom to choose candidates who best fit their academic community (Reymert, 2022; van den Brink et al., 2013). An examination of the actual selection criteria and decision-making processes was, of course, not a part of our study. However, if the job advertisements reflect the desires of the managerialized university (Mantai & Marrone, 2023), it stands to reason that these are the criteria that also play a role in the selection of candidates. Moreover, it can be assumed that applicants to professorships are naturally aware of this development and adapt their behavior to the requirements demanded by universities. This may be especially true for younger career scholars who do not yet have a tenured position within the academic system.

Second, by adhering to clearly defined requirements, collegiality, since it cannot easily be measured, may recede into the background (Sahlin & Eriksson-Zetterquist, 2023, Vol. 86). This could undermine the central role of collegiality as the *modus operandi* of universities. The requirements listed in job advertisements for professorships have a signaling effect on the academic staff. What is first and foremost expected are publications in top-tier international journals and the acquisition of third-party funding rather than engagement in academic self-governance and a collegial, collaborative approach within the university setting. Studies have already shown that with the increasing use of performance measurement systems, publications in top-tier journals have become the non-plus ultra for evaluating research (Biagioli, 2018), which is apparent within recruiting as well (Aguinis et al., 2020). The focus on research metrics that came along with the increasing rationalization of science and universities may change the self-image of academics and lead to a goal displacement in favor of research output (Denis et al., 2023, Vol. 87; Harley et al., 2004; Y.-N. Lee & Walsh, 2022), thereby challenging the classical values of academic work, for example, academic autonomy (Gerdin & Englund, 2022; Harley et al., 2004; Kallio et al., 2016; Mignot-Gérard et al., 2022).

As Sahlin and Eriksson-Zetterquist point out in the introduction to this volume, collegiality can be understood in two dimensions: horizontal and vertical. We assume that both dimensions are affected by the developments described.

With regard to the vertical dimension, which refers to formal university decision-making structures based on collegial governance (Sahlin & Eriksson-Zetterquist, 2023, Vol. 86), we have discussed the implications for the professorship appointment process associated with shifts in authority related to increasing managerialization. There may further be a lack of incentive for academics to participate in self-governance, both because it provides fewer rewards than other aspects of the professorial role and also as a consequence of the diminishing power of academic voices within the university setting. There is already initial evidence of this in Canada (Denis et al., 2023, Vol. 87). This reluctance to participate could further weaken the formerly powerful role of the academic community within university governance and may lead to an increased number of formal management positions in the central university administration.

The developments described also have implications for the horizontal dimension of collegiality, which is characterized by relationships and interactions within the academic community based on shared norms (Sahlin & Eriksson-Zetterquist, 2023, Vol. 86). Although horizontal collegiality is part of the scientific community in general, here, we focus on the specific aspects that occur within the university setting. In Germany, the common anchor point for academics has been and remains not so much the individual university (as an organization or employer) but rather the collegial environment of the scientific community beyond the boundaries of the university (Krücken, 2020). As the collegial approach within universities gives way to increasing rationalization in terms of competition and efficiency, members of the university community become more like loose actors, with little emotional attachment to their university (Östling, 2020) and, in a sense, may become only temporary participants, with a minimum level of necessary commitment. The resulting erosion of the intra-university community, that is, the loss of horizontal collegiality, may change the image of the university from a collegial and self-administrating academic community to an administrative framework for research and teaching, with professors as employees (Harley et al., 2004). Thus, even if the increasing competition makes the managerialization of universities appear rational (rational in the sense that there is a goal to be reached by specific means), this development clashes with the German understanding of the university as a self-governing community of scholars (Hüther & Krücken, 2018; Östling, 2020).

The new goal-oriented university organization, however, requires committed staff to keep pace with increasing international competition. To compensate for the attenuating influence of collegiality, universities need to attract and bind academic staff in other ways. Indeed, current attempts include compensating for the loss of collegiality by increasing the identification and commitment of academic staff with the university as a modern organization and employer. For example, German universities increasingly offer “dual-career” options for professors. Incoming professors are thereby provided support in settling in with their family at the university location, for example, arranging a job for a spouse or finding suitable schools for their children. Universities also advertise a collegial atmosphere, but hidden behind this description is not the classical understanding of academic collegiality but rather the amiable cooperation of “university employees” in a professional context.

Cooperation, however, does not imply commitment, and cooperation is not necessarily linked to collegiality (van Schalwyk & Cloete, 2023, Vol. 86). As Kosmützky and Krücken (2023, Vol. 86) describe in their analysis of research clusters in German academia, cooperation among researchers (within and across universities) has become increasingly desirable. Nevertheless, these new forms of competition and cooperation (Kosmützky & Krücken, 2023, Vol. 86) may shift the focus of academic staff even more toward the acquisition of third-party funds (which requires proven excellent, highly ranked research) and away from the lived experience of academic collegiality at the university and department level. Scholars thus point to the question of whether the rationalization of scientific work may affect the vocational attitude of academics (Y.-N. Lee & Walsh, 2022), a critical factor in scientific work.

