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# Validation of a predictive scale for job abandonment in companies: A bibliometric review

*Validación de una escala predictiva para la deserción laboral en empresas: una revisión bibliométrica*

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## Abstract

This study analyzed global scientific output on the validation of predictive scales for employee turnover or intention to leave work in companies. A quantitative approach was used, with a descriptive and exploratory scope, a non-experimental design, and a cross-sectional approach. The search was conducted in the Scopus and Web of Science databases using equations with descriptors and Boolean operators. Study selection was carried out in three stages, following the PRISMA framework. A total of 58 records were analyzed using the Bibliometrix tool (RStudio). The results show sustained growth in scientific output, with an average annual increase of 25.89% between 2015 and 2025. The main contributors were the author Redelinghuys, K., the journal *SA Journal of Industrial Psychology*, the University of the Western Cape, and the countries of Turkey, the United States, and South Africa. Key conceptual clusters were also identified, related to turnover intention, job satisfaction, affective commitment, and leadership style. On the other hand, internationalization within collaborative networks among authors remains limited. Finally, innovative topics such as transformational leadership and the application of machine learning to predict employee turnover are emerging, reflecting current trends in this area of study.

**Keywords**: employee turnover, predictive scales, validation.

## Resumen

El estudio analizó la producción científica mundial sobre la validación de escalas predictivas de deserción o intención de abandono laboral en empresas. Se utilizó un enfoque cuantitativo, con alcance descriptivo y exploratorio, de diseño no experimental y corte transversal. La búsqueda se realizó en las bases Scopus y Web of Science mediante ecuaciones con descriptores y operadores booleanos. La selección de los estudios se llevó a cabo en tres etapas, siguiendo el diagrama PRISMA. En total, se analizaron 58 registros con la herramienta Bibliometrix (RStudio). Los resultados muestran un crecimiento sostenido de la producción científica, con un aumento anual promedio del 25,89% entre 2015 y 2025. Los principales contribuyentes fueron el autor Redelinghuys, K., la revista *SA Journal of Industrial Psychology*, la Universidad de Western Cape y los países Turquía, Estados Unidos y Sudáfrica. Asimismo, se identificaron clústeres conceptuales clave, relacionados con la intención de rotación, la satisfacción laboral, el compromiso afectivo y el estilo de liderazgo. Por otro lado, la internacionalización en las redes de colaboración entre autores resulta limitada. Finalmente, emergen temas innovadores como el liderazgo transformacional y la aplicación de *machine learning* para predecir la deserción laboral, reflejando las tendencias actuales en esta área de estudio.

**Palabras clave**: deserción laboral, escalas predictivas, validación.

## Introduction

Employee turnover represents a critical challenge for organizational stability and the operational performance of companies. The specialized literature indicates that turnover not only disrupts the continuity of

talent but also incurs significant costs related to recruitment, integration, and the preservation of institutional knowledge (Manafi et al., 2025). During the pandemic, the phenomenon known as "The Great Resignation" led to a notable increase in voluntary departures across various sectors (Serenko, 2023). Although this trend has since diminished, many organizations remain vigilant about its potential resurgence (Sinisterra et al., 2024). In this context, it is essential to identify early signals indicating employees' intent to leave, as this allows for an understanding of causes, anticipation of consequences, and the design of preventive strategies.

However, the field of study faces significant challenges. One of them is methodological fragmentation and the lack of cumulative synthesis in the validation of predictive scales for turnover intention. Despite recent advances, such as the Extended Multidimensional Turnover Intentions Scale (Ike et al., 2023) and updates to the TIS-6 (Németh et al., 2024), inconsistencies across contexts hinder comparability and generalization. Additionally, existing bibliometric analyses explore turnover in general terms, without focusing specifically on the validation of these predictive scales (Francis et al., 2023; Xie et al., 2024), thus limiting the understanding of the most reliable instruments and global trends in validation.

