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Learning Persistence Mapping: A Bibliometric Analysis (2015-2025)

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Abstract

Learning persistence is recognized as a quality that positively influences academic achievement. The object of this study is to provide a complete overview of learning persistence, identify and examine hotspots and trends in the literature, and summarize the current state of research on student learning persistence for future research. This study used the PRISMA framework, VOSviewer and SCI Mago to conduct a bibliometric analysis to summarize research on student learning persistence from 2015-2025.Web of Science is one of the most authoritative academic citation databases in the world, covering academic literature in all scientific fields. A keyword search was utilized to obtain 431 publications. The results of the study documented the distribution of papers with information on learning persistence over the last 10 years and presented relevant journals, influential authors, relevant countries, research institutions and key themes. The study also contributes to the existing body of knowledge on learning persistence and provides future trends and insights.

Keywords: Learning Persistence, Bibliometric Analysis, Web of Science, Vosviewer, SCI Mago

Introduction

Learning persistence has become an increasingly prominent concept in the literature on learning, dropout, persistence, and retention. Since the COVID-19 pandemic, research interest in learning persistence has become particularly strong. Learning persistence has also been referred to as student persistence and academic persistence. Learning persistence reflects a student's determination and action to overcome obstacles in learning in order to achieve their academic goals, such as completing their studies or passing a course (Jung & Lee, 2018). In higher education, students' persistence in learning is a critical predictor of their personal success and school success. In an academic context, learning persistence refers to a person's intention to take or complete an assigned course or degree (Pascarella and Terenzini 2005). Online learning persistence is the commitment of students to continue to participate and complete their studies without interruption. (chen et al, 2019). Thus, the indicator of “persistence” reflects the effectiveness of the university's retention efforts, which centers on the responsibility of students to remain enrolled in their courses.

There is evidence that persistence and frequency affect performance: the more time people spend on a learning task, or the more frequently they interact with it, the better they perform (Carroll, 1985). This hypothesis is further supported by the fact that there is a positive relationship between the amount of study time a student invests in a particular academic area and the level of achievement he or she achieves (Hattie, 2009; Carroll, 1963). Learning persistence is widely used in higher education, especially in the first year of university, where students' academic achievement is critically linked to learning persistence (van Rooij et al., 2018; Vanthournout et al., 2012).

In terms of school dropout（learning persistence）, According to UNESCO (2023), nearly 100 countries in the world have more or less dropouts. Among them, Niger has a high dropout rate of 58.80%, Burkina Faso attained 52.65%, Tokelau attained 49.59%, Senegal attained 49.12%, and Syrian Arab Republic attained 45.62%. There are 19 countries with dropout rates of 20-40%. It has been shown that educational disruption leads to both cognitive and non-cognitive skill deficits, permanently reduces individual productivity, and that the intergenerational transmission effect is strongest for early school dropout (Heckman, 2006). For every 1% increase in secondary school completion rates, a country's long-term GDP growth rate increases by 0.58% (Hanushek & Woessmann, 2012). Thus, the issue of school dropout is considered a critical social issue globally because it strikes at the heart of individual development, social equity, economic vitality, and national competitiveness.

However, the current studies on the bibliometric analysis of learning persistence focus on open distance education (Mesut Kurulgan, 2024) and massive open online courses (Cișmașu et al., 2025).However, these studies have focused on dropout and have included older members of the community, making it more difficult to differentiate groups to interpret the findings. Learning persistence, on the other hand, includes not only dropout, but also student persistence and academic persistence. Therefore, the study should be expanded to include face-to-face learning persistence, which is still predominantly face-to-face. The study should focus on students. In order to address these issues of learning persistence and to assess the scientific interest in the field, this study summarizes research on learning persistence from 2015 to 2025 using VOSviewer and SCI Mago to analyze the data. The results of the study document the distribution of papers on learning persistence, relevant journals, influential authors, relevant countries, research institutions, and key themes that have been analyzed over the past decade. The study also contributes to the existing body of knowledge on learning persistence and provides future trends and insights.

Bibliometrics is a commonly used method in research that provides strong support for grasping the current state and evolution of the discipline by analyzing research trends. The method can also help identify future research directions and key issues, assess academic impact, understand research development paths and methodological changes, and facilitate academic collaboration (Zupic & Čater, 2015).

This study collected data from the Web of Science database to answer the following research questions:

1. what is the distribution of scholarly papers related to learning persistence published in the past decade?
2. which journals and authors are most relevant to research on learning persistence?

3. which countries have contributed most to research on learning persistence?
4. which institutions have contributed most to research on learning persistence?
5. what are the main areas of scholarly interest in learning persistence over the past decade?
6. what are the trends in learning persistence research based on the past decade of research?

