ATTRIBUTES THAT INFLUENCE TURNOVER IN PUBLIC INSTITUTIONS: EVIDENCE FROM A BIBLIOMETRIC ANALYSIS

Atributos que influenciam o turnover em instituições públicas: evidências de uma análise bibliométrica
Atributos que influyen en la rotación de personal en las instituciones públicas: evidencia de un análisis bibliométrico

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ABSTRACT

Turnover in the public sector represents a growing challenge for human resource management, as it directly affects organizational efficiency, service quality, and institutional costs. This study mapped and categorized the predictive factors of turnover in public institutions and thus contributes both to academic research and managerial practice. A systematic review with bibliometric analysis and meta-analysis was conducted, using data from the Web of Science database covering the period 1978–2025. The application of multiple correspondence analysis and cluster analyses allowed the identification of five interrelated dimensions influencing public sector turnover: working conditions and well-being, organizational policies and culture, leadership and interpersonal relations, intrinsic motivation and organizational citizenship, and structural factors. The findings reveal that the decision to remain in or leave an organization does not stem from a single aspect but from the interplay of individual, relational, and institutional variables. Based on these insights, public managers should prioritize policies aimed at improving quality of work life, adopting fair leadership styles, and implementing professional recognition practices to mitigate turnover. This study contributes to the field by proposing an original analytical framework that could guide future investigations and support the development of more effective human resource management strategies in the public sector.

RESUMO

O turnover no setor público constitui um desafio crescente para a gestão de pessoas, por impactar a eficiência organizacional, a qualidade dos serviços prestados e os custos institucionais. Este trabalho teve como objetivo mapear e categorizar os fatores preditivos da rotatividade em instituições públicas, de modo a oferecer subsídios tanto à produção acadêmica quanto às práticas gerenciais. Para alcançar esse propósito, foi conduzida uma revisão sistemática combinada com análise bibliométrica e metanálise, a partir de dados da base Web of Science no período de 1978 a 2025. A aplicação da Multiple Correspondence Analysis e de análises de clusters permitiu identificar cinco dimensões inter-relacionadas que explicam o fenômeno: condições de trabalho e bem-estar, políticas e cultura organizacional, liderança e relações interpessoais, motivação intrínseca e cidadania organizacional, e fatores estruturais. Os resultados demonstram que a decisão de permanência ou desligamento não decorre de um aspecto isolado, mas do entrelaçamento de variáveis individuais, relacionais e institucionais. Com base nisso, sugere-se que gestores públicos priorizem políticas de qualidade de vida, estilos de liderança justos e práticas de valorização profissional capazes de mitigar a rotatividade. O trabalho contribui ao propor uma estrutura analítica inédita, que pode orientar pesquisas futuras e subsidiar estratégias de gestão de pessoas mais eficazes no setor público.

RESUMEN

La rotación laboral en el sector público representa un desafío creciente para la gestión de recursos humanos, ya que afecta directamente la eficiencia organizacional, la calidad del servicio y los costos institucionales. Este estudio tuvo como objetivo mapear y categorizar los factores predictivos de la rotación laboral en instituciones públicas, aportando contribuciones tanto a la investigación académica como a las prácticas gerenciales. Para lograr este objetivo, se realizó una revisión sistemática combinada con análisis bibliométrico y metaanálisis, utilizando datos de la base de datos Web of Science para el período de 1978 a 2025. La aplicación del Análisis de Correspondencias Múltiples y el análisis de conglomerados permitió identificar cinco dimensiones interrelacionadas que influyen en el fenómeno: condiciones laborales y bienestar, políticas y cultura organizacional, liderazgo y relaciones interpersonales, motivación intrínseca y ciudadanía organizacional, y factores estructurales. Los hallazgos revelan que la decisión de permanecer o dejar una organización no se deriva de un solo aspecto, sino de la interacción de variables individuales, relacionales e institucionales. Con base en estos hallazgos, se sugiere que los gerentes públicos prioricen políticas dirigidas a mejorar la calidad de vida laboral, adoptar estilos de liderazgo justos e implementar prácticas de reconocimiento profesional para mitigar la rotación laboral. Esta investigación contribuye proponiendo un marco analítico original que pueda orientar futuras investigaciones y apoyar el desarrollo de estrategias de gestión de recursos humanos más efectivas en el sector público.

INTRODUCTION

The phenomenon of *turnover*, also referred to in the literature as staff turnover, is one of the main challenges of organizational management, in both public and private institutions. In general, it can be understood as the process of employees leaving an organization, either on their own initiative or by institutional decision (Agapito et al., 2015; Hom et al., 2017; Hur & Abner, 2024). Although it is often associated with job dissatisfaction, turnover also reflects the quality of human resource management policies and is thus a relevant indicator of organizational effectiveness. The literature suggests that structured and strategic human resource management is directly related to institutional success and affects talent retention, employee motivation, and, consequently, organizational stability (Demo et al., 2019; Siqueira & Gomide Jr., 2014).

The consequences of turnover are significant in the organizational environment, whether public or private. Among the main effects include the costs of recruiting and training new professionals, the loss of accumulated knowledge, and reduced collective engagement (Bright, 2008; Wang et al., 2024). In the case of Brazilian federal universities, high turnover rates have compromised the continuity of academic and administrative activities, thus directly affecting the quality of services provided to the academic community (Cavalcante Júnior & Amorim, 2022; Sousa, 2022). The impact becomes even more relevant when related to job availability and institutional conditions. High turnover rates may signal that the conditions offered do not meet the expectations and aspirations of employees (Hur & Abner, 2024). The Personnel Statistics Panel, made available by the Ministry of Economy (Brazil, 2024), highlights this reality and reveals that, in 2014, there were 3,430 resignations at Brazilian federal universities; this number fell to 1,133 in 2020, but rose again in 2022. These fluctuations warrant further analysis.

