THE YESTERDAY, TODAY AND TOMORROW OF EMPLOYEE AUTONOMY: A BIBLIOMETRIC REVIEW AND RESEARCH AGENDA

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─────────────── *Abstract* ───────────────

Following the phenomena of the Great Resignation, quiet quitting, and ubiquitous remote work in post-COVID human resource management, researchers' interest in job autonomy has grown to an all-time high. Besides the growing scientific maturity of the field, the extent to which employees should enjoy autonomy in crafting their workload, choosing their work methods and workplace, and the impact on the work outcomes is not synthesized and open to debates. We address the evolutionary development track of this concept using a multitechnique bibliometric analysis of employee autonomy and the invisible colleges framework. Moreover, the research presents a combination of descriptive bibliometric analysis, co-authorship, and keyword co-occurrence analysis, to investigate the state-of-the-art research and past scholar directions about job autonomy. Thus, we contribute to academic research by revealing job autonomy's inherent intellectual structure, investigating the most influential concepts and hotspots, and portraying new paths for future research. Namely, the analysis pointed out core themes including benefits of employee autonomy, job satisfaction and well-being, environmental context, motivation, employee behavior, organizational psychology, work organization, leadership, digitalization, and performance, and five paths for future studies. This leaves space for the topic to be further cross-pollinated with other managerial concepts. The findings have the potential to benefit policymakers, practitioners, and the academic community as crucial stakeholders in the field.

Keywords: employee autonomy, job autonomy, bibliometric review, co-citation analysis, keyword co-occurrence analysis

1   INTRODUCTION

Definitions describe employee autonomy or job autonomy as the degree to which the job enables a significant portion of freedom, discretion, and independence in employees to determine how, when, and where they perform their work (Kubicek et al., 2017).

Employee autonomy, which concerns the empowerment of employees and redefines the role of employees in how organizations work has been extensively researched in the last decades, mostly in fields such as organizational psychology, organizational behavior, strategic management, and most dominantly in human resource management (HRM). Both human resource (HR) practitioners and schol-

ars have emphasized employee autonomy as a contributing factor to individual, team, and organizational performance. In this sense, many scholars view job autonomy as a core element of the job design function in HRM, which is tasked with establishing employees' duties, roles, and responsibilities (Ilgen & Hollenbeck, 1991). As one of the most prevalent models in job design, the job characteristics model centers employee autonomy as one of the fundamental dimensions together will skill variety, task identity and significance, and feedback that lead to increased motivation and satisfaction (Ali et al., 2014).

To date, published research has focused mainly on determining various relationships between employee autonomy and employees' cognitive abilities and job-related skills (Morgeson et al., 2005), communication quality and managerial support (Parker et al., 2001), intrinsic motivation (Dysvik & Kuvaas, 2011), perceived control, family support, self-efficacy, and similar (Federici, 2013), and assessing its influences on employee wellbeing, work-life balance, job performance, and work outcomes (Clausen et al., 2022; De Clercq & Brieger, 2021; Cho et al., 2021). Additionally, several meta-literature reviews exist on the topic, yet are predominantly partial and focused on specific relationships between constructs (Khoshnaw & Alavi, 2020) or are in turn industry-specific (Pursio et al., 2021).

This is why we believe that an overarching aerial view of this concept is needed using bibliometric analysis, which has recently gained popularity among researchers as a method for achieving objectivity and comprehensiveness in reviewing efforts (Donthu et al., 2021). Bibliometric methods have the potential to shed light on articles' importance and connections to other articles in the field, presenting these links in a network by clusters. In turn, these connections can remain hidden with systematic literature reviews or meta-reviews. Further, in the case of bibliometric analyses, researcher bias is rarely present, and the sample size is much larger as it often comprises several hundred articles (Zupic & Cater, 2013). Despite all these benefits, very few bibliometric reviews on employees' and job autonomy have been published so far (Zychová et al., 2023), which represented additional motivation for us to carry out this research.

We conducted a quantitative systematic review grounded in bibliometrics and compliant with the PRISMA protocol for acquiring data (Moher et al., 2015). The analyzed period covers all published articles in double-blind peer-reviewed journals until the end of 2023. To contribute to a wider perspective and to ensure an increased level of objectivity, we perform a multitechnique bibliometric analysis containing a descriptive bibliometric analysis, co-authorship analysis, and keyword co-occurrence analysis (Porter et al., 2002). Through using advanced bibliometric techniques, this study attempts to complement prior literature and trace the historical evolution of employee autonomy research, uncover present influential and popular themes and hotspots, and eventually point out directions for future research in the field. With that in mind, we look to answer the following research questions:

RQ1: What is the inherent intellectual structure of the employee autonomy body of research?

RQ2: What are the most influential and impactful concepts, themes, and hotspots nowadays?

RQ3: What is the potential of employee autonomy research and what new paths for future research on the topic exist?

With this, the article's attempted contributions are twofold. To begin with, this bibliometric review underscores the most impactful articles, and the themes they investigate, and pinpoints the current trends of the research trends, which serve as a basis for new investigations in future research endeavors. Then, the second contribution can be seen in the attempt to elevate the existing employee autonomy literature through a more comprehensive and objective point of view in terms of the review. This holds potential theoretical contributions as the dominant job autonomy research is synthesized around the backbone of the bibliometric method comprised of three bibliometric techniques, while also benefitting a range of different stakeholders such as business leaders, managers, HR professionals, who can practically act on the findings in their everyday work towards improving their organizations. Additionally, policymakers can find the contributions useful when regulating unionization and forms of increased employee participation.

To address the above-mentioned research questions, we first provide a theoretical perspective of employee autonomy, followed by an in-depth description of the process of selecting and analyzing data for the three bibliometric techniques. Then, the study will outline the summary of the results in a review grounded in the invisible colleges framework and lastly recommend future research directions in the field in question, as well as underline potential limitations of the bibliometric method.