Method

This bibliometric study follows a systematic review and meta-analysis (PRISMA) structure (Page et al., 2021). This paper uses bibliometric methods to provide an objective and quantifiable assessment of the current state of the literature with learning persistence. It aims to use bibliometric analysis to analyze the trends of papers related to student learning persistence and **h**ighlight implications for future studies. In addition, It offers a visualization of prevailing research trends in student learning persistence. Data were provided by the Web of Science (WOS), a database that indexes highly reliable publications across multiple disciplines (Mongeon & Paul-Hus, 2016), which has strengths in keyword selection (Kr¨amer et al., 2017).

This study systematically identified scholarly articles on learning persistence by applying predefined inclusion and exclusion criteria.(Table 1). First, articles with titles, abstracts, or keywords that included “learning persistence” or “academic persistence” or “student persistence” were selected. To maintain contemporary relevance of the literature, only articles published before 2015-2025 were considered, and articles published between 2015 and 2025 were excluded to obtain research results from the past 10 years. The inclusion criteria prioritized academic rigor: solely peer-reviewed research articles and Early Access manuscripts were retained, with exclusions applied to reviews, book chapters, conference proceedings, and book series. Finally, to ensure international comparability and generalizability of the research findings, only English language literature was included, excluding other languages. By implementing rigorous inclusion and exclusion criteria, this study finalized a highly relevant and manageable amount of scholarly literature, which provides a solid foundation for exploring learning persistence.

Criteria for Inclusion and Exclusion

Regarding the inclusion criteria, this study only included studies with the following characteristics: 1) published in the past five years (2015-2025); 2) papers were written in English; 3) included learning persistence; In addition, this study excluded studies with the following characteristics: 1) unpublished studies from 2015-2025; 2) were unwritten in English; 3) did not include learning persistence situations; and 4) did not use validated to Article, Early Access; As shown in Table 1.

Table 1
Inclusion and Exclusion Criteria

Type Of Criteria	Standard Description
Inclusion Criteria	Research is published between January 2015 and December 2025 Article is written in English Research focuses on the learning persistence Research is focuses on Article, Early Access
Exclusion Criteria	Research is not published between January 2015 and December 2025 Research did not Research was written in the unexpected language of English Research not related to learning self-efficacy Research not related to Article, Early Access

The RISMA framework (Figure 1) outlines the systematic literature screening process. The figure illustrates the identification, screening, and inclusion of literature on “learning persistence” or “academic persistence” or “student persistence” from Web of Science. The initial search identified 709 records. Screening excluded 179 records: 86 published before 2015 or after 2025, and 93 lacking research article or Early Access designation. The remaining 530 records underwent full-text assessment. After screening, 442 reports were evaluated for full-text eligibility. Eleven articles were excluded for non-English language. Ultimately, 431 studies met all inclusion criteria , forming the analytical basis. This methodology ensured only relevant, high-quality studies informed the final analysis.

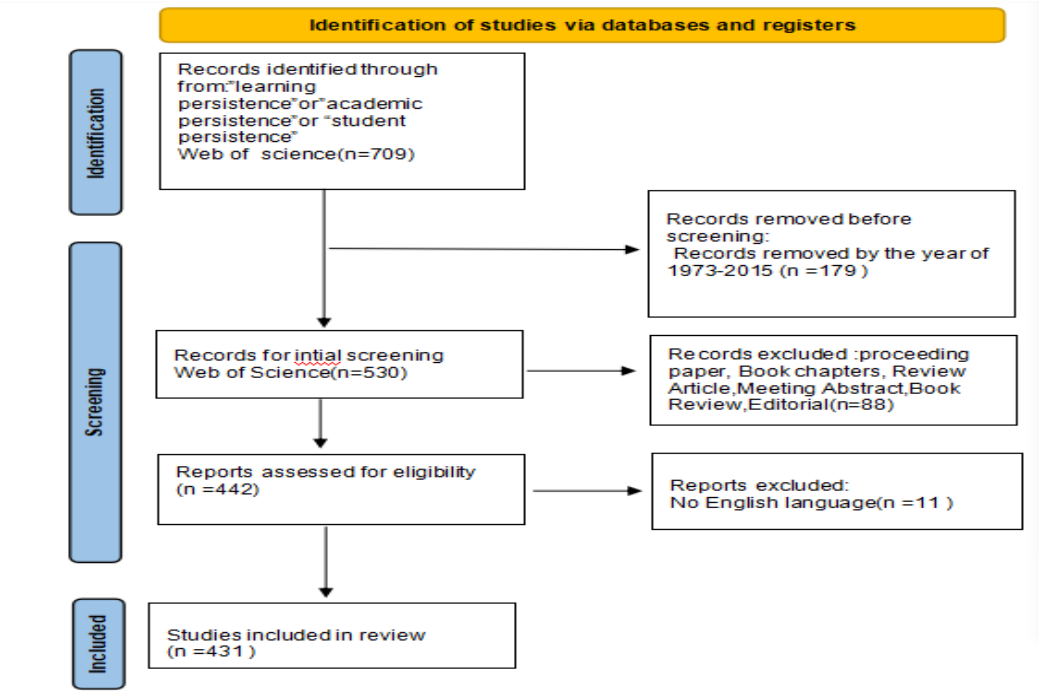

Figure 1 The Prisma framework reviewed in this paper

Results

Based on bibliometric methods, this section systematically analyzes the progress of research on learning persistence in the last decade. Through quantitative analysis of key topic areas,

publication trends, core journals, country/region contributions, academic institution distribution, high-producing authors, and research keywords, this study achieves three core objectives: (1) to reveal the development of student learning persistence research globally; (2) to identify country-level drivers influencing research in this field; and (3) to construct a macro knowledge map of learning persistence research that provides a panoramic frame of reference for future research.