Addressing this gap is particularly relevant, as organizations increasingly require validated tools to anticipate turnover risks and adapt their retention strategies. From a theoretical perspective, these instruments facilitate a rigorous analysis of the antecedent factors of turnover intention and contribute to knowledge development in the field. Practically, their application enhances talent retention, reduces associated costs, and strengthens institutional commitment. Thus, conducting a bibliometric study that systematically maps the evolution, productivity, and trends in this field over the last decade offers an integrative view that can inform future validations in business contexts.

The study is founded on key theories: Social Exchange Theory (SET), the Theory of Planned Behavior (TPB), and the Job Embeddedness Model. According to SET, the decisions to stay or leave depend on the perceived balance between organizational support and personal contributions (Cropanzano & Mitchell, 2005); an unequal exchange may foster an intention to leave. The TPB posits that this intention is determined by attitudes toward leaving, subjective norms, and perceived control over the behavior (Ajzen, 1991). Meanwhile, the job embeddedness model emphasizes retention based on connections, fit, and sacrifices related to the position (Mitchell et al., 2001). Together, these perspectives configure a multidimensional construct influenced by cognitive, affective, and contextual variables.

In terms of empirical advancements, concise and multidimensional measures have been developed to evaluate turnover intention. For instance, in the ICT sector, Bothma and Roodt (2013) validated the TIS-6, confirming its predictive capacity to distinguish between those who stay and those who leave the company. More recently, Ike et al. (2023) proposed the EMTIS, which incorporates organizational culture and subjective social status as additional predictors, enhancing the instrument's validity. However, a dedicated bibliometric review synthesizing these validation studies is still lacking, which is necessary to identify key authors, collaboration patterns, theoretical approaches, and methodological advancements in this growing field.

The temporal context of the study spans from 2015 to 2025, characterized by rapid labor transformations, hybrid models, and changes in employer-employee contracts. These changes have underscored the need for robust predictive tools to anticipate turnover and create effective retention policies. Furthermore, intercultural differences in norms and organizational practices demand comparative evaluations to validate the scales in diverse environments. Therefore, understanding the bibliometric evolution in this area provides valuable insights for human resource management practices at both global and local levels.

In line with this, the study aims to analyze the scientific production on the validation of predictive scales for turnover or abandonment intention in organizations worldwide. Specifically, it intends to: (1) examine the temporal evolution of this production; (2) identify the most productive and influential authors, journals, countries, and institutions; (3) explore the conceptual and social structure of the field through co-occurrence analysis of keywords and collaborations; and (4) detect research gaps and opportunities for future local validations in business contexts.

## Methodology

This study was developed through a quantitative bibliometric review with a descriptive and exploratory focus, aimed at analyzing the scientific production on the validation of predictive turnover scales in organizational contexts, published between 2015 and 2025. Bibliometrics facilitated a systematic evaluation of the evolution, productivity, and thematic trends in the literature, as well as the identification of collaboration patterns among the most influential researchers. Additionally, the design was non-experimental and cross-sectional since secondary data from the established period were examined without intentionally manipulating variables.


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The study population comprised scientific articles indexed in specialized databases such as Scopus and Web of Science (WoS). The search strategy employed Boolean operators (AND/OR) and specific keywords organized into equations, detailed in Table 1.

**Table 1**
*Search equation*

| Database | Search Strategy |
|---|---|
| Scopus | (TITLE-ABS-KEY (employee turnover) OR TITLE-ABS-KEY (job abandonmen*)) AND TITLE-ABS-KEY (predictive scale) OR TITLE-ABS-KEY (Scales*) |
| Web of Science | (((TS=(employee turnover)) OR TS=(job abandonmen*)) AND TS=(predictive scale)) OR TS=(Scales*) |

**Source.** Authors' own elaboration (2025)

After conducting the search, the records were downloaded in CSV and BibTeX formats and subsequently imported into Microsoft Excel to construct the extraction matrix. This matrix included bibliographic variables such as authors, title, year of publication, journal, volume, issue, DOI, country, institution, keywords, abstract, language, document type, access type, and data source.