2 THEORETICAL BACKGROUND

As stated, for this article, we understand employee autonomy in the broadest sense as the level of freedom and discretion employees have in terms of their workplace autonomy, worktime autonomy, and methods autonomy (Kubicek et al., 2017). Other definitions broaden the power delegated to employees with this concept, so they understand it to mean a set of practices that involve the delegation of responsibility in the hierarchy to give the workforce enhanced authority and decision-making (Lin et al., 2013). Besides the work-related aspects, some researchers believe that employee autonomy also translates to allowing workers to regulate and show their feelings, emotions, and behaviors to pursue the fulfillment of the objectives, which are grounded in their personal values and belief systems (Wu et al., 2015).

Moreover, the dimensions of job autonomy have significantly varied over time as more researchers added new constructs to this umbrella concept. One of the first conceptualizations of employee autonomy stress job schedule or the autonomy to schedule the work on one's own and job procedures or the autonomy to opt for the approach one believes is the most adequate one for performing a certain task (De Spiegelaere et al., 2016). Then, other dimensions were considered such as autonomy in choosing the job criteria, goals, pace of work, the workplace, workload, and working hours – the latter gaining new ground with the ubiquitous character of remote work and hybrid work practices (Muecke & Iseke, 2019; Sewell & Taskin, 2015). Some later additions to the dimensions of job autonomy include decision-making and self-reflection (Theurer et al., 2018).

A concept that is commonly mistaken for job autonomy is independence in the workplace. While they have similarities, the concepts differ widely one from the other. According to the self-determination theory, job autonomy can be characterized by having free will at work and standing behind the actions and values one believes in (Deci et al., 2017). On the other hand, independence means that one does not need nor accept any help or resources to perform the task, so one does not require others to perform the tasks and can function on one's own (Tsen et al., 2021).

In other words, job autonomy does not necessarily require an employee to be independent – in fact, an employee can be autonomous while depending on co-workers and managers for support and help with the workload. With that in mind, the positive effects of increased autonomy in the workplace are often associated with work outcomes like increased employee satisfaction, motivation, engagement, commitment, and self-efficacy, while mitigating work-related stress and nurturing trustworthy relationships with the top managers (Clausen et al., 2022; Cho et al., 2021; Morgeson et al., 2005).

Yet, a body of empirical work indicates that negative effects are more likely to be seen on employees' well-being when employees have the power to decide when and where they perform their work tasks and duties, leading to possible deviations from the organizational objectives (Kubicek et al., 2017). These negative effects can be attributed to the differences in the characteristics of each employee as well as the various groups of job features (Lu et al., 2017). The way job autonomy is perceived is also different among cultures; while some fully embrace it, others shun it, preferring to widen the gap between management and employees. These differences further fuel the debate and the scientific discourse surrounding this concept.

3 METHODS AND DATA

The objective of bibliometric methods as research instruments is the evaluation and analysis of scientific literature to uncover the structure and dynamics of a scientific field with classification and visualization (Zupic & Cater, 2013). This is why these

techniques are often equated with science mapping, as they tend to shed light on relationships between publications. Despite being a well-established method (Kessler, 1963), bibliometric analysis has recently gained the researchers' interest partly because of the accessible online databases for retrieving data and then because of the objective, aerial, synthesized view on a particular subject matter, which is useful for other scholars and future research endeavors. Enhanced bibliometric software like VOSviewer, R, Bibexcel, and similar played a big role in the proliferation of bibliometric studies.

To fulfill our research objectives, we conduct descriptive bibliometric analysis, co-authorship analysis, and keyword co-occurrence bibliometric analysis. The co-citation technique is based on the frequency at which articles, authors, or journals are cited together, meaning that if a pair of co-cited articles frequently appears in a body of work, their connection or link strength is stronger and the concepts they elaborate are more closely tied together.

The descriptive and co-authorship analyses were some of the first bibliometric techniques followed by keyword co-occurrence analysis, which was introduced later in the bibliometric development journey. It focuses on the content of the article, and establishing relationships based on keywords from article titles and abstracts (Zupic & Cater, 2013). A rule of thumb of this technique is that the connection between two keywords and concepts is as strong as the number of articles in which two important words appear. As a result, the network map generated as an output of this analysis places the keywords closer to each other if they are more connected and appear more frequently (Wallin, 2005).

With this study, we also wanted to analyze the field's development across time. We interpret these evolutionary rather than revolutionary changes in the field by incorporating them into the conceptual framework of invisible colleges, which is typically utilized for investigating scientific communication to expose the dynamic transformations across the analyzed period (Vogel, 2012). The framework proposes several patterns evident in the evolutionary development of invisible colleges from the emergence of a new college without its predecessors until two or more colleges combine and merge into

a scientific thought: college appearance, transformation, drift, differentiation, fusion, implosion, and revival (Vogel, 2012).

In terms of the data, a search query was performed in the Scopus database, one of the leading databases that index global, high-quality research on 17 December 2023. The subject area was limited to business, management, and accounting, and only peer-reviewed articles in scientific journals were included in the query. Moreover, we used the following search syntax: ("EMPLOYEE*" AND "AUTONOM*"), ("JOB" AND "AUTONOM*"), and ("WORK*" AND "AUTONOM*"). The search generated a total of 1565 articles.

The inclusion criteria to determine the final dataset for this study included original scientific articles that analyze an aspect of employee autonomy, written in the English language, and indexed in the Scopus database. On the other hand, commentaries, country reports, governmental reports, abstracts, editorials, posters, research protocols, white papers, so-called gray literature, and thesis dissertations were excluded from consideration.

To clean the data and get to the dataset of included articles, we followed the PRISMA protocol (Moher et al., 2015). The steps and a detailed description of the performed action per this protocol are given in Figure 1. The data sample eventually consisted of 1041 articles.