Publications and Citations

As shown in Figure 2, the number of articles related to learning persistence has shown an uneven growth trend from 2015 to 2025. Notwithstanding short-term volatility in 2017–2018, the aggregate publication output exhibited sustained year-on-year expansion. In particular, the number of relevant documents has uninterrupted accumulation since the sudden surge in 2019, peaking in 2020, 2021, and 2022 with more than 60 publications each. 2023-2024 showed a slight slippage, but still showed an increasing trend compared to 2020. In terms of literature citations, there is an increasing trend from year to year. It peaked in 2024 at 1,346. This suggests that academic interest in learning persistence research is increasing, especially in recent years, and that related research is receiving widespread attention.

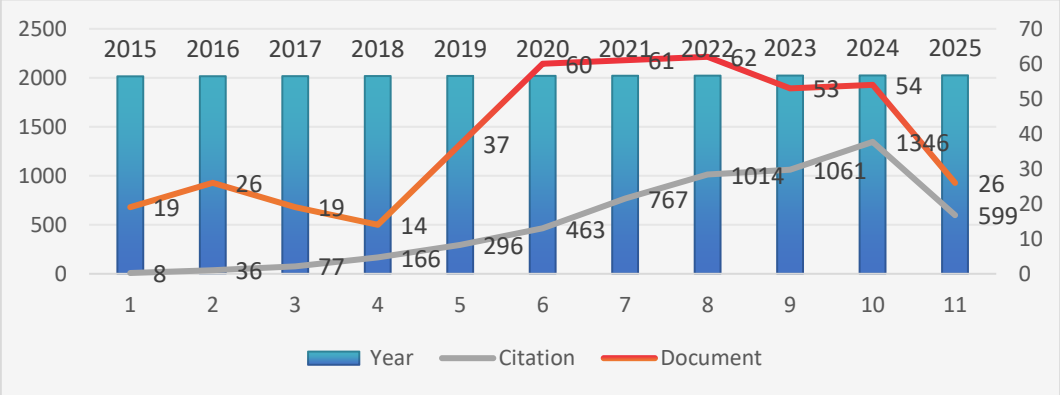

Figure 2: Year-by-year distribution of learning adherence literature

Categories of the Study

Table 2

Categories of the Study

Web of Science Categories	Record Count	% of 431
Education Educational Research	235	54.524
Education Scientific Disciplines	49	11.369
Psychology Educational	32	7.425
Psychology Social	26	6.032
Psychology Multidisciplinary	20	4.64
Psychology Applied	18	4.176
Engineering Multidisciplinary	16	3.712
Family Studies	11	2.552
Public Environmental Occupational Health	11	2.552
Social Sciences Interdisciplinary	11	2.552

Table 2 shows that the field of study with the largest number of publications on related topics is “Education Educational Research” with 235 publications. This is followed by “Educational Scientific Disciplines” with 49 publications. Within the field of Psychology, “Psychology Educational” had 32 publications, “Psychology Social” had 26 publications, and "Psychology Multidisciplinary" has 20 articles. The next major field is “Engineering Multidisciplinary” with 18 publications. The remaining three fields have 11 publications. Thus, “Educational Educational Research” has 54.524% of the publications, which shows that they are closely related to the key theme of this study.

Key Journal

Table 3

Key journal

Publication Titles	Record Count	% of 431
Journal of college student retention research theory practice	26	6.032
Cbe life sciences education	13	3.016
Journal of diversity in higher education	12	2.784
Journal of higher education	9	2.088
International Journal of engineering education	8	1.856
Research in higher education	8	1.856
Education sciences	7	1.624
Frontiers in psychology	7	1.624
International review of research in open and distributed learning	7	1.624
Frontiers in education	5	1.16

As shown in Table 3, 6% of the articles were published in the Journal of college student retention research theory practice. Of the 431 articles included in the analysis, 26 were published on. followed by Cbe life sciences education (3%), Journal of diversity in higher education (2.7%) and Journal of higher education (2%). International Journal of engineering education and Research in higher education both published 1.8 % of articles. Finally, Education sciences, Frontiers in psychology and International review of research in open and distributed learning are all published 1.6 % of articles.