Following the retrieval of documents, the selected articles were assessed according to predefined eligibility criteria, which are outlined in Table 2.

**Table 2**
*Eligibility criteria*

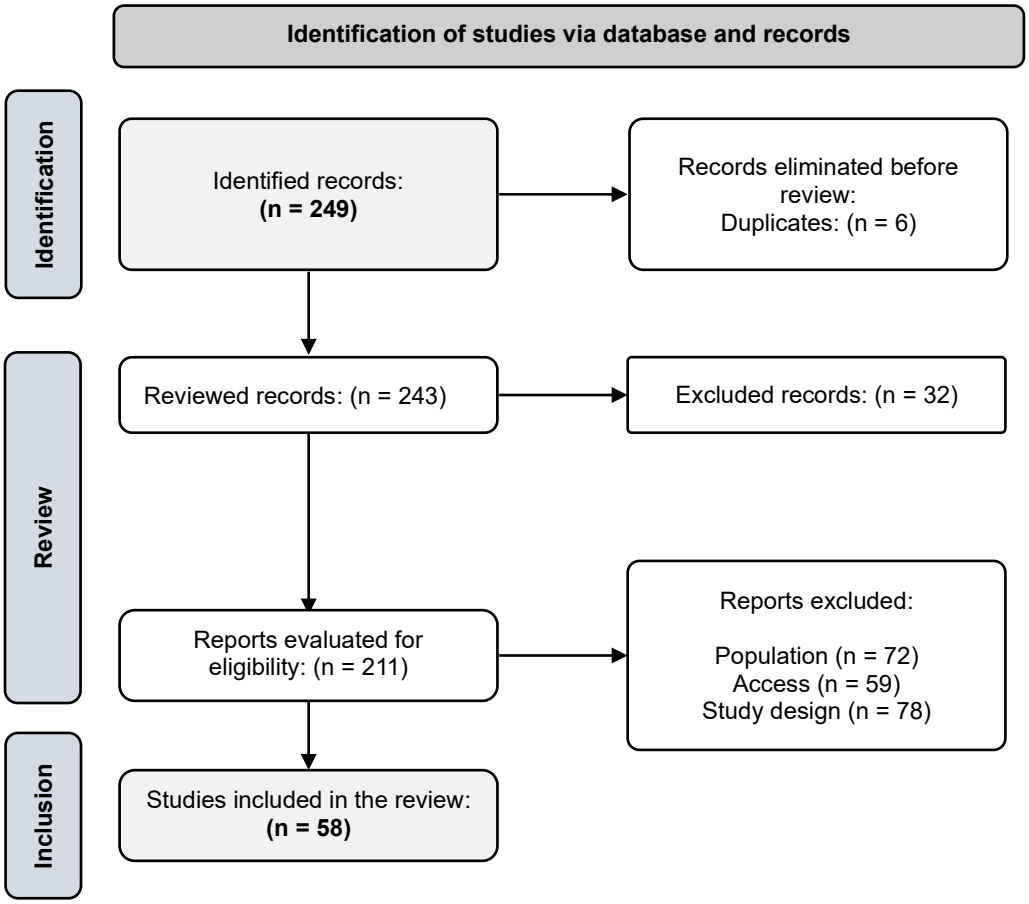
| Inclusion criteria | Exclusion criteria |
|---|---|
| Peer-reviewed scientific articles | Non-research documents such as essays, proceedings, book chapters, etc. |
| Empirical research designs | Studies with systematic review, meta-analytic, and bibliometric designs |
| Publications from 2015 to 2025 | Research prior to 2015 |
| Articles in English and Spanish | Articles in languages other than Spanish or English |
| Studies with organizational populations validating predictive scales | Research that does not include organizational populations or validate predictive scales |

**Source.** Authors' own elaboration (2025)

The methodological quality of each selected study was also evaluated based on psychometric validation criteria, including a detailed description of the sample, internal consistency information, factor analysis, and validity evidence. Based on these parameters, the studies were categorized into three levels of quality: high, medium, or low.