Turnover tends to occur voluntarily in the public sector, because stability is guaranteed after the probationary period. In the private sector, however, factors such as market fluctuations and new career opportunities are determining factors for the turnover of professionals (Sallaberry et al., 2021). When observed in the public service, the most common causes of turnover include insufficient institutional support, low job satisfaction, dissatisfaction with management practices, and external conditions that interfere with employee retention (Hom et al., 2017; Pinho et al., 2022).

Despite the growth in scientific production about turnover in public institutions, there are still gaps in the identification and categorization of the attributes that influence this process. This strengthens the importance of systematic analyses that make it possible map trends, identify determinants, and reveal little-explored topics, thus contributing to the improvement of management policies and the formulation of more effective strategies for retaining employees.

It is important to note that a significant part of the bibliometric research on turnover has focused on specific professional groups, such as higher education teachers (Rahman et al., 2025), business and administration workers (Sharma & Tiwari, 2023), nurses (Zhang et al., 2023), and information technology specialists (Narwaria et al., 2024). Several studies are also limited to more recent time frames, which restricts the longitudinal understanding of the phenomenon (Bachtiar et al., 2023; Florek-Paszkowska & Hoyos-Vallejo, 2023; Majumdarr & Dasgupta, 2024).

Given this situation, the present study undertook a review of the literature on turnover in public administration to provide support for future empirical investigations. A systematic approach was therefore employed that integrated a quantitative synthesis of data (meta-analysis) and bibliometric analysis, thus enabling an overview of the temporal evolution of research and identification of the attributes that influence turnover in public institutions, while also highlighting the main factors that determine permanence or termination in the public sector.

METHODOLOGY

The methodological approach adopted was based on a systematic review, structured around a hybrid operationalization that integrates data synthesis through meta-analysis (Kim et al., 2018; Zheng et al., 2023) and bibliometric analysis (Donthu et al., 2021; Ellegaard & Wallin, 2015; Nandiyanto & Al Husaeni, 2023). This combination allowed us to consider both the qualitative dimension of the literature, and the quantitative aspects related to the production, dissemination, and use of scientific knowledge on turnover in public administration. The methodological flow developed was organized into two main stages (Figure 1).

For data collection, the main source used was the Web of Science (WoS) - Main Collection (*Clarivate Analytics/Thomson Reuters*), due to its wide acceptance in the scientific community and the availability of bibliographic records structured in a consistent and intuitive manner (Huang, 2024; Uslu & Açıkel, 2023). The search resulted in the identification of 738 publications related to the topic, covering the period from 1978 to 2025. This constituted the corpus analyzed in the bibliometric stage. The formulation of search strings for the WoS database was the first step of this approach (first stage - repository). Parameterization was performed using Boolean operators based on prior knowledge of the topic, using the following format: "("turnover" OR "rotatividade") AND ("administração pública" OR "public service" OR "public sector")."

Figure 1. Synopsis of the Methodological Path
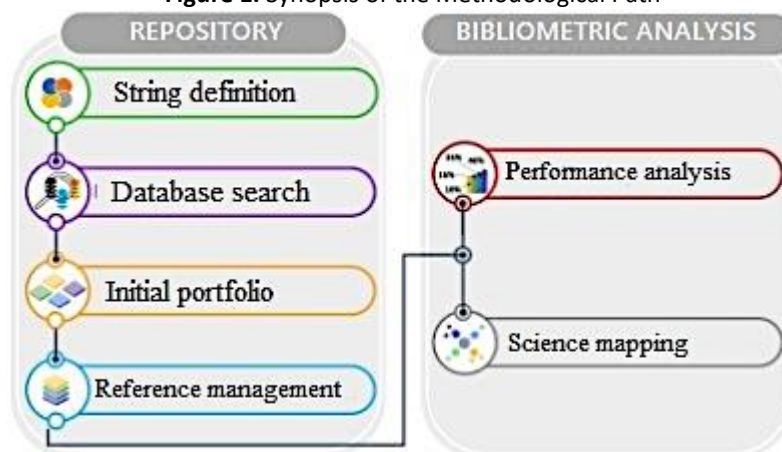
Source: Authors (2025).

The second step consisted of an effective consultation of WoS, as suggested by Karthik and Devi (2024). In this process, different types of documents were considered (e.g., articles, book chapters, editorial materials, newspaper articles, letters, meeting summaries, and procedural documents), with no restrictions on the language of publication. The records identified included bibliographic information, citation data, abstracts, keywords, and other metadata, which were exported for further processing (Huang, 2024). Next, in the third step, a refined dataset was generated by exporting the records in tab-delimited format; this contained

complete information and cited references. This procedure yielded an initial portfolio of studies on turnover in public administration (Budhathoki et al., 2024).

Although the WoS search strings and filters were carefully designed, it is common to find records that do not align with the scope of the research (Ebhuoma, 2024). It was therefore necessary to manage the references in the fourth step of the first stage. The keywords, titles, and abstracts of the identified articles were therefore analyzed using Microsoft Excel. This procedure, in line with Calheiros-Lobo et al. (2023) and Donthu et al. (2021), made it possible to exclude irrelevant or inconsistent publications, thus ensuring the quality and relevance of the final portfolio.