Authors and Affiliations

Table 4

Ranking of Affiliations(top 10)

Affiliations	Record Count	% of 431
University of California system	22	5.104
State university system of Florida	17	3.944
California state university system	15	3.48
University of Wisconsin system	15	3.48
Pennsylvania commonwealth system of higher education Pcdshe	14	3.248
University system of OHIO	14	3.248
Arizona state university	12	2.784
Arizona state university Tempe	12	2.784
University of California Los Angeles	11	2.552
University of North Carolina	11	2.552

Regarding the production of each university, Table 4 shows that, three of the top 10 universities are from California: the University of California system, the California state university system, and the University of California Los Angeles.Two universities are from Arizona. Angeles.Two universities are from Arizona. Notably, the University of California system ranked first with 22 publications. Close behind is the State university system of Florida, with 17 publications.The California state university system and the University of Wisconsin system each had 15 publications.The University of North Carolina ranked 10th with 11 publications.

Ten Most Cited Papers

Table 5

Ten most cited papers

Author(s) and year	Study	Citations
Mica Estrada et al.（2016）	Improving Underrepresented Minority Student Persistence in STEM	354
Yeonji Jung and Jeongmin Lee（2018）	Learning Engagement and Persistence in Massive Open Online Courses (MOOCS)	332
Tang, Xin et al.（2019）	Building Grit: The Longitudinal Pathways between Mindset, Commitment, Grit, and Academic Outcomes	174
Pfund, Christine（2016）	Defining Attributes and Metrics of Effective Research Mentoring Relationships	139
Steven D. Brown, and Robert W. Lent （2019）	Social Cognitive Career Theory at 25: Progress in Studying the Domain Satisfaction and Career Self-Management Models	125
Samuelson, Cate C.and Litzler, Elizabeth(2016)	Community Cultural Wealth: An Assets-Based Approach to Persistence of Engineering Students of Color	107
Evans, Brent J. et al.(2016)	Persistence Patterns in Massive Open Online Courses (MOOCs)	106
Browman, Alexander S. et al.(2017)	Perceptions of socioeconomic mobility influence academic persistence among low socioeconomic status students	103
Hanauer, David I. et al.（2016）	A Measure of College Student Persistence in the Sciences (PITS)	99
Kizilcec Rene F.et al.(2020)	Scaling up behavioral science interventions in online education	83

The top 10 articles among the 431 publications, based on the number of citations generated as of 06 125 2025, are presented in Table 5.The analysis was performed by heading in the “Web of Science” database and tabulating the number of citations for each article.Mica Estrada et al. (2016) obtained the highest number of citations (345) out of the current 431 publications. They propose to consider why URM academic “pathways” lose more than White or Asian STEM students, and suggest a broader scope, with a greater focus on institutional barriers that need to be removed, as well as interventions that can “boost” students' interest, engagement, and ability to persist in STEM fields. It suggests a broader focus on institutional barriers that need to be removed and interventions that can “enhance” students' interest, engagement, and persistence in STEM fields. In addition, Yeonji Jung and Jeongmin Lee (2018) received the second highest number of citations (332) on the list. Using SEM with data from 306 Korean MOOC learners, this study modeled structural relationships among academic self-

efficacy, instructional presence, perceived usefulness (PU), perceived ease of use (PEOU), learning engagement, and persistence. The results showed that instructional presence and perceived ease of use had a direct effect on learning persistence; learning engagement played an indirect role between academic self-efficacy, instructional presence, perceived usefulness, and learning persistence. The third most cited study was conducted by Tang, Xin et al. (2019) and received 174 citations. This study was conducted in Finland and focused on the association between perseverance and achievement outcomes (i.e., academic performance and engagement). Findings indicated that the perseverance aspect of perseverance was associated with ninth grade academic achievement and engagement, and that goal commitment predicted perseverance but not sixth grade growth mindset. Perseverance of effort (rather than consistency of interest) mediated the effect of goal commitment on engagement.Pfund, Christine (2016) was the fourth most cited article. The study presents core attributes of effective mentorship relationships based on literature support and inspiration from a theoretical model of academic persistence. At the same time, the study describes existing and developing measures used to assess the effectiveness of these attributes across different groups of mentorship relationships and provides preliminary data on relevant indicators. The fifth most cited paper is Brown, Steven D and Lent, Robert W (2019) with 125 citations.G The study, in addition to reviewing existing research findings, the study identifies key directions for future research and applications. These directions have great potential, such as: conducting in-depth research on combinations of models that can shed more light on choice persistence; exploring the possibility of applying self-management models to study career development issues linked to other theories; and recognizing the central importance of applying theoretical guidance to enhance an individual's readiness to cope with future workplace uncertainty. The data show that most of the highly cited papers were published in 2016, with a total of five selected that year.