The selection process was conducted in three stages, represented in the PRISMA flow diagram (Figure 1). During the identification phase, all records were retrieved according to the search strategy applied in Scopus and WoS, with duplicates subsequently removed using EndNote. In the screening stage, titles and abstracts were initially assessed, discarding studies that did not meet basic criteria. Following this, a comprehensive reading of the remaining articles was performed, eliminating those that did not address the validation of predictive scales related to employee turnover. In the inclusion phase, a total of 58 articles that met the eligibility criteria were selected, forming the final sample for analysis.

**Figure 1**
*PRISMA flow diagram: Scientific production selection process*




The data processing was performed using a quantitative approach with RStudio and the Bibliometrix package, widely recognized tools for advanced bibliometric analysis. These tools facilitated the calculation of descriptive indicators such as the number of publications per year, authors, countries, journals, and institutions, aiming to identify trends in productivity and collaboration. Additionally, scientific mapping techniques were applied to visualize conceptual, social, and intellectual structures in the field through co-authorship networks and co-occurrence of keywords. A thematic map was developed to identify motor, emerging, niche, and basic themes, allowing for the detection of research gaps and future directions for study.

Regarding ethical considerations, the analysis was solely based on records available in open-access databases, thus not involving human populations. Therefore, due to the bibliometric nature of the study, ethical approval was not necessary. However, the original ideas of the cited authors were carefully respected and recognized through proper referencing.

The study does present some important limitations, including a potential language bias due to the restriction to English and Spanish publications, the exclusion of non-indexed journals, and the limitation to two databases (Scopus and WoS). These circumstances may have constrained the comprehensiveness of the retrieved bibliography.

## Results and discussion

### *Temporal evolution*

**Figure 2**
General description of the temporal evolution of scientific production




**Source.** Extracted from Bibliometrix (Rstudio, 2025)

From 2015 to 2025, scientific production on the validation of predictive scales for employee turnover exhibited a sustained upward trajectory, with an annual growth rate of 25.89%. This trend reflects a growing academic interest in understanding turnover intention from various perspectives, including organizational, psychological, and psychometric angles.

The 58 retrieved documents, sourced from 55 distinct journals, averaged 10.9 citations per publication, highlighting the relevance and timeliness of this field of study. Furthermore, authorship analysis revealed the contribution of 177 researchers, with an average of 3.16 co-authors per article, indicating a moderate level of collaboration among authors.

Notably, only 10.34% of the publications involved international co-authorship, revealing a limited degree of global integration in this research area.

### Identification of the most productive and influential authors, journals, institutions, and countries

**Table 3**
*Most relevant authors*

| Authors | Articles | Fractional Articles |
|---|---|---|
| Redelinghuys, Kleinjan | 3 | 2,33 |
| Jano, Rukhsana | 2 | 0,67 |
| Mahembe, Bright | 2 | 0,67 |
| Rothmann, Sebastiaan Ian | 2 | 0,67 |
| Satardien, Maahierah | 2 | 0,67 |
| Agapito, Paula Rodrigues | 1 | 0,33 |
| Akbar Jan, N. | 1 | 0,25 |
| Akbolat, Mahmut | 1 | 0,20 |
| Aksoy, Şeyhmus | 1 | 0,50 |
| Aliane, Nadir | 1 | 0,33 |

**Source.** Extracted from Bibliometrix (Rstudio, 2025)

A notable group of researchers demonstrated significant productivity and influence in this field. Among them, Kleinjan Redelinghuys emerged as the most prolific author, followed by Jano, Mahembe, Rothmann, and Satardien. These researchers form the intellectual core of the area, fostering continuity and encouraging collaboration in research endeavors.

