

*Full Length Research Paper*

# Research landscape on job embeddedness and organizational commitment: A bibliometric study

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We proposed to identify the general situation and trends in the field of job embeddedness (JE) and affective commitment (AC), given the essential role and association between them. Relevant literature was obtained from the Web of Science Core Collection on December 30, 2022. VOSviewer and CiteSpace were used for bibliometric analysis of authors, countries, institutions, journals, co-citation and keywords. A total of 315 literatures were retrieved ultimately. The quantity of literature and citations showed an overall rising trend from 1998 to 2022, with three fluctuations in 2008, 2013 and 2019. The USA was the leading driving force in the research. The collaborative network highlighted that countries, institutions and academic teams had not collaborated enough. Keyword analysis revealed that the mediating role of JE in turnover intention, especially from a psychology and organizational behavior perspective, is a highly discussed topic, with nurses and hotel workers as the main research targets. Research on JE and AC has flourished, but more theoretical and empirical studies should be conducted to further explore this domain. Emphasis should be placed on employee psychology and organizational behavior in future research.

**Key words:** Job embeddedness, affective commitment, VOSviewer, CiteSpace, bibliometric.

## INTRODUCTION

Job embeddedness (JE) refers to a network of connections for employees to the organization, encompassing both internal and external connections (Holtom and Inderrieden, 2006). This concept was coined by psychologist Mitchel PM in 2001 (Mitchell et al., 2001). The stronger the connections, the more reasons for an employee to remain in the organization, the higher the degree of JE, and the lower the risk of turnover (Yaqub et

al., 2021). JE is thus viewed as an aggregation that objectively reflects the reasons for employee retention, and has been used to predict turnover. Employee turnover can be greatly affected, particularly when job insecurity is an issue (Elshaer and Azazz, 2021). According to the latest data from the Brookings Institution, it is an urgent issue that up to 4 million people have lost jobs in the United States due to the long

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Covid-19 pandemic, with the leisure and hospitality industry suffering the most (Rivera, 2020). In addition, as a special group, healthcare workers experienced unprecedented challenges with higher degrees of fear, anxiety, and job burnout during the COVID-19 pandemic (Leng et al., 2020; Rogers et al., 2020; Shacham et al., 2020), suggesting that healthcare workers have higher turnover intentions. Job Engagement (JE) comprehensively explains the reasons for employee staying in organizations and provides valuable reference for managers to improve employee retention. Moreover, a large number of studies have shown that JE, as a positive work state, has a moderating effect on role conflict (Awan et al., 2021), job burnout (Goliroshan et al., 2021), job adaptability (Peng et al., 2021), and job insecurity (Rafiq and Chin, 2019). It can effectively improve employee engagement (Rafiq et al., 2019; Khattak et al., 2022), job performance (Shah et al., 2020), and job satisfaction (Fasbender et al., 2019; Zhang et al., 2022), thus, reducing turnover intention. Therefore, it is important for organization management to improve work embeddedness. The willingness of employees to engage in this atmosphere largely depends on their commitment to the organization. As an important dimension of organizational commitment, Affective Commitment (AC) represents a positive psychological tendency, where it reflects an employee's emotional attachment and identification with the organization (Meyer and Allen, 1991). Employees with higher-level AC are more likely to engage in positive behaviors (Regge et al., 2020), resulting in increased job engagement (Orgambidez and Benítez, 2021) and improved performance (Shao et al., 2022), leading to occupational stability. At the same time, it showed a negative correlation with job burnout (Grabowski et al., 2019), occupational stress (Lin et al., 2021) and employee turnover (Ratiu et al., 2021). JE and AC have emerged as important antecedents of turnover intention or behaviour. Numerous studies have explored the antecedents of AC, including individual and leadership factors such as transformational leadership (Shao et al., 2022), organizational factors, organizational characteristics (Miedaner et al., 2018) as well as JE, which has been posited as an antecedent variable of AC and is known to be positively correlated with AC (Zhai et al., 2023) (Yang et al., 2019). Two other cross-sectional studies showed a positive correlation between JE and AC of nurses (Zhao et al., 2013; Zhou et al., 2021).

A meta-analysis of the relationship between job embeddedness, job satisfaction, organizational commitment, and turnover intention of Korean employees revealed that job embeddedness had a positive effect on job satisfaction, organizational commitment, and turnover intention (Lee et al., 2014). In-Jo et al. (2021) revealed that affective commitment mediated the effect of job embeddedness on service behaviors, while a supervisor's behavioral fluctuations moderated the mediation of affective commitment between job embeddedness and service behaviors. Lyu and Zhu

(2019) also pointed out that workplace ostracism reduced the level of job embeddedness, which in turn affected affective commitment. In turn, emotional exhaustion has been found to impede job embeddedness (Karatepe, 2013). Furthermore, affective commitment and job embeddedness have a synergistic effect on occupational stability. For example, affective commitment and job embeddedness played a chain mediating role between voice behavior and humble leadership perception of clinical nurses, and voice behavior was negatively correlated with employee turnover behavior (Zhou et al., 2021). Thus research in the field of JE and AC is very meaningful for managers. Although some studies have been conducted on JE and AC, there are few systematic studies summarising the research findings in this area. Bibliometrics is a complex scientific method to analyze the publications carriers with mathematical, linguistic and statistical approach and it can explore the trend and frontiers in research fields (Telis et al., 2016; Chen and Song, 2019; Ninkov et al., 2022). As a visual analysis software designed by Professor Chaomei Chen (Synnstedt et al., 2005), CiteSpace can visually display knowledge maps in research fields to discover the hotspots and predict the evolution trend (Chen et al., 2012). VOSviewer is a tool used to construct visualize bibliometric networks, with strong graphical capabilities (van Eck and Waltman, 2010). No bibliometric research have been outlined in this area till date. Therefore, through bibliometric analysis on the basis of already-published research linked to JE and AC, the research results in this field can be visually analyzed. The purpose of our study was to identify and visualize research distribution, including authors, countries, institutions and journals, and to further reveals emerging hotspots and development trends in this field and to provide a reference for future studies.