Learning Persistence Studies in Developed Countries

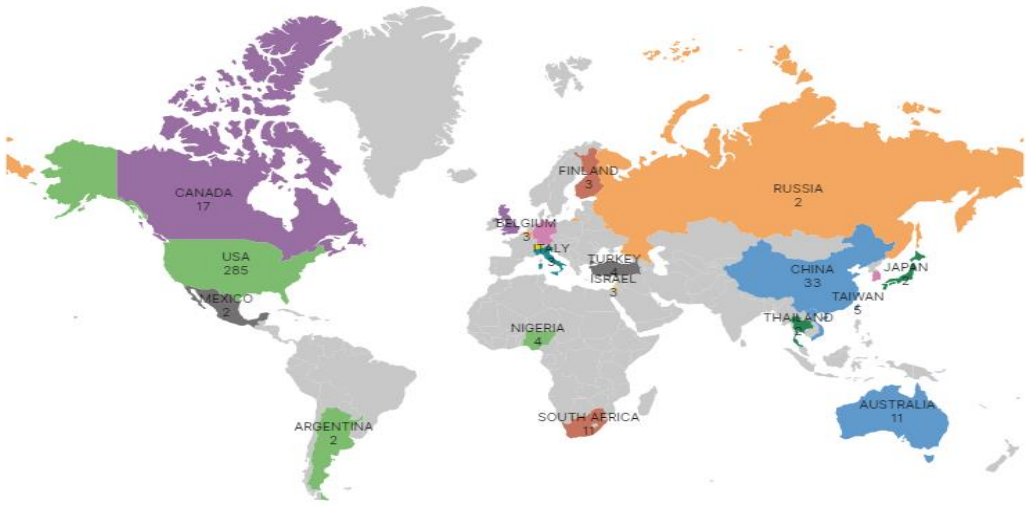

Figure 3 Map study based on student learning adherence to the highest countries

As can be seen in Figure 3, Scholarly publications examining learning persistence are disproportionately concentrated in the U.S. and China. The United States leads with 285

relevant publications, followed distantly by China (33).Canada ranks third with about 17 publications. Australia and South America follow. This graph shows the major contributors to research on student learning persistence around the world, with significant contributions from the United States and China in particular.

Learning persistence studies in National co-author relationships

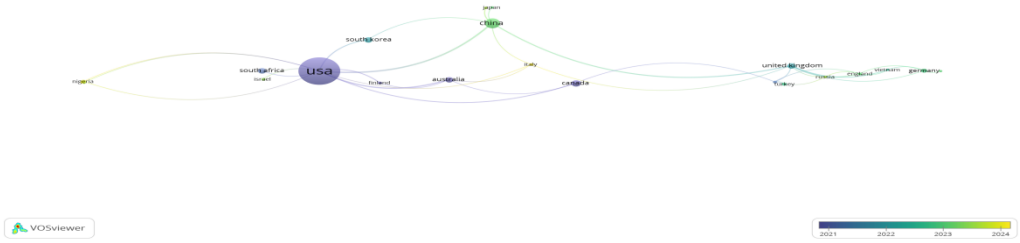

Figure 4 map based on relationships with national co-authors

Figure 4 shows the global collaboration on learning persistence in research, with the United States and China at the center of the collaboration. China, the United States, South Korea, and the United Kingdom have forged multilateral partnerships globally. This underscores their vital role in fostering interdisciplinary research collaboration, profoundly advancing innovation in the field.

Keywords Co-Occurrence

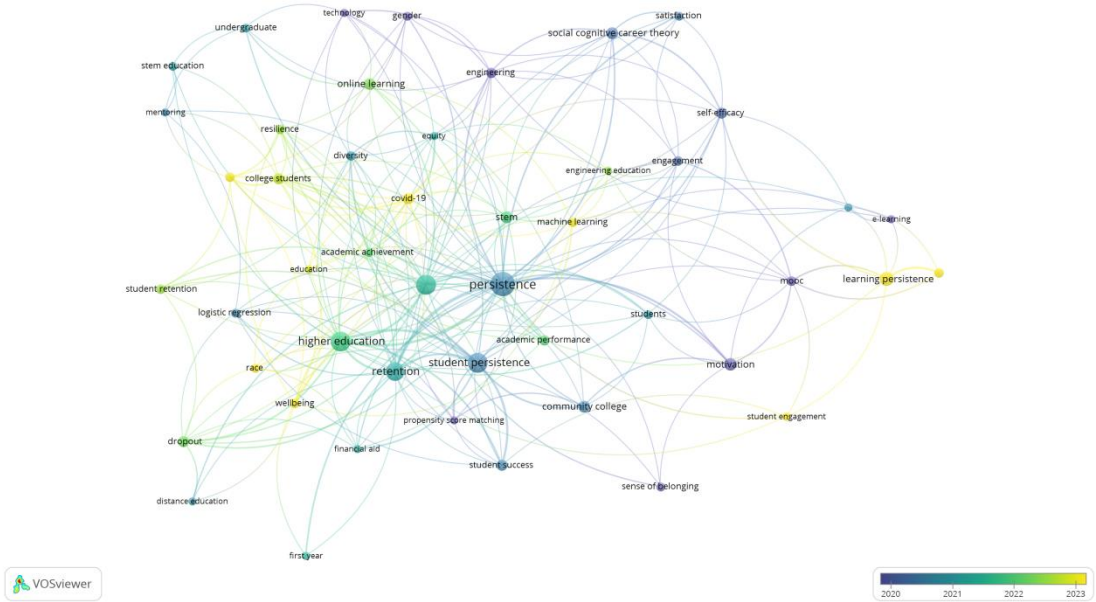

Figure 5 A map based on the relationship of co-occurrence with all keywords in learning persistence