4 RESULTS AND FINDINGS

4.1 Descriptive Analysis

A total of 1041 articles on employee autonomy were published from 1957 onwards: that year marking the publication of the first article mentioning job autonomy in the context of determining job satisfaction and employee turnover (Ross & Zander, 1957). The last five years have been instrumental in employee autonomy research as is evident in Figures 2 and 3, which display the timeline of published articles per year.

In the early years, employee autonomy was viewed as just an integral part of job characteristics and demands, which is why it was researched paired with the rest of the constructs of models like the job

Figure 1: Visual presentation of the applied PRISMA protocol

IDENTIFICATION
N = 1565

Performed search query with pre-determined keywords

SCREENING
N = 1551

Removed duplicates (3);
Non-English papers (1);
Missing data (6);
Removed upcoming articles (4)

ELIGIBILITY
N = 1535

Removed review articles (16)

INCLUSION
N = 1041

Lack of relevance (494)
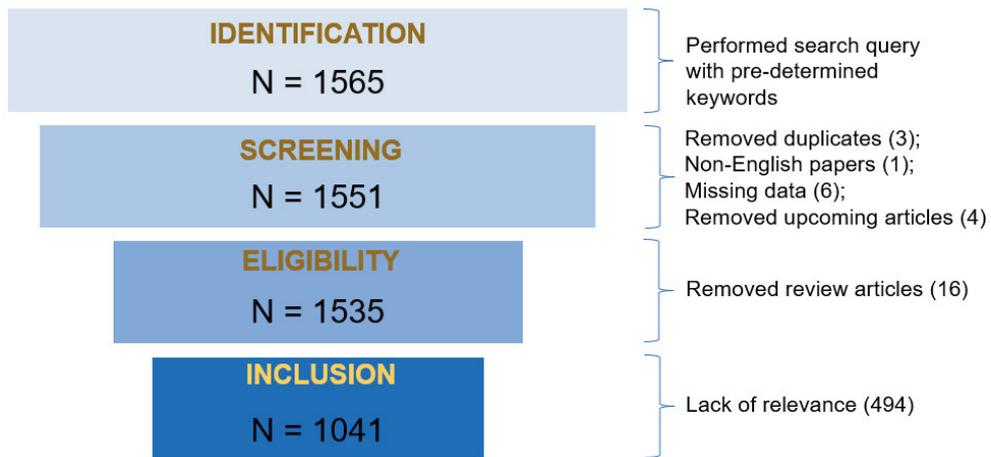
Source: Authors' analysis

Figure 2: Annual trend of published articles on employee autonomy
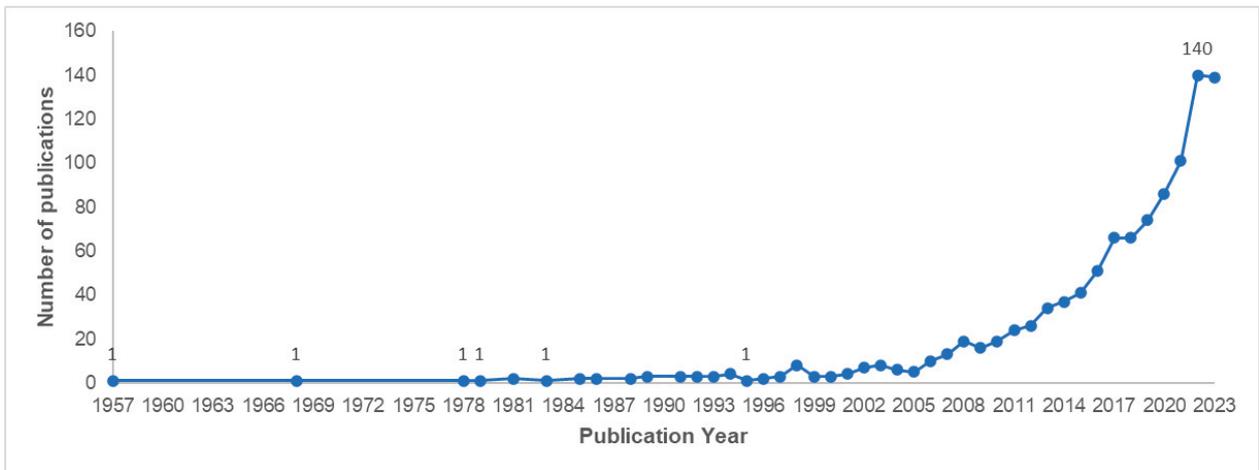
Source: Authors' analysis

Figure 3: Five-year trend of published articles on employee autonomy
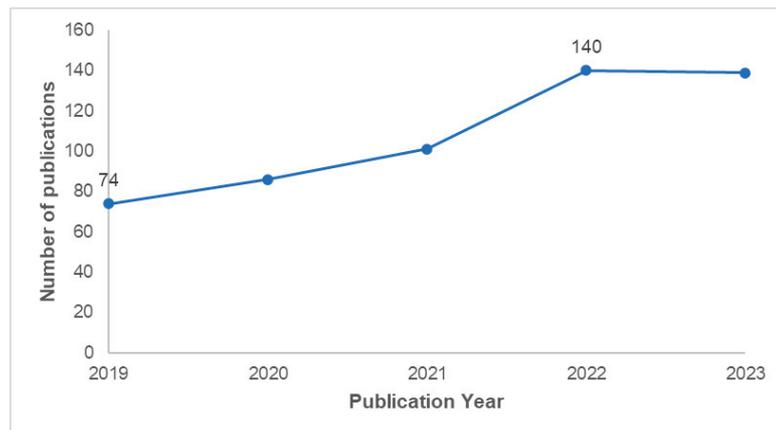
Source: Authors' analysis

demands-resources model (Taipale et al., 2011). It was not until the 2010s that scholars started massively singling out employee autonomy as a separate concept worth analyzing. Furthermore, from the large research body, some foundational articles stand out; the most-cited ones are presented in Table 1.