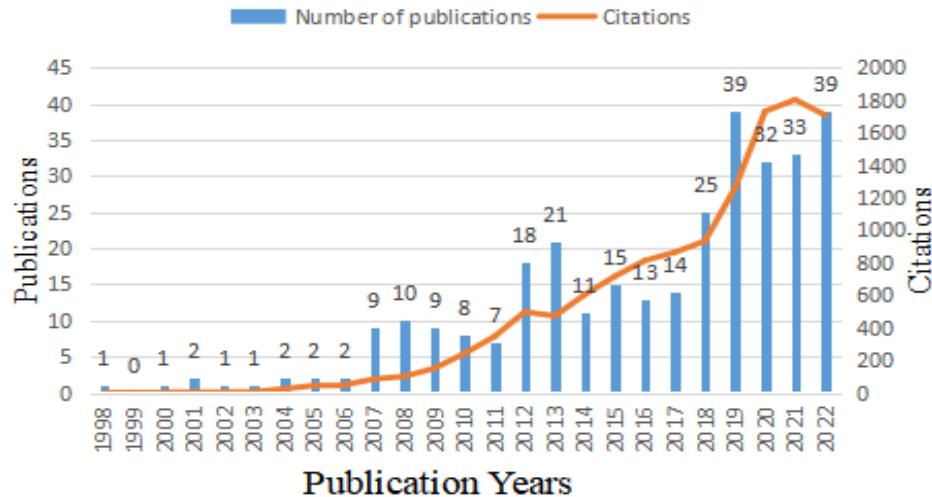
## MATERIALS AND METHODS

### Sample

In this study, data for bibliometric analysis were obtained from Web of Science due to its outstanding feature as an optimal data source for conducting bibliometric analyses and being the world's most reliable citation database in the world with a large number of high-quality papers.

### Data collection

We searched for relevant literature in the Social Sciences Citation Index (SSCI), Science Citation Index Expanded (SCI-EXPANDED), Emerging Sources Citation Index (ESCI), Conference Proceedings Citation Index - Social Sciences and Humanities (CPCI-SSH), and Arts and Humanities Citation Index (AHCI) databases of the Web of Science Core Collection (WoSCC) on December 30, 2022, with no specified start date. The search formula used was "{[TS = (job embeddedness OR career embeddedness OR work embeddedness)] AND [TS = commitment\*]}". Inclusion criteria for the study included literature related to job embeddedness and



**Figure 1.** The annual trends of publications and citations.  
Sources: Authors.

affective commitment, with no other restrictions on categories, languages, or countries. Ultimately, 315 records were identified and their bibliographic records were imported into CiteSpace and VOSviewer for analysis.

#### Data analysis

This study performed visible analysis based on CiteSpace 5.7. R2 (64 bit), VOSviewer 1.6.17 and WPS11.1.0.11744. We analyzed the trend of publications and citations over time with WPS11.1.0.11744 (Figure 1). CiteSpace was applied for analyzing the distribution of country. Additionally, burstness and timeline map were also displayed using CiteSpace (Figures 2A, 5 and 6B). We set the the following basic parameters: Time slice (1998-2022), years per slice (slice length = 1), selection criteria (g-index, k = 25; top N = 50). The node type was selected to draw the corresponding knowledge map according to the requirements of the research. In a visualization knowledge map, each node represents the entity of author, country or other subject, and its size was determined by citations, the number of publications or frequency of appearance. Each node is assigned with tree-rings of different colors, representing the years 1998 to 2022 from the inside to the outside. Bearing in mind, the purple ring denoted a higher centrality of the note. The thickness of the purple ring was proportional to the centrality value. The node with the purple circle is deemed to a crucial node (Chen et al., 2009), playing a role of a bridge over others. Furthermore, link between two nodes reflects the connection between co-occurrence or cooperation or co-citation. In this study, VOSviewer was used to conduct co-occurrence network of organizations, authors, journals and keywords. Nodes represent authors, keywords and other elements; the size of a node rests with the weight of the element. The lines indicate that cooperation between these elements. In networks, circles with same color signified a cluster (Xin et al., 2018), representing a research topic.

## RESULTS

### Publications and citations

A total of 315 records were retrieved (Figure 1). The first

article related to JE and AC was published in 1998, and the literature output generally showed a fluctuating upward trend. From 1998 to 2006, the annual output fluctuated between 1 and 2 publications. Subsequently, the number of papers entered a period of exponential growth with an average of 18.9 papers, with three sharp rises occurring in 2008, 2013, and 2019. The number of publications reached its maximum in 2019 (39), accounting for 12.38% of the 315 publications. Furthermore, annual citations increased sharply over this period. The total number of citations and cited times were 8537 and 12454 respectively, with an average of 39.57 citations per article.