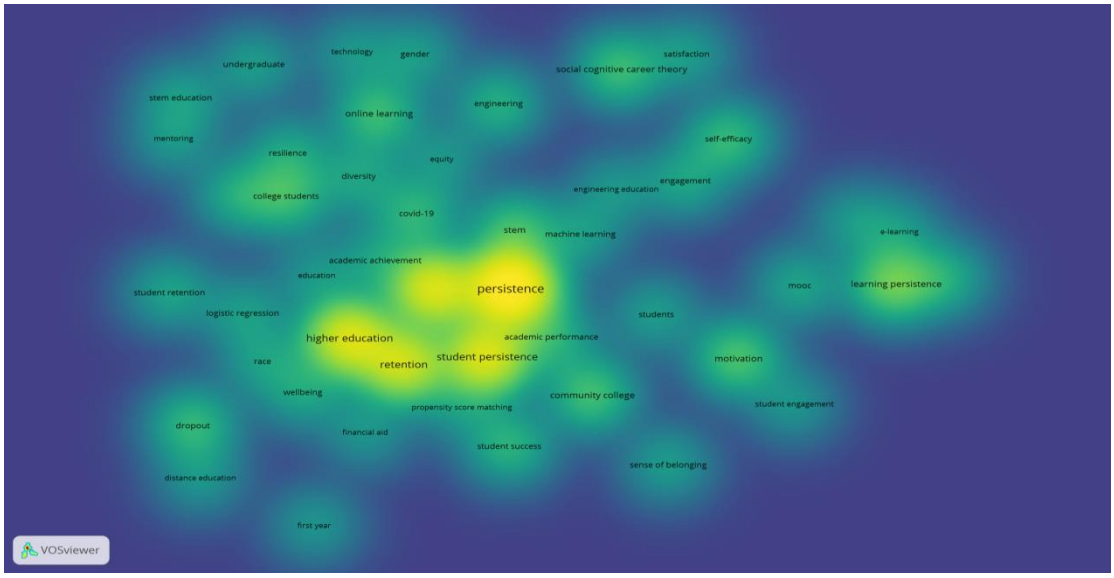

Figure 6 Density visualization

The analysis showed that frequently occurring keywords included “persistence ” (OC=63, TLS=82), “Academic persistence” (OC=39, TLS=43), “Student persistence” (OC=39, TLS=43), and “learning Persistence” (OC=18, TLS=15). where “retention” (OC=34, TLS=50), dropout (OC=11, TLS=19) “Covid-19” (OC=10, TLS=23). “student success” (OC=10, TLS=17), “mental health” (OC=8, TLS=15) indicate the underlying psychological factors that influence academic affect. In addition, “college students” (OC=11, TLS=18), “higher education” (OC=39, TLS=52) emphasized the level of higher education in the study's importance in the study. Figure 5 also shows that after 2023, the keywords for year heat are “college students”, “Covid-19”, “learning persistence”, “higher education” (OC=39, TLS=52), and “higher education” (OC=39, TLS=52), emphasizing the importance of higher education levels in research. “Persistence”, “mental health”, “machine learning”, “engagement”, “student engagement”, “race” “well-being." These are the ones that deserve the latest attention. As can be seen in Figure 6, more attention is paid to “Higher education”, “Retention”, “Persistence”, “Students persistence”. indicating that the research attention is focused on student persistence related to dropping out of school.