**Table 4**
*Most relevant sources*

| Sources | Articles |
|---|---|
| SA Journal of Industrial Psychology | 3 |
| SA Journal of Human Resource Management | 2 |
| Acta Psychologica | 1 |
| Anales del Sistema Sanitario de Navarra | 1 |
| Appliedmath | 1 |
| Archives of Hellenic Medicine | 1 |
| Behavioral Sciences | 1 |
| BMC Health Services Research | 1 |
| BMC Public Health | 1 |
| Clinical Journal of Oncology Nursing | 1 |

**Source.** Extracted from Bibliometrix (Rstudio, 2025)

The analysis of sources indicates that the dissemination of knowledge on employee turnover primarily concentrates in high-impact journals within the fields of organizational psychology and human resource management. In this regard, the *SA Journal of Industrial Psychology* stands out with three publications, followed by the *SA Journal of Human Resource Management*, which contributed two articles. Both journals are associated with recognized South African institutions known for their work on workplace climate and organizational well-being.

Additionally, other publications such as *Acta Psychologica, Behavioral Sciences, and BMC Public Health* contribute research from interdisciplinary and complementary perspectives. This landscape emphasizes the importance of the topic not only in the psychological domain but also in occupational health and behavioral sciences.

**Table 5**
*Most relevant institutions*

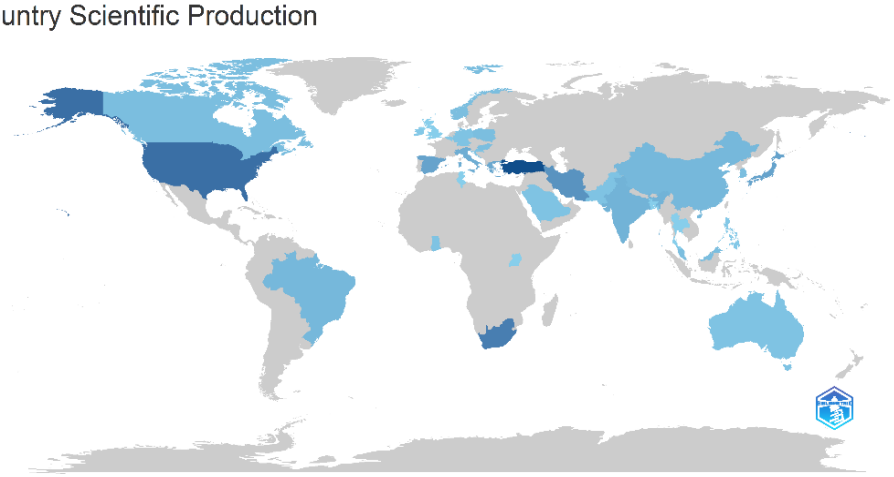
| Institutions | Articles |
|---|---|
| University of the Western Cape | 6 |
| Department of Healthcare Management | 5 |
| National and Kapodistrian University of Athens | 5 |
| North-West University | 5 |
| Universidad de Almería | 5 |
| Ardabil University of Medical Sciences | 4 |
| Inti International University | 4 |
| Shahid Chamran University of Ahvaz | 4 |
| Universidad Pública de Navarra | 4 |
| Faculty of Economics in Osijek | 3 |

**Source.** Extracted from Bibliometrix (Rstudio, 2025)

At the institutional level, the University of the Western Cape, Department of Healthcare Management, National and Kapodistrian University of Athens, North-West University, and Universidad de Almería stand out as some of the most productive entities. These institutions form an active international network characterized by solid research lines in organizational management and occupational health.