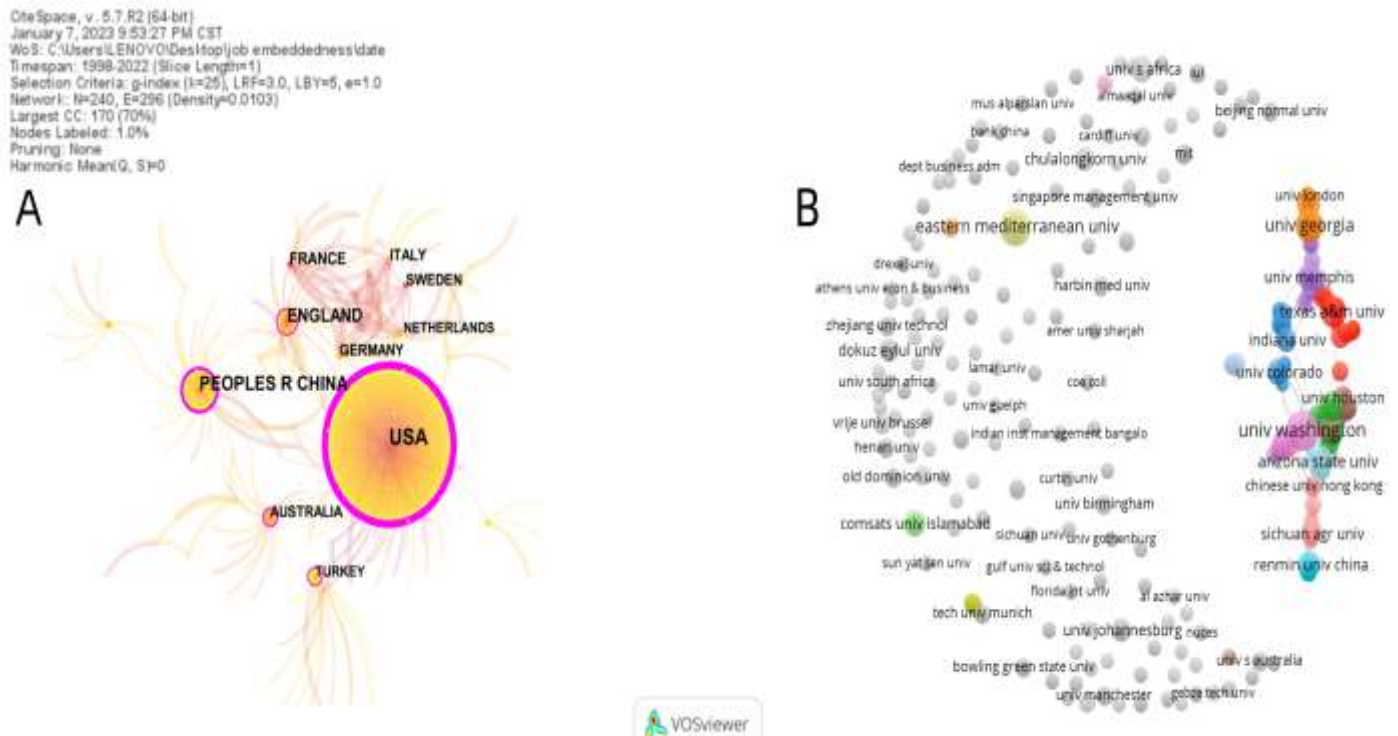
### Countries and institutions

Between 1998 and 2022, 520 institutions in 54 countries or regions conducted relevant studies. The study showed that the top 5 countries for output and centrality were the USA (117,0.61), China (39,0.36), England (20,0.20), Turkey (16,0.12) and Australia (14,0.12) (Table 1). As shown in Figure 2A, the network maps of the countries consisted of 240 nodes and 296 links with a density of 0.0103, and we can see that the outer circles of USA, China, England, Turkey and Australia were marked in purple. The institution with the highest number of publications was the University of Washington (11), followed by the Eastern Mediterranean University (10), Arizona State University (7), Georgetown University (7) and Texas A and M University (5) (Table 2). As shown in Figure 2B, the cooperation between institutions remained dispersed on a global scale, with only some institutions working together. For example, the University of Washington collaborated with Georgetown University, Arizona State University, Marquette University, University of Wisconsin and University of Colorado.

**Table 1.** Top 10 Countries by publications and centrality.

Rank	Countries	Count	Rank	Countries	Centrality
1	USA	117	1	USA	0.61
2	Peoples R China	39	2	Peoples R China	0.36
3	England	20	3	England	0.20
4	Turkey	16	4	Turkey	0.12
5	Australia	14	5	Australia	0.12
6	Pakistan	9	6	France	0.10
7	France	8	7	Germany	0.08
8	Germany	8	8	Pakistan	0.07
9	Canada	7	9	Italy	0.05
10	Italy	5	10	Singapore	0.05

Sources: Authors.



**Figure 2.** Countries and Institutions Analysis. Collaboration network of countries based on CiteSpace; (B) Collaboration network of institutions based on VOSviewer. A node represented a country or institution, and its size is proportional to the number of contributions. A node with a high centrality (> 0.1) is endowed a purple ring. The links between nodes reflect the relationships between them. Sources: Authors.

**Author analysis**

A total of 818 authors published correlational research. Table 3 shows the top 10 contributors, with Karatepe OM from Eastern Mediterranean University in Turkey as the top contributor with 10 publications, followed by Lee TW from University Washington in USA (9), Mitchell TR from Arizona State University in USA (7), Hom PW from

Arizona State University in USA (6), Ampofo ET from Kwame Nkrumah University of Science and Technology in Ghana (6), and Ng TWH from University of Hong Kong in China (6). The top three authors in terms of citations were Lee TW (1765), Mitchell TR (1217), and Hom PW (900). Most of these authors came from USA (Table 3).

Figure 3 illustrates the authors’ collaboration

**Table 2.** Top 10 institutions by publications and centrality.

Rank	Institutions	Count	Rank	Institutions	Centrality
1	University Washington	11	1	University Washington	0.06
2	Eastern Mediterranean University	10	2	Georgetown University	0.02
3	Arizona State University	7	3	Boston University	0.02
4	Georgetown University	7	4	University Colorado	0.02
5	Texas A and M University	5	5	Arizona State University	0.01
6	HEC Montreal	5	6	No Illinois University	0.01
7	University Georgia	5	7	University Illinois	0.01
8	No Illinois University	4	8	Marquette University	0.01
9	University of Hong Kong	4	9	Rutgers State University	0.01
10	C3 Eastern Mediterranean University	4	10	Indiana University	0.01

Sources: Authors.

**Table 3.** Top 10 Prolific Authors.

Rank	Author	Count	Country	Institution	Citations
1	Karatepe, osman m	10	Turkey	Eastern Mediterranean University	322
2	Lee, thomas w	9	USA	University of Washington	1765
3	Mitchell, terence r	7	USA	Arizona State University	1217
4	Ampofo, emmanuel twumasi	6	Ghana	Kwame Nkrumah University of Science and Technology	38
5	Hom, peter w	6	USA	Arizona State University	900
6	Ng, thomas w. h.	6	China	University of Hong Kong	403
7	Holtom, brooks c	5	USA	Georgetown University	763
8	Feldman, daniel c	5	USA	University of Georgia	394
9	Allen, david g	5	Australia	University of Sydney	315
10	Vandenbergh, christian	5	Canada	HEC Montréal	126

Sources: Authors.

network which includes several research teams, led by Lee TW for instance. On the contrary, similar to the institutional cooperation, the network reveals a lack of connections between the authors.