Analysis of author co-citation

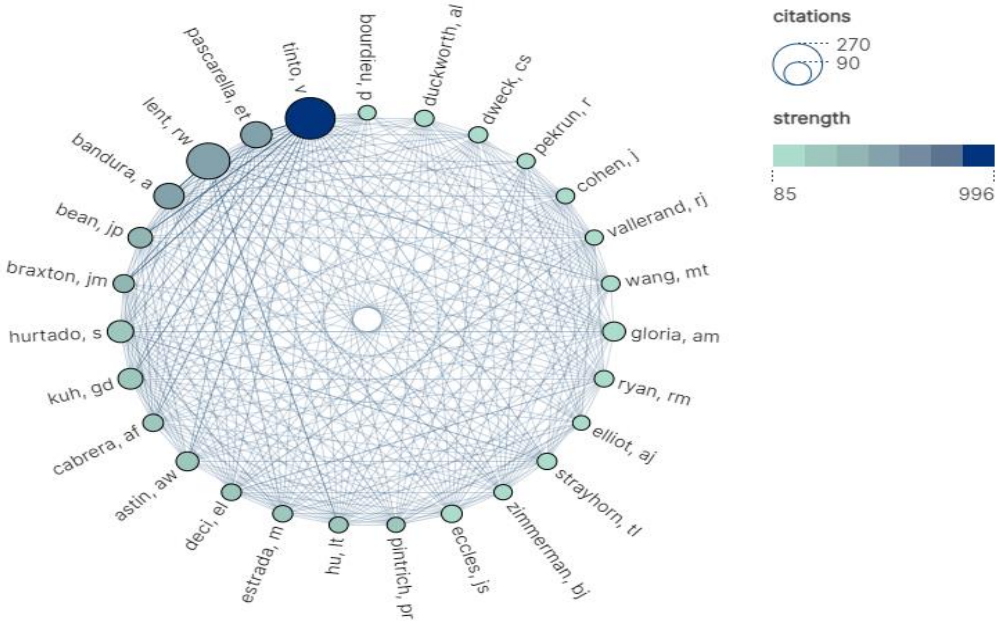

Figure 7 Author's co-citation analysis and chord diagrams

As can be seen in Figure 7, the top 10 scholars co-cited by authors are tinto,v (L=25, TLS=996),Pascarella,et(L=25,TLS=586),Lent,rw(L=24,TLS=583),bandura,a(L=25,TLS=554),bean,jp(L=22.TLS=392),braxon,jm(L=16,TLS=353),hurtado,s(L=24,TLS=337),kuh,gd(L=26,TLS=321),cabrera,af(L=23,TLS=274),astin,aw(L=20.TLS=231). Among them, by tinto,v it can be seen that his citation of the literature on dropout is stronger. Secondly, by Pascarella,et, the literature is concerned with social integration and academic integration. And by bandura,a it is known that more citations focus on Bandura's self-efficacy or social cognitive theory. Astin,aw focuses more on student engagement.

Discussion

This study conducted a bibliometric analysis of 431 papers on “learning persistence”. As shown in Figure 2, over the past 10 years, the number of papers on “learning persistence” has been increasing year by year starting from 2018, despite a decreasing trend from 2017 to 2018, and reaching a peak in the three years from 2020 to 2022, and a decreasing trend from 2023, with a sudden surge in the three years from 2020 to 2022. three years saw a sudden surge, and research on this growing trend suggests that the persistence of online learning was challenged after the sudden outbreak of the epidemic caused students to shift from face-to-face learning to online learning, indicating that online learning is not as effective as it should be (Jung & Lee, 2018). Learning persistence was also affected due to the fact that online learning may be influenced by online environments, interactive behaviors, academic mood (Yu et al., 2020), emotional engagement (Yu et al., 2020), psychological needs, and intrinsic motivation (Pelikan et al., 2021). In addition, more scholars have focused on the relationship between self-efficacy (Tang et al., 2021; You, 2018; Milner & Hoy, 2003) and learning persistence.

A study based on the year-to-year distribution of learning persistence literature and a map of the countries with the highest learning persistence found that while there has been a growth in publications on learning persistence over the past decade, the scope of the research has only been concentrated in focusing on the U.S. and China, with fewer publications from other countries. The chart of authors and organizations also shows that three of the top 10 universities are from California, with a total of 48 publications. Of these, the University of California system published 22 papers, suggesting that persistence or dropout is a concern at this school. It is possible that this is because learning persistence in US colleges and universities has been a topic of research for more than 50 years, and therefore most of the research on student persistence has been sampled in the US (Huerta-Manzanilla et al., 2020) . However, dropout behavior occurs in every country and other countries should expand their own research based on previous studies.

Based on the keyword co-occurrence mapping in the field of learning persistence, it can be found that the focus of research since the last 10 years has been mainly centered on“Academic persistence” ,“Student persistence”, “retention”, “student retention”, “dropout”,“student success”, “satisfaction”, “academic performance”, “academic achievement”, “distance education”, “mental health”, “online learning”, “self-efficacy”, “motivation”, “community college”, “college students”, “higher education”, “undergraduate”, “Covid-19“, “mooc”, “Machine learning”, “fiancial,aid”, “machine learning”, “engagement”, “student engagement”, “engineering”, “engineering education”, “social cognitive career theory”etc. From the keywords, the main topics related to learning persistence are“dropout”，“retention”，“student retention”. And closely related to“ learning persistence” is “student success”, “satisfaction”, “academic performance”, ”academic achievement”, “mental health”, “self-efficacy”, ”motivation”, “fiancial,aid”, “engagement”, “student engagement”.