The interest in this field is evident in the fact that since 2010, more than 900 articles have been written about the level of autonomy of employees and its impact on other organizational phenomena, which is nine times more than in all years before 2010 combined. Journals which have published the most employee autonomy-related articles are *International Journal of Human Resource Management* (36), *European Journal of Work and Organizational Psychology* (26), *Personnel Review* (21), *Journal of Managerial Psychology* (20), *Employee Relations* (18), *Human Relations* (18), and *Journal of Vocational Behavior* (17), signaling the main research areas featuring job autonomy literature to be human resource management, organizational psychology, leadership, and organizational behavior.

The most-cited authors who have achieved that with the fewest published articles are presented in Table 2. They reflect the diverse landscape of employee autonomy research, confirming the various research contexts where this field has developed.

4.2 Co-authorship Bibliometric Analysis

Connected with authorship, the following bibliometric technique analyzes co-authorship among authors and country-wise. To achieve this, all articles from the identified data sample were imported into the software VOSviewer, one of the leading pro-

Table 1: Most-cited articles on employee autonomy

Title	Author(s)	Source	Total Citations
Strength is ignorance; slavery is freedom: Managing culture in modern organizations	Willmott (1993)	*Journal of Management Studies*	974
Work engagement and financial returns: A diary study on the role of job and personal resources	Xanthopoulou et al. (2009)	*Journal of Occupational and Organizational Psychology*	797
Determinants of individual engagement in knowledge sharing	Cabrera et al. (2006)	*International Journal of Human Resource Management*	748
Weekly work engagement and performance: A study among starting teachers	Bakker & Bal (2010)	*Journal of Occupational and Organizational Psychology*	723
On the relations among work value orientations, psychological need satisfaction and job outcomes: A self-determination theory approach	Vansteenkiste et al. (2007)	*Journal of Occupational and Organizational Psychology*	440
Job crafting and its relationships with person-job fit and meaningfulness: A three-wave study	Tims et al. (2016)	*Journal of Vocational Behavior*	374
Exploring nonlinearity in employee voice: The effects of personal control and organizational identification	Tangirala & Ramanujam (2008)	*Academy of Management Journal*	335
The employee-organization relationship, organizational citizenship behaviors, and superior service quality	Bell & Menguc (2002)	*Journal of Retailing*	315
The experience of powerlessness in organizations	Ashforth (1989)	*Organizational Behavior and Human Decision Processes*	307
Conflict management, efficacy, and performance in organizational teams	Alper et al. (2000)	*Personnel Psychology*	302

Source: Authors' analysis

Table 2: Most-cited authors on employee autonomy

Author	Total citations	Number of published articles
Bakker A.B.	2334	11
Demerouti E.	1332	9
Schaufeli W.B.	1072	7
Willmott H.	1043	2
Xanthopoulou D.	961	4
Bal P.M.	882	2
De Witte H.	815	7
Cabrera Á.	748	1
Collins W.C.	748	1
Salgado J.F.	748	1

Source: Authors' analysis

grams for multitechnique bibliometric analysis (Van Eck & Waltman, 2010). There are several mini clusters and connections between the authors out of which most notable for the bibliometric analysis are the green, blue, and red clusters shown in Figure 4 due to their size and biggest link strengths.

The *green cluster* is represented by the inclusion of employee autonomy measurement as part of the job demands-resources (JD-R) theory. These co-authorship collaborations have found that the feeling of increased employee autonomy can combat burnout (Bakker et al., 2014), boost employee engagement levels (Demerouti et al., 2010), empower employees to participate in crafting their jobs (Demerouti et al., 2015). In recent years, the relationship between job demands and resources, which includes employee autonomy, has gained new popularity when researched in the context of organizational and environmental crises. The *blue cluster* sees autonomy as an integral part of employees' basic needs satisfaction (Van den Broeck et al., 2010). Additionally, the scholars analyzing this concept connected employee autonomy with the fulfillment of needs and the effect on autonomous motivation, meaning that employees who feel they have higher levels of freedom and discretion in their work will have fulfilled such psychological needs, thus making them more self-motivated in their performance (De Cooman et al., 2013). Findings in this cluster also suggest that senior employees value

higher job autonomy and, in such cases, may be more willing to work until retirement age (Vanbelle et al., 2017). Reaffirming these findings, authors in the *red cluster* also find that higher levels of autonomy are associated with enhanced autonomous motivation (Sandrin et al., 2022), which can result in improved performance and commitment to the organization on one hand, and lower turnover rates on the other (Fernet et al., 2021).

Country co-authorship is another important bibliometric technique for determining the research contexts of existing employee autonomy research. For the analysis, the country co-authorship minimum threshold was set to two articles, so that more countries can be represented. This translated into a map of 64 countries, which are categorized into 11 clusters, each represented with a separate color (Figure 5).

Most authors tend to collaborate with their peers from the cluster itself. Additionally, the majority of countries in a single cluster have other contextual, historical, cultural, or geographical connections. Illustratively, the green cluster is composed mainly of European countries or countries that speak similar languages. This includes the Netherlands, Spain, Portugal, Brazil, Italy, Belgium, Poland, Lithuania, and more. While some authors like ones from the United States and the United Kingdom often pair up with counterparts from their cluster, they are an example