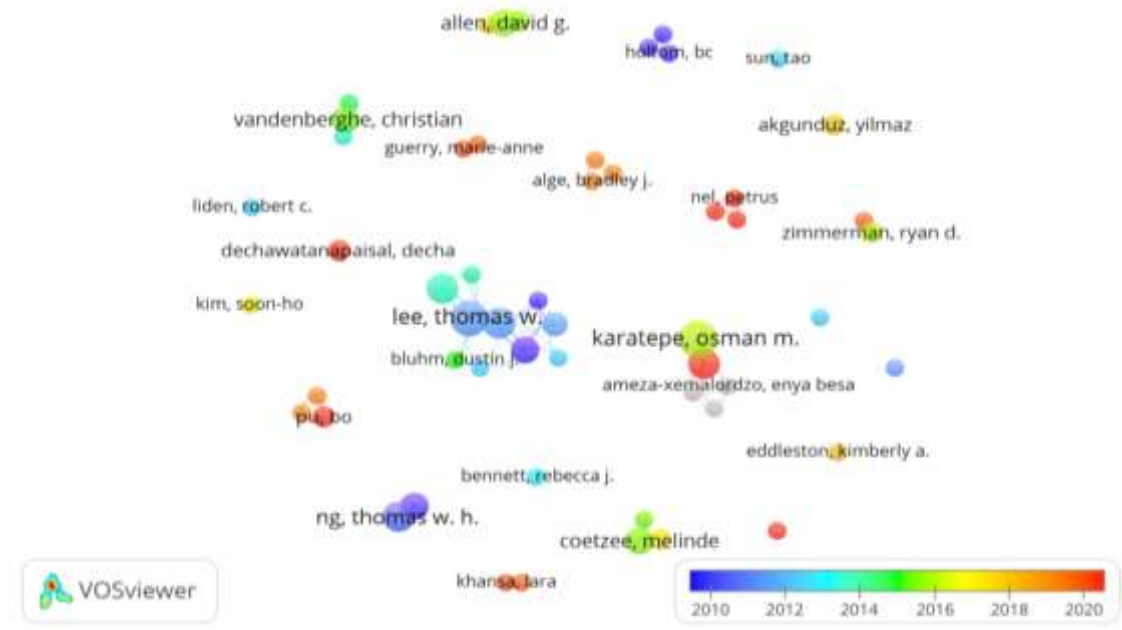
IF=12.082) (Figure 4A). The highest-ranked co-cited journal was *J Appl Psychol*, with 1750 citations and an IF of 11.802, followed by *Acad Manage J*, with 1176 citations and an IF of 10.979, and *J Vocat Behav*, with 693 citations and an IF of 12.082 (Table 3 and Figures 4B).

### Analysis of core journals

The field of JE and AC was covered by 184 journals. Table 4 showed the top 10 most productive journals, with a total of 80 papers (25.40%). These highly productive journals were located in England (7) and USA (2), with the exception of the South African journal *Sa J Hum Resour Mana* (2021 IF = 0.21). Most of the impact factor (IF) of the top 10 journals in 2021 was above 6, with an average of 7.378. Additionally, 90% of the high-yield journals were categorized as Q1 or Q2. *Int J Hum Resour Man* was the most productive journal (14 articles, 2021 IF = 6.026), followed by *J Appl Psychol* (13 articles, 2021 IF = 11.802) and *J Vocat Behav* (13 articles, 2021

### Co-citation analysis of references

Co-citation analysis can identify important research areas efficiently and conveniently. Figure 5 showed 8 categories of reference co-citations, clustered by the high-frequency terms associated with the research. The top eight clusters (>20members) were “retention”, “affective commitment”, “turnover”, “affective organizational commitment”, “turnover and retention”, “career stage”, “positive affect” and “positive affect” (Table 5). Silhouette values are often used to measure the homogeneity of clusters. It is generally considered that a cluster is convincing with the silhouette values is greater than 0.7 (Chen et al., 2010).



**Figure 3.** Cooperation map of authors. A node represents an author, and its size is proportional to the number of published literature, lines and distances reflect cooperation degree of the two authors. Sources: Authors.

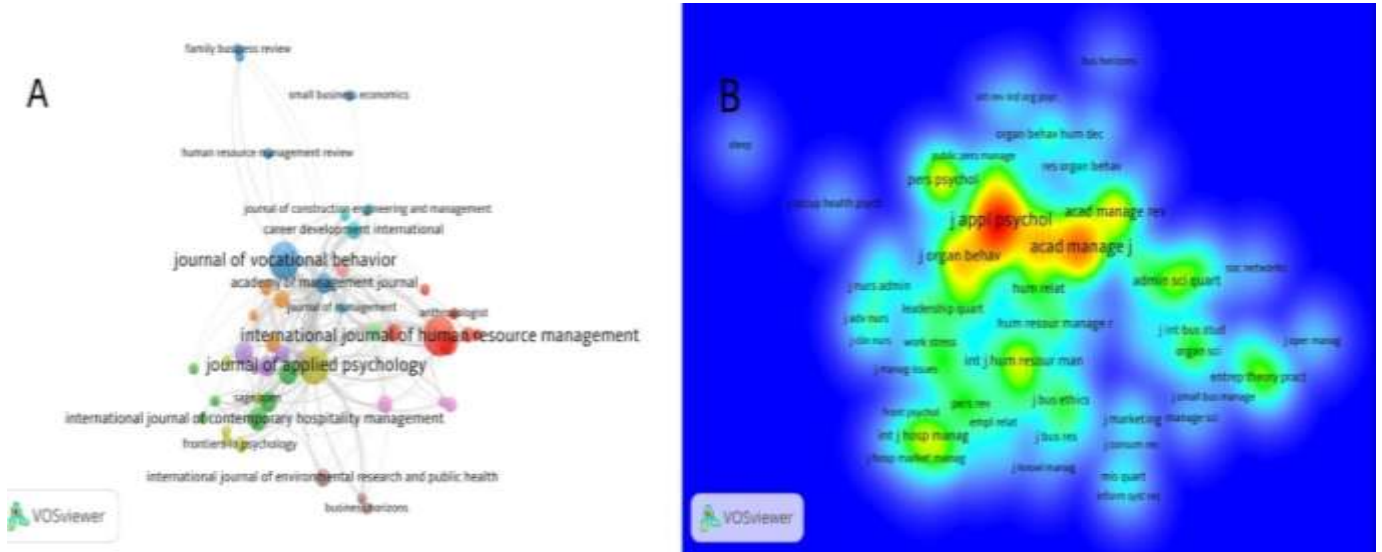
**Table 4.** Top 10 journals and Co-cited Journals.