**Figure 3**

*Geographical location of the most relevant countries*



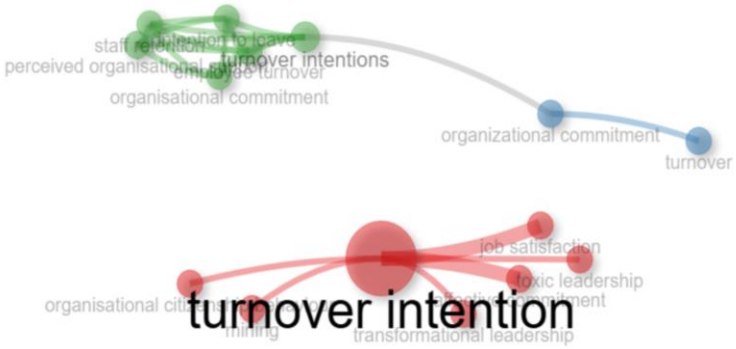

**Source.** Extracted from Bibliometrix (Rstudio, 2025)

Regarding geographical distribution, the global scientific production is led by Turkey, the United States, and South Africa, confirming the growing dissemination of the topic in both emerging and developed economies. In other words, this pattern demonstrates that the subject has exceeded local boundaries and is being addressed from various cultural and socioeconomic perspectives.

**Conceptual and social structure**

**Figure 4**

*Keyword co-occurrence network*



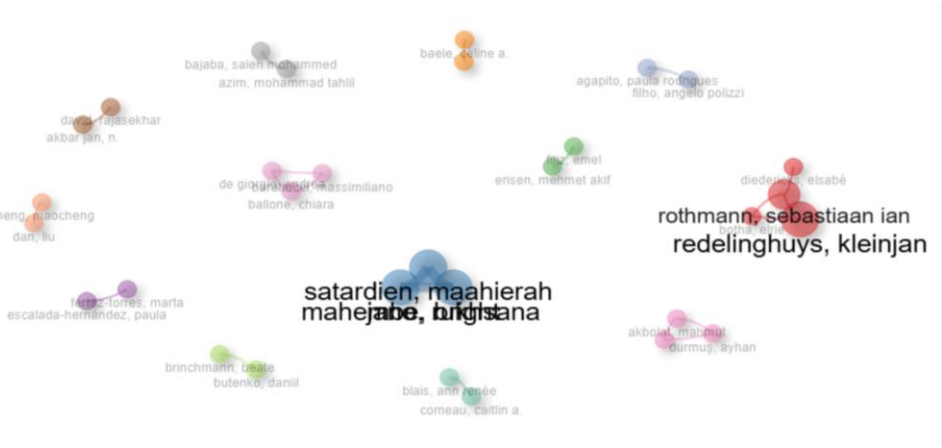

**Source.** Extracted from Bibliometrix (Rstudio, 2025)

The co-occurrence analysis of keywords identified three thematic groups that constitute the conceptual structure of the field:

- Group 1 (Red) focused on turnover intention, linking it with job satisfaction, affective commitment, and leadership style.
- Group 2 (Blue) addressed organizational commitment and employee retention.

- Group 3 (Green) included aspects related to employee turnover and the intention to leave the company, encompassing the behavioral and motivational dimensions of labor turnover.