Figure 4: Co-authorship network visualization map
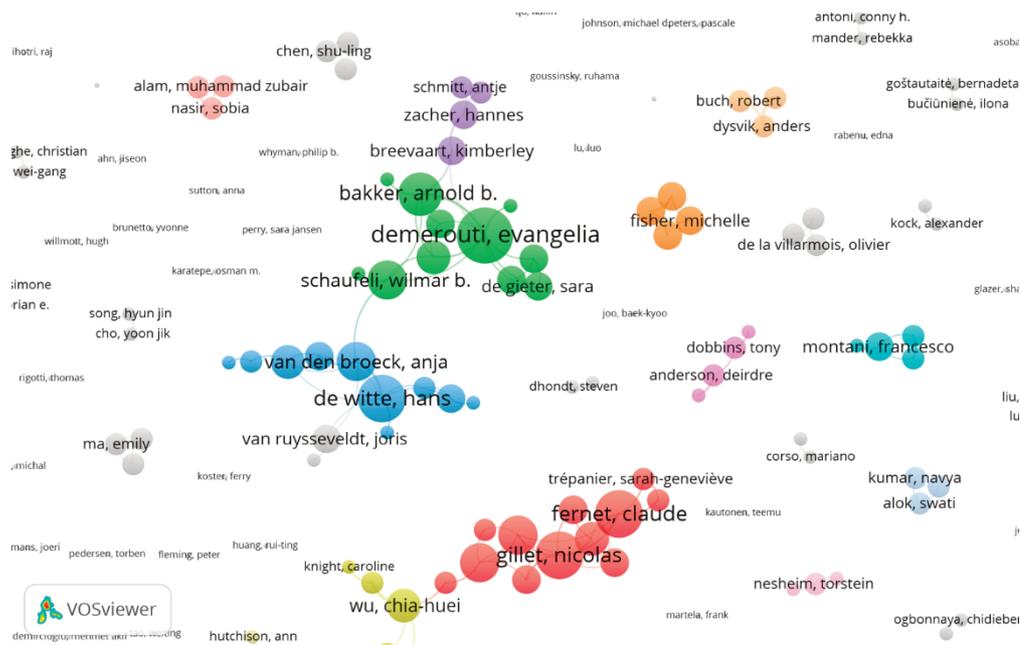
Source: Authors' analysis

Figure 5: Country co-authorship map
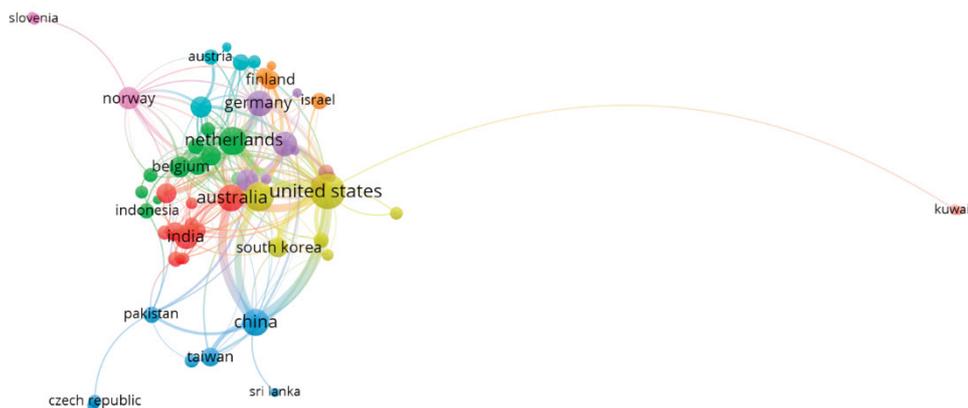
Source: Authors' analysis

of cross-regional collaboration as can be demonstrated through the strong link connection between these two countries and China. Chinese authors also contribute to employee autonomy literature with Pakistani, Taiwanese, and Sri Lankan authors, to name a few, too.

Tables 3 and 4 present a ranking of countries where employee autonomy researchers come from in terms of the total number of citations and the number of published articles in the field. When it comes to the former, the most productive were European authors, whose countries make up half of the

Figure 3: Structural model of CXM framework for loyalty

#	Country	Number of Published Articles
1	United States	208
2	United Kingdom	113
3	The Netherlands	99
4	Australia	88
5	China	80
6	Germany	72
7	Canada	59
8	India	59
9	France	40
10	Norway	40

Source: Authors' analysis

Table 4: Country co-authorship by number of total citations

#	Country	Number of Total Citations
1	United States	8671
2	The Netherlands	5871
3	United Kingdom	4344
4	Australia	3693
5	Canada	3137
6	China	2079
7	Germany	1647
8	Belgium	1593
9	Spain	1379
10	Norway	1145

Source: Authors' analysis

top 10 countries in this aspect with countries from the Americas and Asia, following closely behind.

The situation is changed when the total citations are accounted for. While the first four countries are still present, their positions have slightly changed. It can be concluded that the United States authors have both the most published articles and the most citations. Interestingly, Belgium and Spain were not among the 10 most productive countries, but in turn, entered the 10 most-cited countries.

4.3 Keyword Co-occurrence Bibliometric Analysis

This bibliometric technique aims to identify key themes and topics in employee autonomy research. Each cluster of keywords in the bibliographic map corresponds with the subfields of the bigger employee autonomy field (Van Raan, 2014). Moreover, for this analysis, the same dataset consisting of 1041 articles was used. Due to the size, the number of keywords for the semantic map had to be minimized by determining the most adequate threshold. This

was done through trial and error and eventually, the minimum number was set to two articles mentioning a certain keyword to gain a more aerial perspective of the employee autonomy field.

After the abstract and keyword mining and manually selecting the relevant keywords, 654 keywords were included in the network visualization map (Figure 6). These keywords are connected with 6067 links and their total link strength is 1674.49. In this sense, the five keywords with the highest occurrences across the research landscape include '*autonomy*' (links: 329, total link strength: 185, occurrences: 191), '*job autonomy*' (links: 234, total link strength: 120, occurrences: 126), '*job satisfaction*' (links: 212, total link strength: 92, occurrences: 96), '*self-determination*' (links: 138, total link strength: 66, occurrences: 67), '*motivation*' (links: 151, total link strength: 46, occurrences 46).