Rank	Journal	Count	IF (2021)	Quartile (2021)	Co-cited Journal	Total citations	IF (2021)	Quartile (2021)
1	Int J Hum Resour Man	14	6.026	2	J Appl Psychol	1750	11.802	1
2	J Appl Psychol	13	11.802	1	Acad Manage J	1176	10.979	1
3	J Vocat Behav	13	12.082	1	J Vocat Behav	693	12.082	1
4	Hum Resour Manage	6	6.235	1	J Manage	625	13.508	1
5	Int J Contemp Hosp M	6	9.321	1	J Organ Behav	510	10.079	1
6	Sa J Hum Resour Mana	6	0.21	4	Acad Manage Rev	462	13.865	1
7	J Manage Organ	6	3.640	3	Pers Psychol	365	5.470	1
8	Acad Manage J	6	10.979	1	Int J Hum Resour Man	318	12.529	1
9	Int J Hosp Manag	5	10.427	1	Admin Sci Quart	258	12.529	1
10	J Adv Nurs	5	3.057	1	Psychol Bull	240	23.027	1

Sources: Authors.

In the study, the silhouette values of clusters were more than 0.9, indicating that the clusters were convincing. Size indicates the number of members in a cluster. The larger the size, the more representative the cluster is. Hence, “retention” (Cluster #0) was the largest cluster with 92 references, and literature related to retention may be the research focuses at present. A time graph showed the development of keywords in each cluster, which can clearly reflect the evolution process of the JE and AC field over the years (Figure 5). The cited reference clusters

map showed that the start time and duration of each cluster were different. Researchers focused early on cluster #4 (“turnover and retention”), cluster #5 (“career stage”), cluster #6 and #7 (“positive affect”), with most documents dated before 2006. This was followed by cluster #2 (“turnover”), with most documents dated around 2009. Cluster #0 (“retention”) were the focus of the publications dated around 2012. The recent research topics laid in cluster #1 (“affective commitment”) and #3 (“affective organizational commitment”), with most

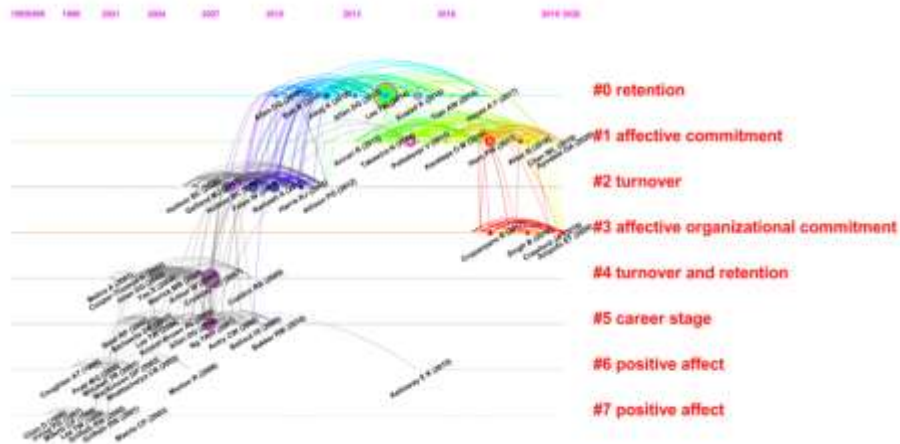


**Figures 4.** Analysis of journals and co-cited journals. (A) Visualisation network of journals; (B) Density visualization of co-cited journals. Each node represents a journal and a node with a large size expresses the journal with high publications in visualisation network of journals. The red node represents the journal with high citation frequency in the density map. Sources: CiteSpace.

**Table 5.** Main clusters (> 20 members) of reference co-citation analysis.

Cluster ID	Size	Sihouette	Mean (year)	Theme
0	92	0.977	2012	Retention
1	91	0.907	2016	Affective commitment
2	73	0.936	2009	Turnover
3	45	0.96	2018	Affective organizational commitment
4	43	0.991	2004	Turnover and retention
5	42	0.901	2006	Career stage
6	33	0.976	2001	Positive affect
7	23	0.99	1998	Positive affect

Sources: Authors.



**Figure 5.** Timeline view of co-cited references. Sources: Authors.

**Table 6.** Top 10 co-cited references.

Rank	Title	Author	Co-citation	Journal	Year
1	Development of a global measure of job embeddedness and integration into a traditional model of voluntary turnover	Crossley CD	17	J Appl Psychol	2007
2	One Hundred Years of Employee Turnover Theory and Research	Hom PW	16	J Appl Psychol	2017
3	<u>Turnover Contagion: How Coworkers' Job Embeddedness and Job Search Behaviors Influence Quitting</u>	Felps W	15	Acad Manage J	2009
4	The Story of Why We Stay: A Review of Job Embeddedness Story	Lee TW	14	Annu Rev Organ Psych	2014
5	The effects of job embeddedness on organizational citizenship, job performance, volitional absences, and voluntary turnover	Lee TW	12	Acad Manage J	2004
6	<u>When and how is job embeddedness predictive of turnover? A meta-analytic investigation.</u>	Jiang K	12	J Appl Psychol	2012
7	The Effect of Perceiving a Calling on Pakistani Nurses' Organizational Commitment, Organizational Citizenship Behavior, and Job Stress	Afsar B	12	Int J Contemp Hosp M	2018
8	<u>Turnover and Retention Research: A Glance at the Past, a Closer Review of the Present, and a Venture into the Future</u>	Holtom BC	10	Acad Manage Ann	2008
9	Perceived organizational support and embeddedness as key mechanisms connecting socialization tactics to commitment and turnover among new employees	Allen DG	10	J Organ Behav	2013
10	Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach	Hayes AF	9	Intro Mediation	2017

Sources: Authors

documents published in recent years, which indicated that it was still an active clustering at present, representing the frontier direction and containing the emerging trend of the research.