The selected data were then submitted to bibliometric analysis with the aid of *Bibliometrix*, a package developed in the R language, widely applied in scientometric and bibliometric studies (Aria & Cuccurullo, 2017). *Biblioshiny* (version 4.1), a web interface extension of Bibliometrix, was also used to perform multiple correspondence analysis (MCA), interactively filter points for visualization, and export the generated graphs and tables (Moschidis et al., 2024).

Finally, factor analysis was applied to identify the set of attributes (factors and subfactors) that influence the occurrence of turnover in public institutions. This step involved the use of dendrograms and MCA, both conducted in Biblioshiny. The topics (words and expressions) that showed greater proximity in the graphical representations were submitted to a thematic-categorical analysis, thus enabling the identification of research clusters, areas of emerging interest, and intellectual relationships within the field. According to Hassan and Duarte (2024), this procedure helps clarify the conceptual structure of the area and reveal connections that are not immediately evident.

RESULTS AND DISCUSSION

After refining the database, the scientific production on turnover in the public service between 1978 and 2025 in the WoS database encompassed 647 documents distributed across 281 journals (Table 1). This volume of publication highlights the scope of the topic and its consolidation as an object of academic interest. An average annual growth of 5.43% was observed, which indicates a trajectory of continuous expansion of research over the last decades. The documents are, on average, 7.72 years old (i.e., since publication), while the average number of citations per article is 26.62, which reveals that the studies, in addition to multiplying in number, have also had a significant scientific impact and contributed significantly to advancing knowledge in the field.

The thematic analysis revealed the incidence of central concepts associated with the phenomenon, identified based on the *plus keywords* (ID) and *authors' keywords* (DE). When grouped together, these terms reflect the main areas of research and allowed us to determine the most common lines of research and the fields of greatest development in studies on turnover in public institutions.

Table 1. Compendium of Scientific Production Related to Public Service Turnover (1978–2025)

Description	Results
Time period	1978–2025
Sources (Journals)	281
Documents	647
Annual Growth Rate %	5.43
Average Age of Documents	7.72
Average Citations per Document	26.62
Document Content	
Plus Keywords (ID)	1285
Author Keywords (DE)	1625
Authors	
Multiple Authors	1548
Authors of single-author documents	110
Collaboration between Authors	
Single-author documents	130
Co-authors per document	2.84
% of International Co-authorship	24.4
Document Types	
Original Article	582
Conference Article	29
Review	9
Others	27

Source: Authors (2025).

A total of 1,548 authors contributed to the scientific output analyzed, with 130 documents authored by a single author and an average of 2.84 co-authors per publication. This shows a consistent pattern of academic collaboration. Among these contributions, 24.42% of the articles were developed through international co-authorship, which demonstrates the global relevance of the topic and the exchange of perspectives between different institutional contexts. Most publications were original articles (582), followed by conference articles (29), reviews (9), and other formats (27).

A gradual and progressive growth is revealed when analyzing the progression of publications over time from 1978 to 2024 (Figure 2). In the initial interval (1978–1989), only a small number of records (at most one per year) was identified, which suggests the low visibility and lower priority given to the topic during that period. This scarcity may be associated with the reduced inclusion of staff turnover in academic debates on public management at the end of the 20th century. From 1992 onwards, however, there was a gradual increase in scientific production, possibly related to regulatory changes and administrative reforms implemented during the 1990s in various regions, such as the United States, Europe, and Latin America. This geopolitical context intensified the pressure for modernization of the public sector as it sought greater efficiency, rationalization of resources, and adaptation to new social demands (Bresser-Pereira, 1998; Kissler, 2000; Matias-Pereira, 2008). These transformations seem to have boosted academic interest in turnover and increased the visibility of the phenomenon as an object of scientific research.

Figure 2. Evolution of Scientific Publications on Turnover in Public Institutions
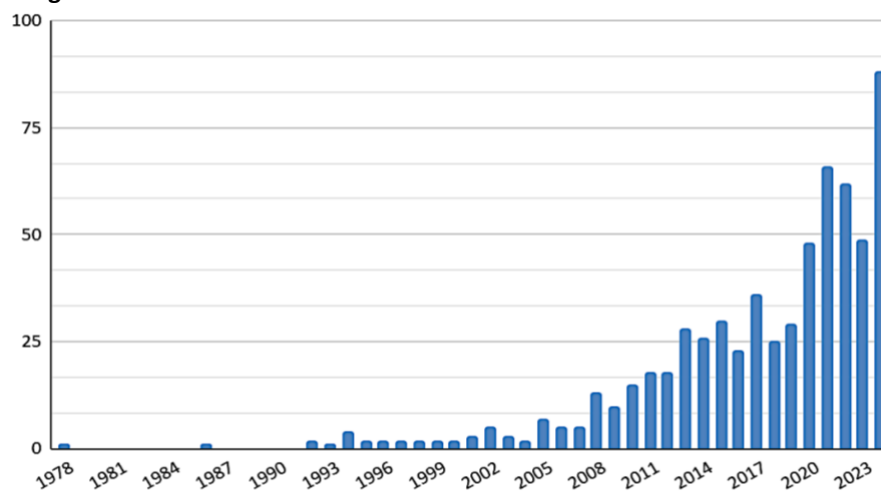
Source: Authors (2025).