The keywords were separated into 10 interconnected clusters: 1) *red cluster*: Benefits of employee autonomy, 2) *green cluster*: Job satisfaction and wellbeing, 3) *dark blue cluster*: Environmental context, 4) *yellow cluster*: Motivation, 5) *purple cluster*: Employee behavior, 6) *light blue cluster*: Organizational psychology, 7) *orange cluster*: Work organization, 8) *brown cluster:* Leadership, 9) *pink cluster:* Digitalization, and 10) *magenta cluster:* Performance. In the next paragraphs, we examine the clusters with the highest keyword occurrences in further detail.

Red cluster: Benefits of employee autonomy

The red cluster is the largest one, encompassing 173 distinct keywords, which are related to the various relationships that employee autonomy has with other constructs. The most frequent keywords are 'autonomy', 'leadership', 'human resource management', 'innovation', and 'personnel', which are in turn connected with other items like 'knowledge management', 'empowerment', 'employee engagement', 'control', 'entrepreneurship', and similar. De-

Figure 6: Network visualization of keyword co-occurrence analysis

Source: Authors' analysis

spite the negative aspects of this concept, existing research mainly focuses on the positives. When employees feel they are more autonomous, this can highly likely translate into a higher absorptive capacity, need satisfaction, commitment, willingness for continuous improvement, creativity, and innovative work behavior (Chung-Yan, 2010; Langfred & Moye, 2004; Cho et al., 2021). Ultimately, this makes the entire employee experience at work better, which is one of the primary domains of HRM. The research in the cluster has mostly been done in the Asian context and industries such as banking and healthcare and family businesses and startups. Recently, research on work-from-home practices demonstrated the effects of perceived autonomy in this context, too (Galanti et al., 2021).

Green cluster: Job satisfaction and wellbeing

The second largest cluster consists of 147 keywords, which are mostly connected with this cluster's highest-occurring keywords 'job satisfaction' and 'wellbeing'. Other notable keywords include 'job crafting', 'work-life balance', 'working conditions', 'workplace', 'burnout', 'emotional exhaustion', 'personality', and more. Scholars point out that lower levels of autonomy may result in higher absenteeism and this organizational phenomenon may mitigate the effects of burnout, customer aggression, emotional exhaustion, and dissonance, especially in knowledge-intensive organizations (Kim et al., 2019). The level of hierarchy and management support can play a role in this aspect when crafting the job characteristics together with the HR team and the employees. The research context is a diverse one, including countries from Eurasia, Canada, South Africa, and more, with methods like thematic analysis, regression analysis, and qualitative research predominantly used.

Dark blue cluster: Environmental context

Keywords like 'self-determination', 'covid-19', 'organizational commitment', and 'job design' dominate this cluster and are linked with similar ones relating to the context of the surrounding one finds themselves in such as 'co-workers support', 'crisis', 'employee development', 'flexible working', 'hybrid work', 'justice', and others. The total number of keywords in this cluster is 83. Further, research endeavors signal that the level of autonomy workers enjoy

may vary in different critical situations and this feeling can be a potent mediating factor when the organization is facing a crisis (Frare & Beuren, 2021). While employees are more autonomous when working remotely, this can impact their feelings of loneliness on one hand or make them more efficient in some cases due to their self-efficacy and self-determination (Mohammed et al., 2022).

Yellow cluster: Motivation

This cluster considers the effect of employee autonomy on the motivation or engagement to perform the required tasks. Of the 67 distinct keywords, the ones that occur the most are 'work engagement' and 'motivation', which further link with 'job characteristics', 'organizational citizenship', 'self-employment', and other keywords. As workplaces become more diverse generation-wise, multiple studies confirm that workers from Generation Y value their autonomy as a motivational factor and see it as a core value for making sure the employee's voice is heard (Rice et al., 2022). Autonomy has been found to be crucial for female employees as another category, especially if they choose to start a family (Halldén et al., 2012). The sense of increased freedom about how, where, and when the job is done is also one of the reasons why entrepreneurs tend to launch their businesses instead of opting to work for someone else (Van Gelderen & Jansen, 2006). European countries like Greece, Norway, and Finland appear as the backdrop of these findings while studies in the public sector and the hospitality sector dominate.

Purple cluster: Employee behavior

Consisting of 60 keywords, this cluster reaffirms that employee autonomy can impact how employees act not simply how they feel. The main item in the cluster is 'job autonomy' with 'job performance' trailing behind, connecting with keywords such as 'employee relations', 'employee retention', 'employee turnover', 'innovative work behavior', 'proactivity, 'participative decision-making', and more. While employee autonomy can affect whether the worker perceives the work as meaningful or not, it can also help them decide if they want to stay or leave the organization (Dysvik & Kuvaas, 2013). Task and structural autonomy are highlighted as autonomy types that can particularly leverage employee

behavior in a way that drives job performance further and stimulates innovation as a key competitiveness factor (Pattnaik & Sahoo, 2021).

5 REVIEW OF THE EVOLUTION OF EMPLOYEE AUTONOMY AND DISCUSSION

As described in the section dedicated to the used methodology, besides the bibliometric analysis, we interpret the field's development across four phases from its origins in the 1950s until now through the framework of invisible colleges (Vogel, 2012), including college transformation, drift, differentiation, and fusion. This framework has also been used by other researchers to track the evolutionary patterns and paths of different organizational phenomena like work mindfulness (Bunjak et al., 2022). The findings from the clusters of the bibliometric techniques are synthesized in the framework.