### Most co-cited articles analysis

Table 6 documented the top 10 co-cited literatures in frequency, published from 2004 to 2018. Of the ten references, "Development of a global measure of job embeddedness and integration into a traditional model of voluntary turnover," authored by Crossley CD et al. (Crossley et al., 2007) in the Journal of Applied Psychology, was the most co-cited paper, followed by "One Hundred Years of Employee Turnover Theory and Research," published by Hom PW et al. (Hom et al., 2017) in the Journal of Applied Psychology, and "Turnover Contagion: How Coworkers' Job Embeddedness and Job Search Behaviors Influence Quitting," authored by Felps W et al. (Felps et al., 2009) in the Academy of Management Journal. The top co-cited documents by centrality ( $>0.1$ ) were listed in Table 7. Among them, three were published in the Journal of Applied Psychology, two in the Journal of Management, and the other four were from Principles & Practice, the Journal of Business Psychology, the Annual Review of

Organizational Psychology, and the Academy of Management Journal, respectively.

### Keywords analysis

Keywords are highly condensed to the topic of a document. There were 348 keywords after eliminating irrelevant keywords and merging several synonyms. Keywords with the top 20 occurrences were presented in Table 8. Besides job commitment (129), job embeddedness (121), the keywords "performance", "satisfaction", "model", "job satisfaction" and "voluntary turnover" were at the top. "embeddedness" was the keyword with the highest degree of centrality (0.22), appearing 99 times. Then there were "commitment", "performance", "and turnover intention" and "employee turnover". Figure 6A showed co-occurrence network map used by VOSviewer software. The keywords divided into 3 major clusters, representing three main directions of JE and AC. The red cluster mainly consisted of "job embeddedness", "antecedents", "mediating role", "outcomes" and "consequence". The green cluster mainly consisted of "embeddedness", "voluntary turnover", "organizational commitment", "employee turnover", "metaanalysis" and "unfolding mode". The blue cluster was represented by "commitment", "performance",



**Table 7.** Co-cited references with betweenness centrality > 0.1.

Rank	Title	Author	Centrality	Journal	Year
1	Principles and practice of structural equation modeling	Kline RB	0.21	Principles Practice	2015
2	<u>Job embeddedness in a culturally diverse environment</u>	Mallol CM	0.17	J Bus Psychol	2007
3	Job embeddedness: A multifoci theoretical extension	Kiazad K	0.13	J Appl Psychol	2012
4	The Story of Why We Stay: A Review of Job Embeddedness Story	Lee TW	0.11	Annu Rev Organ Psych	2014
5	Perceived organizational support and embeddedness as key mechanisms connecting socialization tactics to commitment and turnover among new employees	Allen DG	0.11	J Manage	2006
6	<u>Reducing voluntary, avoidable turnover through selection</u>	Barrick MR	0.11	J Appl Psychol	2005
7	Development of a global measure of job embeddedness and integration into a traditional model of voluntary turnover	Crossley CD	0.10	J Appl Psychol	2007
8	Why people stay: using job embeddedness to predict voluntary turnover	Mitchell TR	0.10	Acad Manage J	2001
9	<u>The role of perceived organizational support and supportive human resource practices in the turnover process</u>	Allen DG	0.10	J Manage	2003

Sources: Authors

**Table 8.** Keywords with the top 20 occurrences.

Rank	Keywords	Occurrences	Centrality	Rank	Keywords	Occurrences	Centrality
1	Commitment	129	0.10	11	antecedents	54	0.08
2	Job embeddedness	121	0.04	12	work	50	0.08
3	Embeddedness	99	0.22	13	turnover	53	0.09
4	Performance	93	0.10	14	Employee turnover	41	0.10
5	Satisfaction	68	0.09	15	metaanalysis	37	0.08
6	Model	62	0.07	16	behavior	28	0.08
7	Job satisfaction	62	0.06	17	affective commitment	23	0.03
8	Voluntary turnover	60	0.07	18	consequence	18	0.04
9	Turnover intention	58	0.10	19	work embeddedness	16	0.01
10	Organizational commitment	58	0.05	20	Unfolding model	16	0.04

Sources: Authors

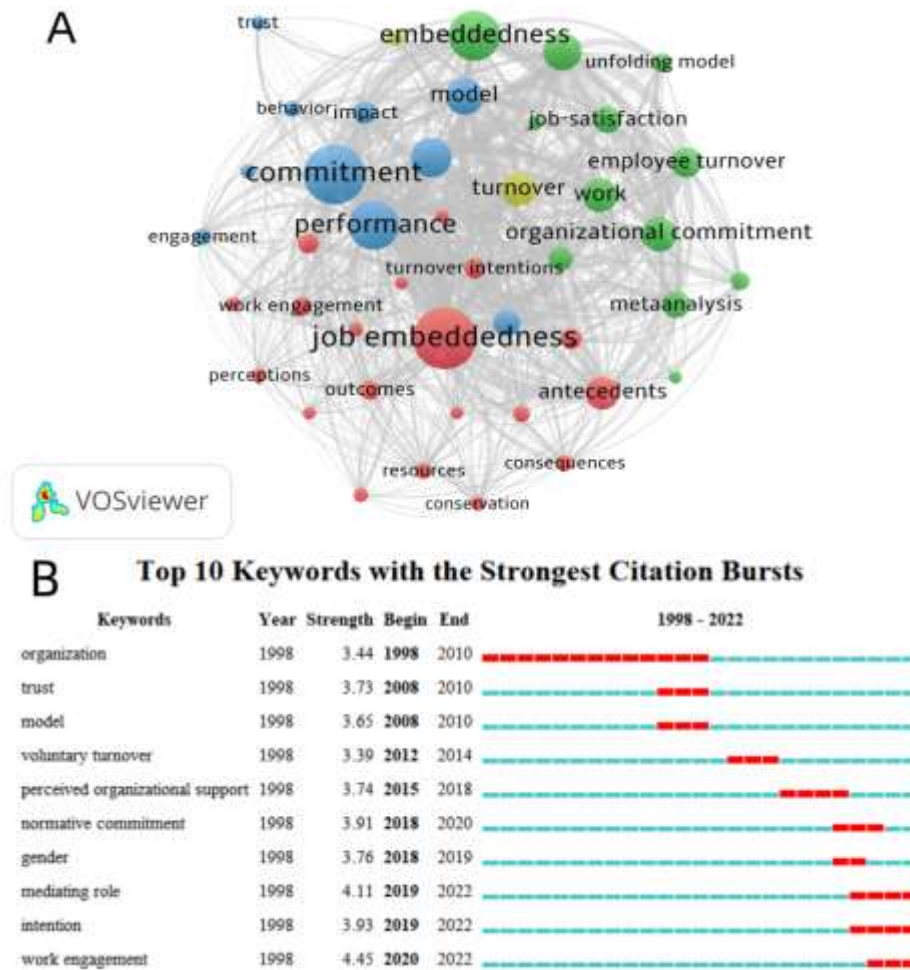
“satisfaction”, “model”, “impact” and “behavior”. According to the burst keywords (Figure 6B), “work engagement”, “mediating role” and “intention” were the three explosive keywords in the last three years.