Figure 2 illustrates the gradual but insignificant growth in scientific production on turnover in the public sector between the late 1970s and the early 2000s. During this period, little attention was paid to the topic, possibly due to lower levels of concern with investigating turnover in state institutions, which has traditionally been seen as more stable than the private sector. It was only after the mid-2000s that the literature began to show signs of greater consolidation, which indicates a change in the academic view of the relevance of workforce management policies in the public sector. This context suggests that the issue of employee retention and turnover gained importance as the institutional environment became more dynamic and subject to global changes.

Between 2008 and 2017, there was significant and continuous growth in scientific production, with the number of records increasing from 13 in 2008 to 36 in 2017. This increase may be associated with the impact of the 2008 financial crisis, which led several governments to rethink the role of the public sector and promote budget cuts, institutional restructuring, and, consequently, a higher incidence of turnover (Baltas, 2013; Ferrari-Filho et al., 2010; Hodges & Lapsley, 2016; Matias-Pereira, 2008). During this same period, the literature on strategic human resource management gained prominence and established itself as a fundamental area for the public sector as well, thus contributing to advances in publications on turnover (Vieira et al., 2022). This moment therefore represents a watershed in the consolidation of the theme within international scientific production.

Between 2018 and 2024, there was an even more significant acceleration, reaching 88 records in 2024, which represents remarkable growth compared to previous decades. Several factors help explain this trend. The economic and political context, marked by recessions and fiscal austerity policies in multiple countries, intensified the debate on turnover in the public sector, especially regarding voluntary turnover and the search for greater organizational efficiency (Borges et al., 2018; Rossi et al., 2019; Santos & Vieira, 2018). At the same time, advances in digitization and the expansion of remote work have profoundly transformed management paradigms in the public service, requiring new retention strategies and the hiring of professionals with more specialized profiles to meet emerging technological and organizational demands (Aragão & Funcia, 2021; Guedes et al., 2024; Pandini & Pereira, 2021).

The recent trend toward intensified research points to greater scientific maturity in the field that reflects both the growing complexity of public organizations and society's increasing

demands for more efficient services. The significant volume of publications in 2024 may indicate that the topic is no longer marginal and has taken center stage in academic and institutional debates. The rapid growth also suggests that turnover in the public sector is no longer seen exclusively as an internal management issue, but as a phenomenon capable of affecting the quality of public policies and the effectiveness of the state. In this sense, while the graph shows a quantitative evolution, it also reflects a qualitative change in the way the topic is studied and understood.

Three journals stand out as particularly relevant to the field and contain a significant part of the production on turnover in the public sector: *Public Personnel Management* (49 articles), dedicated to personnel management in the public sector; *Review of Public Personnel Administration* (43 articles), focused on the administration of government employees; and *American Review of Public Administration* (22 articles), which explores topics related to organizational efficiency, especially in the American context. Figure 3 shows that two journals account for most of the publications on turnover in the public service: *Public Personnel Management* (49 articles) and *Review of Public Personnel Administration* (43 articles). This highlights that the debate on human resource management within the public sector is still strongly associated with journals that specialize in human resource management. These data suggest that turnover is analyzed primarily from the perspective of public employee management and personnel policies, which strengthens the centrality of human resources in academic and practical discussions.

In addition to the three journals already mentioned, other indexed sources relevant to the debate on turnover in the public sector are noteworthy. *Public Administration Review* (17 articles), one of the most traditional publications in the field, comprehensively addresses the theory and practice of public administration. *Public Management Review* (15 articles) is dedicated to critical analyses of contemporary public management, while the *Journal of Public Administration Research and Theory* (14 articles) focuses on theoretical and empirical research that deepens the understanding of administrative processes. *International Public Management Journal* (13 articles) broadens the discussion to a global perspective on public management, and *Human Resources for Health* (12 articles) focuses specifically on human resource management in public health, an area where turnover has a direct impact on the quality of services provided.

Figure 3. Main Scientific Journals Focused on Publications about Turnover in Public Institutions
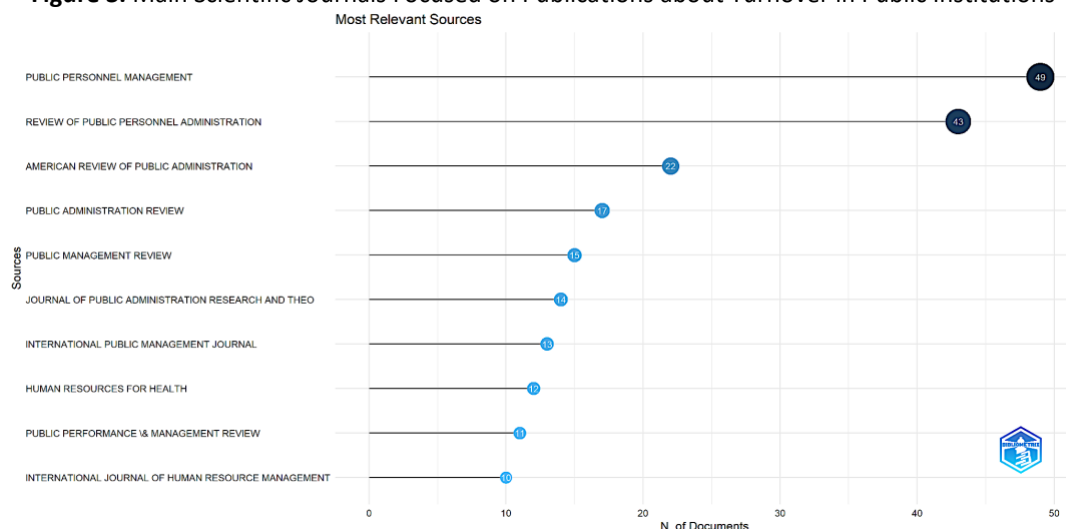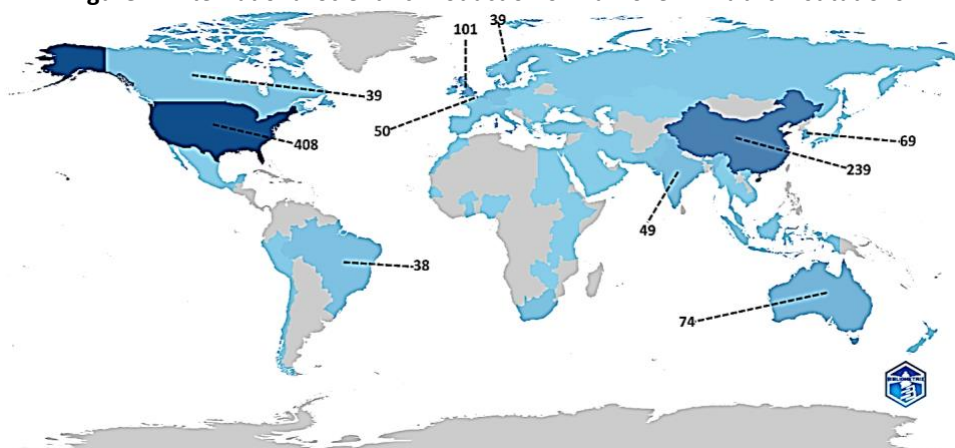