The framework, presented in Figure 7, indicates that employee autonomy research has first been de-fined, assessed, and measured using different scales and methods. With that in mind, employee autonomy as a concept has been included in the job engagement scale and performance questionnaire, training, information, participation, and autonomy (TIPA) scale, the measure of disorganization, the basic psychological needs at work scale (BPNWS), the job quality scale, and the work autonomy scales. Then, it was paired up with other organizational phenomena in theoretical models which in their inception were used for evaluating their impact on job satisfaction, well-being, behavior, and similar. After developing several autonomy types, researchers analyzed the impact of leadership and other facilitating conditions on this construct. In its final stages of development so far, new technologies such as artificial intelligence, digitalization, flexible working arrangements, and individual and team job crafting have reinvigorated job autonomy as an organizational segment. Now, it is often fused with other employee-centered aspects like empowerment and participative decision-making.

Figure 7: Evolutionary development patterns of employee autonomy research grounded in the invisible colleges framework
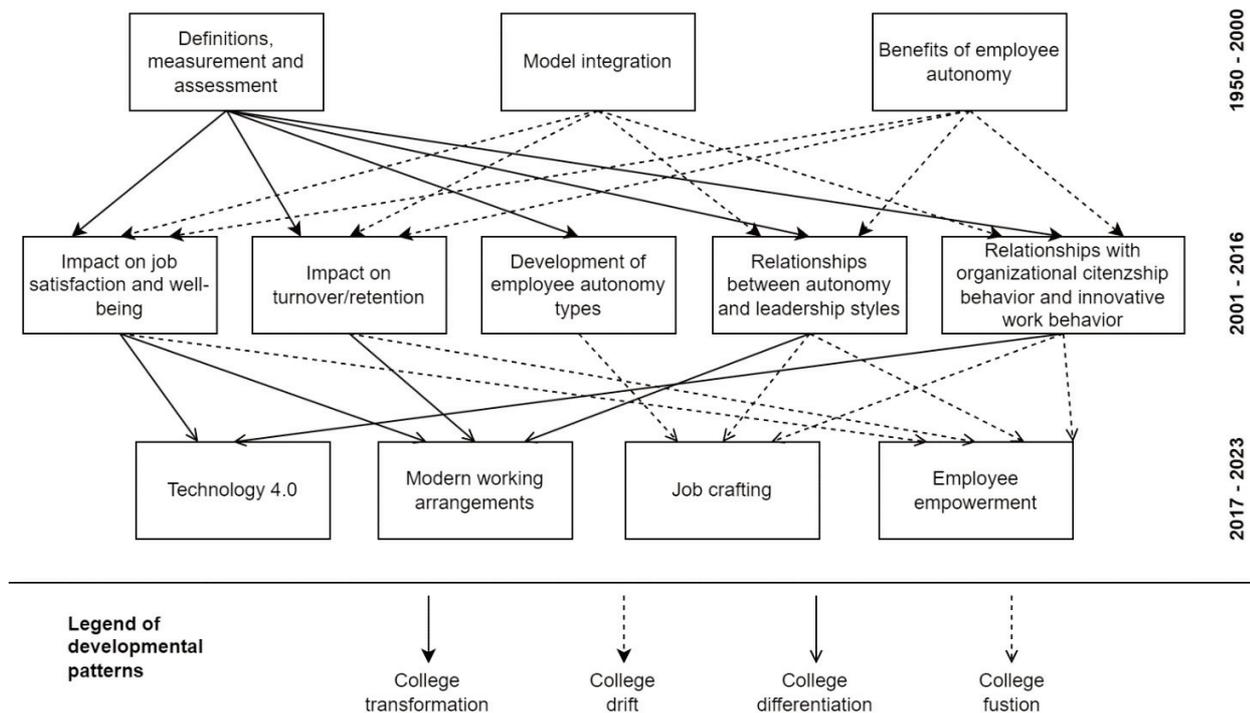
Source: Authors' analysis

It is worth noting that it didn't take for a phase to end so that another could start, instead, they overlapped and even in recent years, scholars have found different ways for comprehensively measuring the impact of employee autonomy on as many spheres of the professional and personal lives of workers.

The foundation of most employee autonomy research is a solid theoretical framework and a theoretical background that has incorporated this concept when analyzing organizational phenomena. Subsequently, Figure 8 presents a word cloud of the theories that have attempted to incorporate, define, or explain employee autonomy across the historic development of the concept.

Looking at the roots of HRM historically, one of the reasons for establishing the HR profession was to enable employee autonomy (Hansen et al., 1994) as a healthy concept that views each employee as his/her whole self, who should be free to some extent make work-related decisions that affect them. This relates to the early efforts of increasing employee participation and the growing need for unionization across different industries (Chang et al., 2017).

Job autonomy is especially analyzed between employees and entrepreneurs with the former stating that this can be a reason for starting a new business (De Clercq & Brieger, 2021). Furthermore, managerial and employee autonomy is perceived as a significant career development step (Lartey, 2021), which means that workers can self-direct their careers and learn at their own pace.

Employee autonomy research has been affiliated with the different types of leadership, too. Often, cultures that promote ethical, transforma-tive, and Laissez-faire leadership styles tend to value a higher degree of job autonomy for the workforce (Gao & Jiang, 2019). Not only leadership types, but several management styles like lean management, agile, and amoeba management also tend to favor the wide expansion of this concept (Butollo et al., 2019). Additionally, since employees don't necessarily depend on each other, autonomous jobs invoke the discussion of work alienation as well as organizational knowledge sharing and hiding (Peng et al., 2022). As a result, if there is a lack of communication, too autonomous employees may choose to withhold information from their co-workers.

Recent research has put the focus on using employee autonomy to build a resilient workforce that finds meaningfulness in the work, while improving their psychological wellbeing (Martela et al., 2021). Even though employees are freer to make decisions about their work, when they feel autonomous, they are more likely to display positive organizational citizenship and innovative work behavior (De Spiegelaere et al., 2016). Yet, researchers have pointed out the autonomy paradox, meaning that too much of a good thing, or in our case, employee autonomy can lead to destructive effects on the organizational core and fabric (Fürstenberg et al., 2021).