**Figure 5**
*Authors' collaboration network*

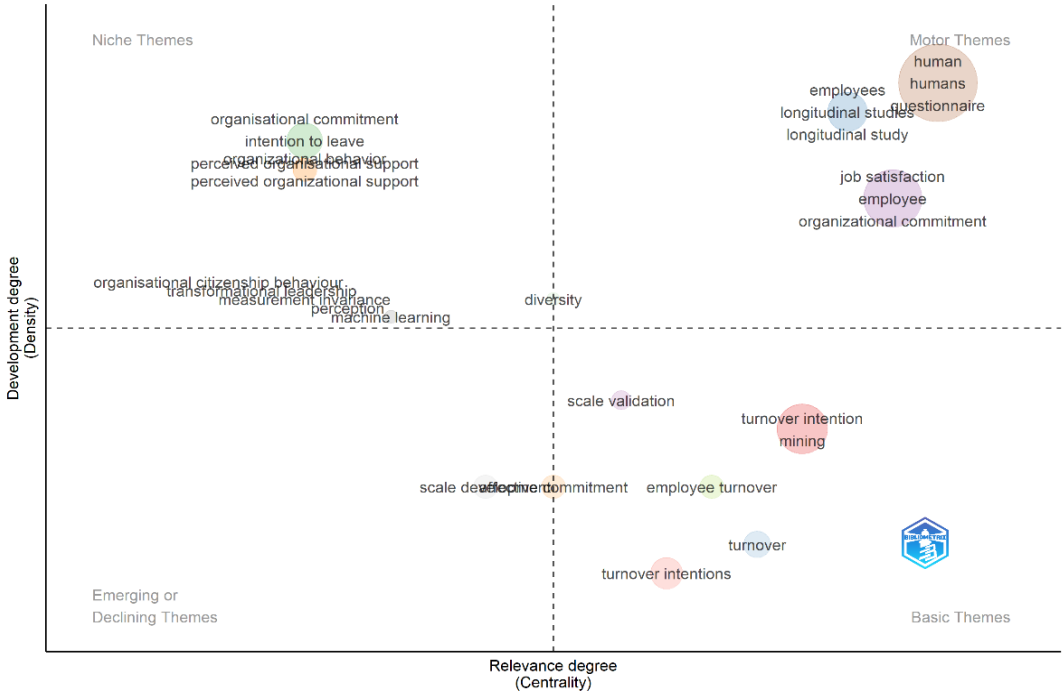



**Source.** Extracted from Bibliometrix (Rstudio, 2025)

The co-authorship network revealed 13 collaboration groups, highlighting Redelinghuys, Kleinjan, and Rothmann as the authors with the highest centrality. Collectively, the findings regarding the collaborative structure showed a predominance of small, cohesive networks, characterized by limited intercontinental connections, although there is high potential for consolidation in future research on employee turnover.

**Gaps and development opportunities in the topic**

**Figure 6**
*Thematic map of production*




**Source.** Extracted from Bibliometrix (Rstudio, 2025)

The thematic map illustrates a conceptual structure comprising four quadrants that reflect varying levels of development and relevance. In the upper right quadrant, motor themes such as job satisfaction, employees, organizational commitment, and longitudinal study exhibit high density and centrality, positioning themselves as well-established theoretical axes that support the understanding of the phenomenon. The presence of these themes indicates that both satisfaction and organizational commitment are crucial factors in predicting employee turnover, solidly backed by long-term research.

Conversely, the lower right quadrant contains basic themes, such as turnover intention, employee turnover, and scale validation, characterized by high relevance but less theoretical development. These represent fundamental pillars for the design of predictive instruments, including the validated scale in this study. In contrast, niche themes located in the upper left quadrant, such as perceived organizational support and intention to leave, show high density but low centrality, indicating specialized and mature lines of inquiry. Finally, the lower left quadrant groups emerging or declining themes—such as machine learning and transformational leadership—which still present nascent development but offer a promising field for innovation in predictive models of employee turnover in business contexts.

This study aimed to analyze the scientific production associated with the validation of predictive scales for employee turnover in organizations worldwide, demonstrating a consistent evolution from 2015 to 2025. This period was marked by a growing volume of studies, a higher degree of collaboration, and diversification of theoretical perspectives. This sustained expansion corroborates trends noted by Norizan et al. (2023), who indicated a steady increase in global scientific production, particularly in the past decade, accompanied by an expansion of collaboration networks and a notable variety of keywords related to psychosocial and organizational factors linked to employee turnover. Simultaneously, Narwaria et al. (2024) highlighted a rising focus on predicting staff turnover. These results reinforce the notion that research on employee turnover and validation of predictive scales shows sustained dynamism and interdisciplinary evolution with solid scientific relevance.