Source: Authors (2025).

Figure 3 also reveals that the discussion on turnover is not limited to journals specializing in public administration. Titles such as *Human Resources for Health* and *International Journal of Human Resource Management* broaden the discourse on the topic to the field of health and human resource management in organizations in general, which shows that the topic is multidimensional and involves both organizational and social aspects. This diversity of sources suggests that turnover in the public sector is a cross-cutting issue that is connected to the quality of services, administrative efficiency, and the sustainability of public policies.

On the international stage, the United States stands out as the country with the highest number of academic publications on the topic, with a total of 408 records (Figure 4). This prominence can be explained both by the country's robust academic infrastructure, supported by world-renowned universities and research centers, and by the practical relevance of turnover in the US context. The diversity and complexity of US public administration make turnover a recurring challenge related issues such as operational efficiency, talent retention, and administrative costs (Burns, 2022; Dubnick, 1996; Yang, 2009). In second place, China has 239 publications, which reflects the country's efforts to consolidate academic research in public administration. This investment has largely been associated with the difficulties imposed by the large population and the transition to a management model more oriented toward meritocracy and government efficiency (Bitton, 2024; Čajková & Čajka, 2021; Lan, 1999).

Figure 4. International Scientific Production on Turnover in Public Institutions

Source: Authors (2025).

Within this context, based on documents indexed in WoS, keywords plus (ID) were automatically extracted from the titles of the references cited in the articles analyzed. These words provide additional information that is generally associated with broader terms related to the research topic, even if they do not appear explicitly in the article title or in the keywords assigned by the authors (Wei et al., 2024). Author keywords (DE) were also identified in several articles that reflected the different points of view of the researchers themselves at the time of submission. It is worth noting that, in general, these keywords tend to be more specific and directly reflect the central content, and the issues investigated.

The word cloud presented in Figure 5 shows how the phenomenon of turnover in the public sector is intrinsically related to different dimensions of workforce management policies and organizational dynamics. The most common keywords associated highlight the multiplicity of variables that influence employee turnover and the factors that shape this phenomenon. Central terms such as turnover (218), performance (181), job satisfaction (178), and work (126) appear most frequently, which was expected, as they represent fundamental concepts

for understanding the relationship between job satisfaction, organizational performance, and the decision to remain in or leave a position.

Figure 5. Main Recurring Terms in the Scientific Literature on Turnover in Public Institutions

Source: Authors (2025).

The high incidence of impact (101), commitment (94), satisfaction (78), and public service motivation (62) strengthens the close connection between turnover and workers' attitudes and behaviors toward the organization, such as commitment and motivation to serve the public, which are critical factors in the retention process. It is can thus be observed that organizational behavior and the construction of emotional bonds with the public institution play a decisive role in reducing intentions to leave. This finding suggests that strategies aimed at valuing employees and recognizing the social impact of their functions can contribute significantly to increasing retention. Words related to organizational processes and behaviors—including perceptions (50), attitudes (41), behavior (53), leadership (33), support (29), transformational leadership (29), mediating role (27), and workplace (20)—highlight the importance of leadership practices and organizational support in mitigating turnover. Similarly, terms such as burnout (33), stress (30), and health (26) emerged as potential causes of decisions to stay or leave from public service, which highlights the weight of the work environment on the decision to remain. This evidence indicates that the quality of the organizational climate and the efficient management of stressors are fundamental to reducing turnover rates.

Finally, the analysis of the distribution and proximity of these terms was deepened through MCA (Figure 5), performed using the Biblioshiny tool from the Bibliometrix package. The expressions that were grouped by proximity in the plot were then categorized into thematic axes, which allowed the identification of patterns of association. This categorization was confirmed by the dendrogram analysis (Appendix I), which ratified the thematic similarity between the terms and strengthened the interpretation of the factors and subfactors related to turnover in the public sector. In summary, the word cloud reveals the complexity of the theme and the need for multifactorial approaches to understanding and managing employee turnover.