6   PATHS FOR FUTURE RESEARCH

A significant part of bibliometric analysis is to identify the latest trends and potential future research pathways in the field. Our quantitative approach takes a look at the latest themes in employee autonomy research presented historically in the overlay visualization map in Figure 9. The circles in

Figure 8: Word cloud of employee autonomy theories

Job Demands-Resources theory Balance theory Agency theory
Self-Determination theory Psychological Contract theory
Self-Efficacy theory Planned Behavior theory Social Exchange theory
Individual and Family Self-Management theory
Situational Leadership theory Conservation of Resource theory
Multidimensional Item Response theory Relational Identification theory
Leader-Member-Exchange theory Socio-Technical Systems theory

Source: Authors' analysis

the map are colored in yellow and darker colors, meaning that the brighter the circle is, the more recently this theme has been researched.

There is still room for studies of employee autonomy in different research contexts in terms of geographically less-represented regions like the Balkan region, Latin America, South-East Europe, Central Africa, and more, as well as sectors including non-profit, manufacturing, social, and green economy, and similar.

Contemporary technologies such as artificial intelligence and its affiliated methods are predicted to continue widening the impact on employee autonomy. In this sense, there is a gap in the literature about how generative artificial intelligence can help with individual job crafting and the impact of human-artificial intelligence collaboration (Calvo et al., 2020).

Other types of technologies making the headlines include wearable technology and employee behavior tracking, which significantly impacts workers' autonomy (Van Acker et al., 2021). Scholars can explore this relationship and if or to what extent should these technologies be present in the workplace for monitoring employee behavior.

While worker co-operatives aren't a fresh concept, we see a resurgence in their popularity, potentially motivated by the growing debate about giving more voice to employees. As unique types of organizations governed by the workers, it may be beneficial to further analyze the concept of employee autonomy when this type of organization is translated to other industries, especially for-profit ones (Sacchetti & Tortia, 2021).

Furthermore, flexible working arrangements tend to blur the lines when it comes to establishing and maintaining employee autonomy and control in the workplace as an increasing portion of the workforce can work remotely or hybrid (Metselaar et al., 2023). How this affects gig workers and digital nomads may be an interesting research path.

Figure 9: Overlay visualization map on employee autonomy

Source: Authors' analysis

7 CONCLUSION

Through a multitechnique bibliometric analysis of the employee autonomy concept from a dataset of 1041 articles indexed in the Scopus database, our objective was to answer what the inherent intellectual structure of the employee autonomy body of research is, what the most influential concepts, themes, and hotspots are, and what new paths for future research on the topic exist. The findings from the descriptive bibliometric analysis, co-authorship, and keyword co-occurrence analysis, which were additionally synthesized in the invisible colleges framework for tracing the evolutionary development of the field, we focus on a few core themes such as benefits of employee autonomy, job satisfaction and wellbeing, environmental context, motivation, employee behavior, organizational psychology, work organization, leadership, digitalization, and job performance.

The study doesn't come free of some limitations as all bibliographic methods tend to have. This is why they should be complemented by other review types. To begin with, the dataset relies only on the Scopus database, which future studies can use as a motivation to further incorporate articles indexed in other databases like the Google Scholar database, too. Then, different reasons for low citation rates, citing certain publications as well as self-citation cannot be fully established. In this sense, the clusters generated by the bibliometric software are not grounded in science and there is some dose of researcher's input regarding decisions for citation and article thresholds.

All in all, the analysis identified five paths for future studies, focusing on the impact of artificial intelligence-human collaboration and wearable technology on autonomy, the need for widening the research context to less-represented regions, and the rising popularity of worker co-operatives and flexible working arrangements. As a result, the study makes several contributions. Firstly, policymakers can benefit from these findings when regulating unionization and forms of increased employee participation to further democratize workplaces. Additionally, practitioners and the academic community can benefit from the synthesized findings enriched with the invisible colleges framework for elevating the existing employee autonomy literature through a more comprehensive and objective review and analysis.

EXTENDED SUMMARY/IZVLEČEK

V obdobju po fenomenih velikega odstopa, tihega odstopa in vseprisotnega dela na daljavo, povezanimi z managementom človeških virov po COVID-19, se je zanimanje raziskovalcev za avtonomijo pri delu povečalo na rekordno visoko raven. Poleg naraščajoče znanstvene zrelosti področja obseg, v katerem bi morali zaposleni uživati avtonomijo pri oblikovanju svoje delovne obremenitve, izbiri metod dela in delovnega mesta ter vpliv na delovne rezultate, ni sintetiziran in je odprt za razprave. Obravnavamo evolucijsko razvojno pot tega koncepta z uporabo več tehnik bibliometrične analize hkrati in okvira nevidnih struktur raziskovalnega sodelovanja. Poleg tega raziskava predstavlja kombinacijo opisne bibliometrične analize, soavtorstva in analize sočasnega pojavljanja ključnih besed, da preuči najnovejše raziskave in pretekle usmeritve raziskovalcev o avtonomiji pri delu. Tako prispevamo k akademskemu raziskavanju z razkrivanjem inherentne intelektualne strukture avtonomije pri delu, raziskovanjem najvplivnejših konceptov in aktualnih tem ter prikazovanjem novih poti za prihodnje raziskave. Analiza je izpostavila osrednje teme, vključno s koristmi avtonomije zaposlenih, zadovoljstvom in dobrem počutju pri delu, okoljskim kontekstom, motivacijo, vedenjem zaposlenih, organizacijsko psihologijo, organizacijo dela, vodenjem, digitalizacijo in uspešnostjo ter pet poti za prihodnje študije. To pušča prostor za nadaljnje navzkrižno opraševanje teme z drugimi managerskimi koncepti. Ugotovitve imajo potencial, da koristijo oblikovalcem politik, praktikom in akademski skupnosti kot ključnim deležnikom na področju.

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