## DISCUSSION

### General information

In the present study, the annual publications and citations of the field have shown a significant growth trend over this period, meaning the topic has received increasing attention in recent years. It should be noted that there were three sharp increases in the years 2008, 2013 and 2019. The severe financial crisis that

occurred in 2008 had a serious impact on many employees around the world, such as layoffs, restructuring and bankruptcies, leading to an increase in unemployment (Reilly et al., 2011). Wars that occurred in 2013, such as the war in Syria, can result in large numbers of people losing their jobs (Akçan et al., 2019). In particular, many populations were severely affected amid the COVID-19 pandemic, leading to a significant increase in turnover. Due to the high turnover caused by external shocks, a large number of scholars have conducted a great deal research in related fields. Table 1 shows that countries in United States, China, England, Turkey and Australia, which had a high number of publications and centrality, had made tremendous contribution and had high international influence in this domain. It can also be reflected in Figure 2A.



**Figure 6.** (A) Network visualization map of keywords with frequency greater than 15. (B) Top 10 keywords with the strongest citation bursts.

Sources: CiteSpace and VOSviewer

Furthermore, with regard to the high-yield institutions, most were located in the United States, indicating that United States was the main driving force. Of the remaining institutions in the top 10, two were from Turkey, one from Canada and one from China, reflecting that we should also pay attention to the contribution of Turkey, Canada and China in this field. While cooperation among institutions remained globally dispersed, close collaboration was visible between the institutions in the United States, which further enhanced its academic influence in this area.

Authors' contributions show that the American researchers have a hot property academically in this area. What is noteworthy is that Ampofo ET from an African country (Ghana) broke into the top 10. His studies focused on hotel workers and were published between 2020 and 2022 (Ampofo, 2020; Ampofo et al., 2022). Besides, Karatepe OM, as the most published author, led his research team to explore the mediating role of JE

among hotel staff (Karatepe, 2013; Ari et al., 2020), whose studies were published in 2012-2014 and 2019-2022. This might be due to the fact that the tourism industry is an important contributor to economic growth in Ghana and Turkey's (Tang and Abosedra, 2014; Ampofo and Karatepe, 2022). However, the Syrian war that broke out in 2011 had a huge impact on Turkey's economy (Akçan et al., 2019). The hospitality industry, an important part of tourism, has been hit hard globally by the COVID-19 pandemic (Sharma and Nicolau, 2020; Sheel, 2020). The above also supported the reason for the increase in the number of publications issued in 2013 and 2019. As shown in Figure 3, authors with more published articles were more closely collaborating with others. For example, Lee TW collaborated closely with Hom PW, Holtom BC and Burton JP. Lee TW, an representative author with prolific output and highest citations, and his team mainly focused on the predictive effect of JE on employee turnover (Jiang et al., 2012; Lee et al., 2014; Li et al.,

2016) and the incentive on positive workplace behaviors (Lee et al., 2004; Hom et al., 2009; Li et al., 2022). In addition, they explored the impact of JE on turnover in specific circumstances (negative shocks, minority groups), discovering that JE was a strong predictor of employee retention across diverse populations and environments (Mallol et al., 2007; Burton et al., 2010). However, similar to institutional cooperation, collaboration for these authors tended to be an intra-team phenomenon. Therefore, wider collaboration between authors and institutions should be strengthened to produce more outstanding quality articles, to accelerate the progress of the field.

It was found that prolific journals were categorized as Q1 or Q2, and *Int J Hum Resour Man* (IF6.026, Q2), *J Appl Psychol* (IF11.802, Q1) and *J Vocat Behav* (IF12.082, Q1), the top three productive journals, had the high IF, indicating that these journals had higher academic influence in the field of JE and AC research. The top 10 productive journals were located in England (7) and USA (2), with the exception of *Sa J Hum Resour Man* in South Africa (2021 IF = 0.21), illustrating the dominance of Western journals. It is necessary to intensify global cooperation for improving the ability to develop periodicals in other countries. Moreover, nine of the top ten journals made a speciality of management and psychology, and one was nursing journal. Hence we deemed this research topic was the focus for managers and psychologists. Meanwhile, Nurses were important research targets. As a special group, nurses usually experienced multiple pressures such as heavy workload, violence, experience of death in patients and lack of effective communication, leading to job burnout, which have been tied to higher turnover (Adams et al., 2019; Kelly et al., 2021). Therefore, nurses have more turnover problems than others. What's worse, the COVID-19 pandemic placed nurses under more pressure (Lavoie-Tremblay et al., 2022). So there is an urgent need to concern about nurse's retention during the pandemic. Journal co-citation analysis concentrated principally on the relationship between journals, to reflect whether the journals play a bridging role in a specific research field (McCain, 2010). These highly co-cited journals had an IF ranging from 5.470 to 23.027. Moreover, All journals were located in Q1, indicating that these journals are highly authoritative in the research on JE and AC. There was a concurrence of *J Appl Psychol*, *Acad Manage J*, *J Vocat Behav* and *Int J Hum Resour Man* in the prolific journals and highly co-cited ones. Furthermore, these four journals had IF value above 10. This showed that the four journals were perceived as core-periodicals in the field.