A Sankey diagram was developed that summarizes the connections between the main scientific journals, the countries that concentrate international production, and the most recurrent terms in the literature on turnover in public institutions to visually integrate the bibliometric evidence obtained (Figure 6). This allowed us to observe in a relational way not only the concentration of publications in specialized journals, such as *Public Personnel*

Management and *Review of Public Personnel Administration,* but also the leading role of countries such as the United States and China in consolidating the field. It highlights the strong link between scientific production and key concepts such as turnover, job satisfaction, performance, and commitment, which constitute the central axes of analysis in the theme. The Sankey diagram thus contributes to reinforcing the understanding of the network of interdependencies that structures international research on turnover in the public sector, ultimately increasing the clarity of the trends identified and supporting the interpretation of the results presented.

Figure 6. Global and Conceptual Connections of Turnover in the Public Sector
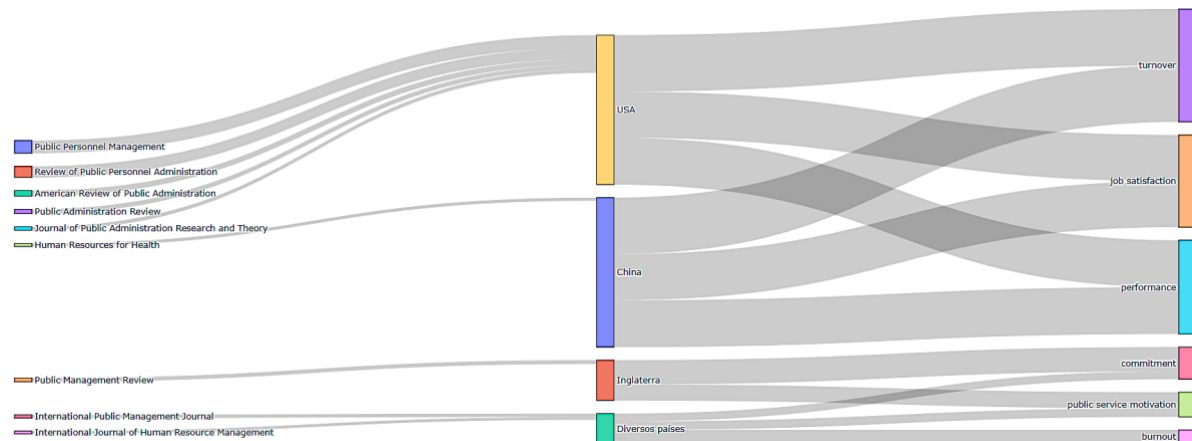
Source: Authors (2025).

The Sankey diagram clearly reveals the concentration of scientific production in specific journals (Figure 6), showing that journals such as *Public Personnel Management* and *Review of Public Personnel Administration* are central hubs for the dissemination of the topic. These data suggest that the discussion on turnover in public institutions is still strongly linked to workforce management policies in the public sector, further reinforcing the specialized nature of the debate. At the same time, the presence of broader journals, such as *Public Administration Review,* indicates that the phenomenon is also part of more comprehensive discussions on the efficiency and quality of public administration.

An analysis of flows between countries shows the leading role of the United States and China, which account for a significant portion of the production of and influence on the international research agenda. This centrality can be interpreted because of the robustness of their academic systems and the practical relevance of civil service management in these contexts. On the other hand, the contribution of European countries and other continents, albeit on a smaller scale, demonstrates the global nature of the phenomenon and strengthens the importance of comparative approaches. The diagram thus highlights not only production volumes, but also the exchange of perspectives that enriches the field.

Concepts such as turnover, job satisfaction, and performance stand out as recurrent central themes in the literature. This signals the most studied variables in the relationship between public employees and public institutions. Words related to motivation, commitment, and leadership also appear in the flow and point toward the relational dimension of the phenomenon. The diagram therefore corroborates the understanding that turnover cannot be understood in isolation; instead, it must be interpreted based on a network of individual, organizational, and contextual factors that interact and shape employee retention and turnover.

The conceptual map obtained from MCA allowed us to observe how the terms are distributed around the dimensions that structure the literature on turnover in the public sector (Figure 7). MCA made it possible to propose attributes associated with turnover in public institutions and allowed us to verify interconnected elements and their implications for turnover, as summarized in Table 2. MCA reduces complex data to fewer dimensions, thus facilitating the interpretation of patterns and relationships (Falck & Dubbini, 2024). The keywords are represented on two axes (Dim 1 and Dim 2), which synthesize most of the variance in the data. This means that the axes highlight the most relevant differences and associations between categories (Greenacre, 2023).