The concentration of scientific production in high-impact journals, as well as in well-established institutions and countries—especially South Africa, Turkey, and the United States—aligns with findings from Nabilah et al. (2024). These authors noted that research on job satisfaction and turnover is predominantly developed in influential institutions and journals within the field of organizational psychology. Furthermore, there remains high productivity in countries like the United States, the United Kingdom, and Malaysia, which somewhat coincides with the previously mentioned observations. These results highlight the consolidation of the field around important academic centers while also indicating the need to foster contributions from currently underrepresented regions.

Regarding the conceptual structure, clustering analysis indicated that motivational and organizational determinants, such as job satisfaction and affective commitment, remain the most influential predictors of turnover intention. This aligns with Ahmad et al. (2023), who identified similar mediating mechanisms linking work motivation, organizational support, and retention, associated with perceptions of work-life balance and external job opportunities.

In relation to the thematic map, consolidated themes—such as job satisfaction, organizational commitment, and longitudinal studies—act as driving axes; basic themes—such as scale validation and turnover intention—are well referenced but have less in-depth theoretical development; niche themes—like perceived organizational support—and emerging themes—such as machine learning and transformational leadership—show considerable potential for new investigations. This perspective relates to contributions from Tobing et al. (2024), who highlighted that the field's core themes revolve around job satisfaction and organizational commitment while emerging lines include transformational leadership, perceived organizational support, and the application of machine learning techniques in predicting employee turnover.

From a theoretical perspective, this study demonstrates that the validation of turnover intention scales has evolved from a fragmented domain into a coherent and interdisciplinary area. The incorporation of advanced psychometric and predictive modeling techniques marks a significant advancement toward more rigorous, data-driven methodologies. However, it is essential to acknowledge certain limitations; the analysis was restricted to publications indexed in Scopus and Web of Science, which may exclude relevant literature available in other databases. Additionally, the selection of languages (English and Spanish) may have introduced biases, and the temporal range may have omitted very recent studies that are not yet indexed.

Practically speaking, the results underscore the potential for organizations to employ validated predictive instruments in their employee retention strategies. Nonetheless, the cross-cultural adaptation of these scales necessitates further validation to ensure measurement equivalence across different contexts. For this reason, future research should focus on intercultural psychometric testing, longitudinal validation, and the integration of algorithms that enhance the predictive accuracy of turnover models.

Overall, this study provides a comprehensive bibliometric overview of global research on the validation of predictive turnover scales, clarifying its intellectual structure, identifying research frontiers, and proposing future directions that integrate psychometrics, data science, and organizational psychology to optimize both predictive and practical outcomes in human talent management.

## Conclusions

The bibliometric analysis provided a solid and well-founded understanding of the evolution of the validation of predictive scales for employee turnover, consolidating it as a structured and increasingly interdisciplinary field. Beyond merely describing publication trends, the results reveal a paradigm shift in turnover intention research, transitioning from fragmented psychometric efforts towards integrated models that are data-driven and cross-sectional, connecting organizational commitment, job satisfaction, and employee retention.

This evolution reflects a theoretical consolidation that enhances the predictive value of turnover intention instruments and emphasizes the necessity to validate these tools across various cultural and organizational contexts. It is essential to consider that true advancement in this area lies not only in refining psychometric precision but also in understanding turnover intention as a systemic organizational phenomenon that reflects deep dynamics related to commitment, leadership, and workplace well-being.

From an empirical standpoint, the study demonstrates that bibliometric mapping transcends a descriptive exercise, emerging as a strategy that identifies intellectual structures capable of guiding evidence-based human resource management. The limited international collaboration and the prevalence of regional research centers highlight the persistence of epistemic boundaries that restrict global applicability.

Thus, future research should prioritize the development of intercultural validation frameworks, as well as longitudinal designs that relate intention to actual turnover behavior, and integrate predictive analyses to strengthen the validity of constructs. It remains to be seen whether predictive models can capture the complexity of employee decisions across diverse sociocultural contexts. Addressing this challenge requires interdisciplinary collaborative efforts that reconcile methodological rigor with contextual sensitivity, thereby promoting meaningful advances in the scientific and practical relevance of the field.

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