## CONCLUSION

Our intention is not to romanticize the old German university system as it certainly had (and has) deficits in terms of the appointment processes of professors as well as the evaluation of research achievements. However, in our study, we intend to point out the possible unintended consequences of the managerialization of universities, which may diminish collegial cooperation. What overarching conclusions can now be drawn from the findings presented and discussed in the previous sections? We believe that three aspects are particularly worth considering and may also open the door for future research.

First, although we believe our research setting reflects a general trend, our analysis is focused on one national context, three disciplines within the social sciences in Germany, and five points in time. Thus, future studies should further analyze more recent trends and compare them across disciplines and national settings to obtain a more comprehensive picture. In their recent article, Mantai and Marrone (2023) analyzed academic job advertisements from 2016 to 2020 for different disciplines and from different countries using a Big Data approach, which provides initial insight into more recent trends in job advertisements for academics at all career stages. In line with our observations, they find that for senior researchers, research activity, teaching, publication record, and international orientation are central requirements. However, another criterion directly linked to the pursuit of excellence stands out in their analysis: the candidate's ability to demonstrate achievements and awards (Mantai & Marrone, 2023). Nevertheless, as their study is focused on career progression, the authors do not engage in a deeper discussion of the implications of their results for academic work within universities, which, from the point of our study, would be valuable.

Second, it would be interesting to see whether the developments we are observing in the social sciences are also taking place, perhaps with a time lag, in the humanities. In this context, the trend toward competitive requirements in job advertisements, especially publications in top-tier journals, may risk bias for subjects and subject groups in which the journals are particularly well-positioned in relevant rankings. Conversely, candidates whose disciplines are not represented in

high-impact journals, or are covered in non-ranked journals, are systematically disadvantaged – their research performance cannot be evaluated in a standardized manner and requires subjective and collegial assessment by the appointment committee. One might ask, somewhat provocatively, whether in the future, regardless of discipline, publications in high-ranking journals will be weighted more heavily than expertise in the given field. Isolated indications of the possibility of such a development already exist. However, it is unclear whether this is a general trend. To gain a deeper understanding of these relationships, further research is required, including the specific process followed by universities for filling professorships.

Third, future research should investigate whether a countermovement to the developments described has emerged and whether some universities are ignoring the recent developments. These studies could focus on factors that encourage these behaviors. They could build on a large number of existing studies in the context of organization and higher education research that deal with the question of which factors (both at the organizational and the institutional level) make the adoption of certain structural elements more or less likely (e.g., Birnbaum, 2000; Decramer et al., 2012; Fay & Zavattaro, 2016; S. S. Lee & Ramirez, 2023, Vol. 86; Oertel, 2018; Oertel & Söll, 2017; Rahman et al., 2019; Sammalisto & Arvidsson, 2005; Schulz et al., 2022; Su et al., 2015). Key questions could include, for example, which universities were the first to include certain requirements in the job profiles of professors and whether certain characteristics of these universities – for example, high position in rankings, their size, the context of their institutional founding, or regional competition with other universities – explain the likelihood of adoption.

As a final thought, the differentiation of job profiles may also provide an opportunity to bring about a return to collegiality (Eriksson-Zetterquist & Sahlin, 2023, Vol. 87). As an analog to a few vague requirements, a multitude of nuanced criteria may allow for individual evaluation and prioritization. This may return autonomy to the academic community and offer the opportunity to preserve collegiality.

## NOTES

1. In the German-speaking academic world, *Wirtschaftswissenschaften* (as an umbrella term for the field of economics) is typically divided into *Betriebswirtschaftslehre* (business administration, i.e., the management of businesses and organizations, including fields such as accounting, finance, and marketing) and *Volkswirtschaftslehre* (economics, i.e., the broader study of the economy as a whole, including, e.g., macroeconomics, microeconomics, and economic policy).

2. As our focus was on the portion of the job advertisement related to the professorial job profile, we did not analyze information regarding the announcing university, the handling of diversity, equity, and inclusion (DEI) aspects, nor the application documents requested. With regard to DEI aspects, discrimination in the filling of vacancies is prohibited by German law. In some job advertisements, there is additional information on this with respect to two groups, namely women and/or disabled persons. Across all the years analyzed, some job advertisements contained the information that women were particularly encouraged to apply and/or that severely disabled persons will be given preferential consideration provided they have the same qualifications.

3. Going forward, we use the term “requirement” as an umbrella term for all types of job-related tasks and requirements in the job advertisements and as interchangeable with “criteria.”

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