Figure 7. Thematic Mapping of Scientific Production (1978–2025)
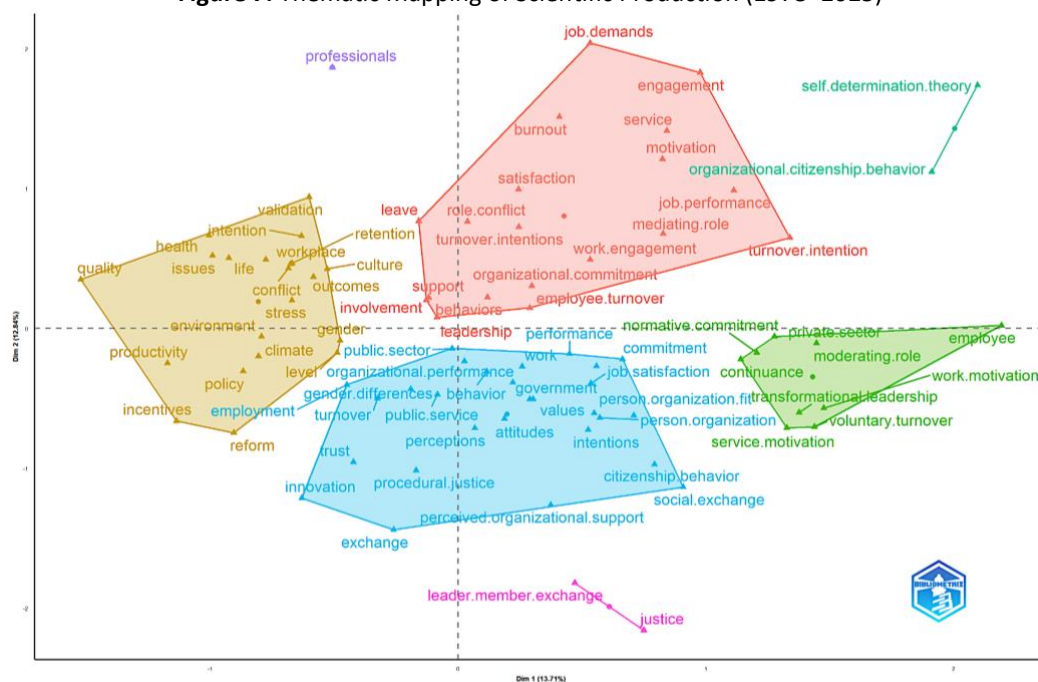
Source: Authors (2025).

In Figure 7, Dimension 1 (horizontal axis) highlights the greatest explained variation (Riani et al., 2022). On the left, terms such as professionals, health, public sector, incentives, reform, and quality are observed; these refer to structural and contextual aspects. On the right, job satisfaction, work engagement, leadership, person–organization, social–exchange, and performance appear; these are associated with operational and individual factors, such as workforce management policies, motivation, and social interactions at work. Dimension 2 (vertical axis) shows, at the top, terms such as leave, conflict, job demands, burnout, stress, involvement, behaviors, and support; these terms suggest tensions, overload, and labor conflicts. At the bottom, leader–member exchange, justice, procedural justice, public service motivation, normative commitment, affective commitment, and exchange appear; these terms highlight relational aspects such as justice, organizational commitment, and positive exchanges between leaders and followers.

In addition to the separation into axes, each colored polygon in the graph represents a cluster of terms that occur frequently together in the analyzed articles, thus indicating thematic proximity (Atkinson, 2024; Riani et al., 2022). The yellow cluster, for example, emphasizes the quality of the work environment and employee health, thus highlighting the need for organizational interventions to promote more favorable conditions, with a focus on training, tools, and autonomy (Gerton & Mitchell, 2019; Golubova, 2011; Sing, 2012; Yu, 2023). The red

cluster, on the other hand, is associated with pressures and role conflicts, including burnout, exhaustion, and stress, that compromise employee health, performance, and satisfaction, also affecting the quality of public service (Carlotto & Câmara, 2019; Hsieh, 2014; Lee, 2018; Ravalier et al., 2014).

Other clusters emphasize the importance of leadership, commitment, and intrinsic motivation in explaining the decision to stay or leave. The green cluster brings together terms related to leadership practices and organizational commitment, which highlight that fair and supportive management styles reduce turnover (Meyer & Allen, 1991; Quynh et al., 2025). The blue cluster, in turn, highlights shared values and perceptions of organizational support in the public sector, while the pink cluster emphasizes the dimensions of leader–member exchange and fairness, which indicate that quality interpersonal relationships strengthen engagement (Schwarz et al., 2024; Shaheen et al., 2017). The upper right cluster, associated with self-determination theory and organizational citizenship behavior, highlights the relevance of intrinsic motivation and voluntary behaviors that sustain institutional functioning (Guo et al., 2024; Quynh et al., 2025).

Based on this conceptual framework, the factors and subfactors predictive of turnover were categorized and grouped into five interrelated areas: working conditions and well-being; organizational policies and culture; leadership and interpersonal relationships; intrinsic motivation and organizational citizenship; and structural and contextual factors. This categorization allows for a more concise and structured analysis of the elements that influence turnover, thus enabling the identification of critical areas and the proposal of more effective retention strategies in the public service. Table 2 categorizes the predictive factors of turnover and highlights the multifaceted nature of the phenomenon, thus demonstrating that the decision to remain in or leave a public institution stems from the interaction of multiple dimensions, rather than a single isolated aspect. This perspective reveals that individual, organizational, and relational variables are interrelated to form a dynamic and highly complex process. Thus, understanding turnover requires a comprehensive analysis that integrates contextual, cultural, and psychological elements.

Table 2. General Categorization of Predictive Attributes of Turnover

Factors	Subfactors (Related Concepts)
Working Conditions and Well-Being	a) Work environment and climate: health, workplace, life, climate, environment, productivity, reform b) Demands, conflicts, and overload: conflict, stress, job demands, burnout, role conflict
Organizational Policies and Culture	a) Public context and organizational policies: public sector, government, organizational performance b) Perceptions and values: perceptions, attitudes, values, person-organization fit, social exchange
Leadership and Interpersonal Relations	a) leadership style and human resource management policies: transformational leadership, moderating role, work motivation, service motivation b) Relationships and organizational justice: leader-member exchange, justice
Intrinsic Motivation and Organizational Citizenship	a) Internal motivation: self-determination theory b) Voluntary actions: organizational citizenship behavior
Organizational Factors	a) Quality of the work environment and structure: quality of the work environment, adequate structure b) Career policies: incentives

Source: Authors (2025).