### Knowledge base

Citation frequency and centrality of literature were two

important indicators to measure its academic influence (Chen et al., 2012). Highly cited literature is generally considered as a milestone. As shown in Table 6, half of the highly co-cited references, were reviews outlining the theory of JE and turnover, describing the crucial role of JE in affecting turnover and summarizing the moderating and mediating effects of JE (Holtom et al., 2008; Jiang et al., 2012; Lee et al., 2014; Hayes, 2017; Hom et al., 2017). Besides, other documents were also important in this field. For example, One study discussed the intriguing subject of turnover contagion, where employee turnover, mainly influenced by JE and job-seeking behavior, could stimulate more incidents of turnover. Lee et al. (2004) found that JE moderated the effects of absences, citizenship and performance on turnover, which can be disaggregated into two main sub dimensions: on-the-job and off-the-job embeddedness. They predicted voluntary demission, volitional absence and organizational citizenship, job performance, respectively. Afsar et al. (2018) and Allen and Shanock (2013) found that JE was associated with organizational commitment and voluntary turnover in nurses and new employees, respectively.

Highly cited articles indicated that the author's academic value in the field has been highly recognized, and these studies have provided a foundation for further research. However, it should be pointed out that the number of citations cannot be used as an independent indicator to judge the quality of the article, because the publication time directly affected the citations and we should think about the effect of time on citation analysis. Key documents can also be identified by centrality. All papers with high centrality are innovative, indicating that they have important contributions in this field. For example, Kline (2015) presented the structural equation modeling (SEM), indicating that most of the relevant empirical studies have established relevant models for research. According to the other study JE was a powerful predictor of employee retention in different populations (Mallol et al., 2007). The finding of other document referred to perceived organizational support (POS), a factor negatively correlated with turnover behavior, which can be enhanced through supportive human resource practices, played an intermediary role between job satisfaction and organizational commitment (Allen et al., 2003). It is worth noting that *J Appl Psychol* was the most published journal of the above literature. This showed that *J Appl Psychol* was the core journals in the field. It implied that the field of JE and AC was highly correlated with psychology, the key for managers to reduce turnover was to pay attention to employee psychology.

As can be seen from the above literature, empirical and theoretical progress devoted to the study has made. In terms of empirical research, many of studies developed intervening variable models to justify moderators and mediators of JE and organizational commitment, among

which the AC dimension was most relevant to JE. Nevertheless, most of the research on JE have focused on the work component, and only a few have considered independent dimensions, such as sacrifice, fit, links, and characteristics across backgrounds, countries or levels, which may be enhanced. Research on turnover usually requires at least two to three years, but most relevant studies were only cross-sectional studies without collecting multi-wave data. Therefore, longitudinal study design should be considered in order to analyze the internal relationship between variables better in future research and researchers should also conduct post-study interviews to make the results more reliable.

Furthermore, almost all empirical research was investigative; it was very meaningful to carry out intervention studies of JE and AC. There is relatively little theoretical research compared to empirical research, and empirical knowledge seems to be more advanced than current theoretical explanations. For example, research has found that job embeddedness affected performance, so how does JE affect performance? We need a more solid basic theory to explain the relevant mechanism.

### Hotspots and frontiers

Based on the top 10 co-cited documents and the top keywords, we attribute the research hotspots as follows: the antecedents and consequences of JE; the relationship between organizational commitment and voluntary turnover; the impact of organizational behavior on turnover. These hotspots are not separated, but influential and interrelated to each other. A large number of studies have explored hotspots through empirical studies. The factors found to influence JE were mainly individual characteristics, psychological perceptions, and leadership behaviors, while their outcome variables were mainly organizational citizenship behaviors, job performance, and voluntary turnover. Commitment refers to the strength of identification to an organization (Klein et al., 2014), which often influences a person's behavior because commitment is so highly correlated with satisfaction and performance. Organizational commitment can enhance the stable state of the relationship between employees and the organization to reduce turnover. Emotional commitment is seen as a core dimension of organizational commitment and is one of the most important indicators of the quality of employee-organization relationships (Allen and Meyer, 1996). Numerous studies have found that AC influenced employee organizational behaviors such as constructive behavior, innovative behavior, and propensity to leave. Meanwhile, AC and JE have been found to have a chain mediating effect. Therefore, future research could explore the mechanisms by which the joint variable of AC and JE is mediated. The burst keywords and top co-cited documents characterized the emerging topics. Through the findings previously discussed, we found that the field

is presently engaged in intense research regarding the mediating role of work engagement in turnover intention, especially from an psychology and organizational behavioral perspective. This was well illustrated by the corroborating results in Figures 5 and 6 and Table 6. At the same time, the literature of the last three years focused on the voluntary turnover of nurses and hotel staff, indicating that these two groups have been the focus of research in this area and their departures should deserve special attention.

### Conclusion

This work performed a bibliometric analysis of the literature related to JE and AC published from 1998 to 2022 utilizing CiteSpace and VOSviewer software. Our results suggested that the topic has received increasing attention in recent years. Overall, USA with the highest output and centrality was the leading driving force in the research on JE and AC. In order to further promote academic research in this field, it is necessary to increase the degree of global cooperation. The current research showed that research on theory, related variables of turnover and JE based on relevant models were critical components in the field. However, both theoretical and empirical studies need to be further explored. The mediating role of JE in turnover intention, particularly from a psychology and organizational behavioral perspective, has been a hot topic. Meanwhile, nurses and hotel workers have been the focus of research in recent years or will continue to be for some time in the future. Highlights of this study is that, firstly, this was the first study to survey the hotspots and cutting-edge through bibliometric analysis in the field of JE and AC, and the results were relatively objective and accurate. Secondly, JE and AC are becoming a hot research topic, especially the mediating role of JE in turnover intention from the perspective of psychology and organizational behavior and nurses and hotel workers were the main research targets. Thirdly, theoretical and empirical studies need to be further explored.

### Limitation

This study had several limitations. First, we only selected the WOSCC database to extract the data, which may have led to the omission of related publications from other databases. Second, the study only included reviews and articles, which may lead to some important information undiscovered.

### CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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