Research has shown that learning persistence influences student success (Tinto, 2017) or academic achievement (Tang et al., 2020). Satisfaction directly affects persistence and predicts college persistence (Russell et al., 2022), and students achieve higher “academic performance” by increasing persistence (Andrade et al., 2020). In addition, a certain degree of mental health, which contributes to their academic persistence helps them to graduate successfully (Ervi Rahmadani et al., 2022). Self-efficacy is positively correlated with academic persistence (Nordhus et al., 2022). Higher motivation to learn produces subsequent greater persistence and vice versa (Wu et al., 2024). Fiancial,aid has a positive relationship with persistence, and the provision of even small amounts of financial aid to students with high financial need is associated with positively influencing their persistence (Qayyum et al., 2018), and students' engagement is an important antecedent of academic persistence (Yu, Huang, Wang, et al., 2020). And Social Cognitive Career Theory (SCCT) has been widely validated as a goal persistence model (Wu, Kundu, et al., 2022). For example, Her and Thompson (2021) used Social Cognitive Career Theory to understand how contextual variables affect the willingness of students of color to continue to college. Findings from a study of 329 students of color revealed that self-efficacy for self-regulated learning was positively related to willingness to persist in college. Additionally, self-efficacy in self-regulated learning mediated perceived social status and persistence in the intentions of a sample of college students of color.

In addition, “Covid-19”, “distance education”, “online learning”, “mooc”and “Machine learning" are more researched in these years. The research trend has also shifted from dropout and offline learning persistence to “distance learning”, “online learning” participation and persistence, and at this time, “MOOC” and “Machine learning” forms of learning have also been used to study the relationship with learning persistence. At this time, “MOOC” and “machine learning” forms of learning are also being used to study the relationship with learning persistence. Among the top 10 most cited publications, there are two studies on “Mooc” with 332 and 106 citations respectively, indicating that the relationship between online learning persistence has been widely studied in the form of “Mooc”.

In past studies, it is clear from “engineering”, “engineering education” that more studies have focused on the field of “engineering”, which may be the reason why learning in the field of “engineering” is more difficult and thus harder for students to persist. From“community college”, “college students”, “higher education”, “undergraduate”, “university” and “college students”, it is possible that students are more likely to study in the field of “engineering”. “undergraduate”, research on learning persistence has focused more on university students in higher education. Among the top 10 key journals, 4 journals are about higher education, which also shows that scholars' research on learning persistence focuses more on higher education. There is slightly less research on primary and secondary school groups. However, across the globe, dropout occurs not only among college students, but also among primary and secondary school students. Earlier intervention in their engagement and learning persistence can increase students' satisfaction with learning, which can lead to improved performance and academic achievement.

Limitations

The bibliometric analysis of this study has the following limitations: first, the data source is limited to the Web of Science database, which may not comprehensively cover the entire literature in the field of learning persistence research. Second, the analysis only included published literature in English and excluded research findings in other languages. In addition, the time frame of the studies was limited to January 2015 to June 2025, and possible new developments in the field since then were not included. Despite our efforts to ensure a broad search strategy to capture diverse perspectives, it was not possible to ensure that all relevant studies were included in the analysis.

Conclusion

This bibliometric analysis aimed at the academic context of learning persistence and retrieved 431 papers from the Web of Science database. The study revealed that research on learning persistence has shown an uneven growth trend over the past decade. Since the sudden surge in 2019, the number of relevant papers has steadily increased, peaking in 2020-2022, which should be attributed to the influence of the COVID-19 pandemic, where scholars have paid extensive attention to online learning persistence. Although a small amount of slippage begins in 2023, the number of studies is also higher than before 2019. This suggests that researchers' interest in the study still exists.

This study identifies the most influential publications, countries, research areas, research institutions and researchers. Of these, the United States and China are the main contributors

to learning persistence research, which figure in addition to the lack of research in other countries. China, the United States, South Korea and the United kingdom have established close links with many countries, including England.

Key research themes and trends are analyzed across a wide range of disciplines, including educational research, educational sciences, psychology, engineering, public environment, and interdisciplinary social sciences. The research area focuses on Education Educational Research. “Journal of college student retention research theory practice” has become an important publication platform. "The University of California system” is the most important research organization.

Keyword analysis highlight score themes such as “retention”, “dropout”, “academic achievement”, “distance education”, “mental health”, “online learning”, “self-efficacy”, “motivation”, “college students”, “higher education”, “Covid-19”, “fiancial,aid”, “engagement”, “student engagement”, “engineering”, “social cognitive career theory”.

Further research on learning persistence should focus on its long-term impact on social outcomes, not only in areas that have been studied in depth, but also in areas that have not been fully explored. Additionally, future research could explore more about groups outside of higher education and examine how these groups contribute to learning persistence and academic growth. The current bibliometric analysis not only captures and demonstrates necessary advances in learning persistence research, but also provides practical and valuable insights into theory and practice. This emphasizes the importance of future theoretical development and practice so that learning persistence can address future education and challenges.

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