The first group, working conditions and well-being, covers aspects that directly reflect the quality of the work environment and its ability to sustain the health and motivation of

employees. In this group, two subfactors:(a) work environment and climate and (b) demands, conflicts, and overload-play a central role. Evidence suggests that well-structured organizational environments, which enable a balance between personal life and career, increase satisfaction and productivity, thus reducing turnover (Gerton & Mitchell, 2019; Golubova, 2011). In contrast, continuous overload and recurring conflicts increase the incidence of stress and burnout, thus increasing the likelihood of termination.

The second group refers to organizational policies and culture; this covers norms, values, and practices that guide the functioning of institutions. These factors operate as mechanisms for integration and alignment between individuals' expectations and organizational objectives. The literature indicates that organizational cultures based on transparency, equity, and professional appreciation strengthen trust and commitment, thus contributing to a reduction in turnover intention (Hue et al., 2022; Siqueira & Gomide Jr., 2004). Consistent human resource management policies function as retention structures, as they legitimize the relationship between the employee and the institution, ensuring greater engagement.

Another set of factors encompasses leadership and interpersonal relationships, which highlights management styles, the quality of interactions between leaders and teams, and the perception of organizational justice. Recent research has shown that transformational leadership practices and high levels of leader–member exchange are associated with lower turnover rates (Quynh et al., 2025; Schwarz et al., 2024). Thus, leaders who cultivate trust, reciprocity, and transparency not only reduce the intention to leave but also strengthen an environment of cooperation. Perceived fairness in managerial decisions emerges, in this context, as a strategic pillar for retention.

The group entitled intrinsic motivation, and organizational citizenship encompasses internal factors that influence employee retention. From the perspective of self-determination theory, autonomously motivated individuals exhibit higher levels of engagement and proactive behavior, thus increasing loyalty and reducing turnover intention (Deci & Ryan, 2000; Guo et al., 2024). Organizational citizenship attitudes, characterized by actions that go beyond formal duties, also strengthen bonds of trust and reciprocity, ultimately enhancing commitment to collective goals.

Finally, the organizational factors group encompasses structural elements such as reward systems, career policies, and development opportunities. These mechanisms are key determinants in sustaining long-term motivation and commitment. Recent studies have shown that well-designed career plans, competitive compensation, and consistent incentives play a key role in retaining talent and mitigating the risk of attrition (Budhathoki et al., 2024; Wang et al., 2024). The absence of these mechanisms can weaken institutional ties and encourage the search for external opportunities.

In summary, the predictive factors of turnover in the public sector are interdependent and interconnected, thus demonstrating that employee retention depends on a balanced combination of working conditions, institutional culture, leadership practices, individual motivation, and structural incentives. Understanding these diverse factors enables the design of more effective human resource management policies strategies aimed not only at reducing turnover, but also at strengthening engagement and organizational sustainability.

FINAL CONSIDERATIONS

The findings of this study highlight the scope and relevance of its results. By mapping and categorizing the predictive factors of turnover in public institutions, it was possible to construct a novel analytical framework, organized into five interdependent dimensions: (a) working conditions and well-being, (b) organizational policies and culture, (c) leadership and interpersonal relationships, (d) intrinsic motivation and organizational citizenship, and (e) organizational factors. This categorization, based on MCA and strengthened by dendrogram analysis, allowed us to integrate different perspectives from the literature, thus offering a comprehensive view of the phenomenon and highlighting critical points that can guide both management practices and public policy formulation.

The originality of this research lies in the way it consolidated fragmented evidence into a coherent theoretical model that reveals the complex interactions between individual, organizational, and contextual factors. By highlighting these connections, this work not only advances the theoretical field on turnover in the public sector but also presents a practical reference for supporting managers in formulating more assertive plans for talent engagement and retention. The emphasis on dimensions such as quality of life and well-being at work, leadership styles, and organizational culture points to concrete ways to mitigate turnover and strengthen the sustainability of public institutions.

From an applied perspective, the findings support the prioritization of initiatives focused on well-being and organizational justice as strategic management tools. Preventive practices, such as quality-of-life programs, recognition policies, and continuous training of leaders, have demonstrated significant potential in reducing the intention to leave before it becomes an effective action. This study also emphasizes that valuing intrinsic motivation and organizational citizenship behaviors constitutes a competitive advantage in retaining employees.

Although this study makes relevant contributions, it has some limitations. The concentration of the analysis on the WoS database may have restricted the spectrum of studies considered, while the hybrid approach combining bibliometrics and meta-analysis, although robust, did not capture the qualitative aspects of organizational experiences in depth. These restrictions, however, open space for the development of new empirical field research capable of deepening and validating the factors categorized here.

Future research should explore the dimensions identified in comparative case studies and extend the analysis to different institutional, cultural, and regional contexts. This approach would make it possible to test the generalizability of the observed patterns, in addition to improving the understanding of the processes that link predictive factors to actual turnover. By following this path, the literature would advance in consolidating a more robust and applicable theoretical framework, while also enabling public managers to access concrete tools for designing innovative workforce management policies.

In summary, this work stands out for its originality and its ability to integrate theory and practice in a comprehensive manner. By shedding light on the critical variables that influence the retention and turnover of public servants, it provides not only an academic advance in the field but also a strategic guide that can strengthen public management amid increasingly complex challenges.

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APPENDIX I - Dendrogram analysis