

## **Student Resilience in Higher Education: A Research Trend Analysis**

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### **Abstract**

Student resilience has emerged as a critical construct in higher education, particularly in response to increasing academic pressure, mental health challenges, and global disruptions affecting university students. Despite the growing volume of research, a comprehensive overview of the intellectual structure, thematic evolution, and global research patterns in this field remains limited. Therefore, this study aims to systematically examine research trends on student resilience in higher education through a bibliometric analysis. Data were collected using Scopus Advanced Search by applying relevant keywords, including student resilience, academic resilience, higher education, and university students. Following a rigorous screening process, a final dataset of 834 journal articles published between 2015 and 2025 was obtained. Scopus Analyzer was employed to examine publication trends, document distribution, and country contributions, while OpenRefine was used to clean and harmonize bibliographic data to ensure accuracy and consistency. Subsequently, VOSviewer software was utilized to visualize co-authorship networks, keyword co-occurrence patterns, and thematic clusters within the literature. The findings reveal a significant and accelerating growth in publications over the past decade, with a sharp increase observed after 2020, reflecting heightened scholarly attention to student mental health and adaptability, particularly during the COVID-19 pandemic. The United States, the United Kingdom, and Australia emerged as the leading contributors, while keyword co-occurrence analysis identified mental health, stress, academic success, and student well-being as dominant and interconnected research themes. The results also highlight the interdisciplinary nature of student resilience research, spanning educational psychology, health sciences, and pedagogical studies. Overall, this bibliometric analysis provides a comprehensive overview of the knowledge structure and global research landscape of student resilience in higher education, offering valuable insights for researchers, educators, and policymakers, and identifying future directions for advancing resilience-focused research and practice in higher education settings.

**Keywords:** Student Resilience, Academic Resilience, Higher Education, University Students.

### **Abstrak**

Ketahanan mahasiswa telah muncul sebagai konstruk penting dalam pendidikan tinggi, khususnya sebagai respons terhadap meningkatnya tekanan akademis, tantangan kesehatan mental, dan gangguan global yang memengaruhi mahasiswa universitas. Terlepas dari meningkatnya volume penelitian, tinjauan komprehensif tentang struktur intelektual, evolusi tematik, dan pola penelitian global di bidang ini masih terbatas. Oleh karena itu, studi ini bertujuan untuk secara sistematis meneliti tren penelitian tentang ketahanan mahasiswa di pendidikan tinggi melalui analisis bibliometrik. Data dikumpulkan menggunakan Pencarian Lanjutan Scopus dengan menerapkan kata kunci yang relevan, termasuk ketahanan mahasiswa, ketahanan akademis, pendidikan tinggi, dan mahasiswa universitas. Setelah proses penyaringan yang ketat, diperoleh dataset akhir sebanyak 834 artikel jurnal yang diterbitkan antara tahun 2015 dan 2025. Scopus Analyzer digunakan untuk memeriksa tren publikasi, distribusi dokumen, dan kontribusi negara, sementara OpenRefine digunakan untuk membersihkan dan menyelaraskan data bibliografi untuk memastikan keakuratan dan konsistensi. Selanjutnya, perangkat lunak VOSviewer digunakan untuk memvisualisasikan jaringan kepenulisan bersama, pola kemunculan bersama kata kunci, dan kluster tematik dalam literatur. Temuan ini mengungkapkan pertumbuhan publikasi yang signifikan dan semakin cepat selama dekade terakhir, dengan peningkatan tajam yang diamati setelah tahun 2020, yang mencerminkan peningkatan perhatian ilmiah terhadap kesehatan mental dan kemampuan beradaptasi mahasiswa, khususnya selama pandemi COVID-19. Amerika Serikat, Inggris Raya, dan Australia muncul sebagai kontributor utama, sementara analisis kemunculan bersama kata kunci mengidentifikasi kesehatan mental, stres, keberhasilan akademik, dan kesejahteraan mahasiswa sebagai tema penelitian yang dominan dan saling terkait. Hasil ini juga menyoroti sifat interdisipliner penelitian ketahanan mahasiswa, yang mencakup psikologi pendidikan, ilmu kesehatan, dan studi pedagogis. Secara keseluruhan, analisis bibliometrik ini memberikan gambaran komprehensif tentang struktur pengetahuan dan lanskap penelitian global tentang ketahanan mahasiswa di pendidikan tinggi, menawarkan

wawasan berharga bagi peneliti, pendidik, dan pembuat kebijakan, serta mengidentifikasi arah masa depan untuk memajukan penelitian dan praktik yang berfokus pada ketahanan di lingkungan pendidikan tinggi.

Kata kunci: Ketahanan Mahasiswa, Ketahanan Akademik, Pendidikan Tinggi, Mahasiswa Universitas.

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## INTRODUCTION

Student resilience in higher education has emerged as a critical area of research, particularly in the context of increasing academic pressures, mental health challenges, and the recent disruptions caused by the COVID-19 pandemic. Resilience, broadly defined as the ability to adapt and thrive in the face of adversity, is essential for students to navigate the complex and often stressful environment of higher education. This concept encompasses various dimensions, including emotional stability, adaptability, and the capacity to maintain academic performance despite challenges. The significance of resilience extends beyond individual student success; it is also a shared responsibility among students, educators, institutions, and communities (Willems & Reupert, 2013) (Mahon et al., 2024). Understanding and fostering resilience in higher education can lead to improved student well-being, higher retention rates, and better academic outcomes (Durso et al., 2021) (Brewer et al., 2019).

The concept of resilience in higher education is multifaceted and has been explored from various perspectives. One significant aspect is the role of personal and contextual factors in shaping student resilience. Research indicates that resilience is influenced by individual characteristics such as adaptability, self-control, and personal organization, as well as external factors like family support, faculty relationships, and peer integration (Durso et al., 2021). These factors collectively help students manage stress and adversity, contributing to their overall academic success and well-being.

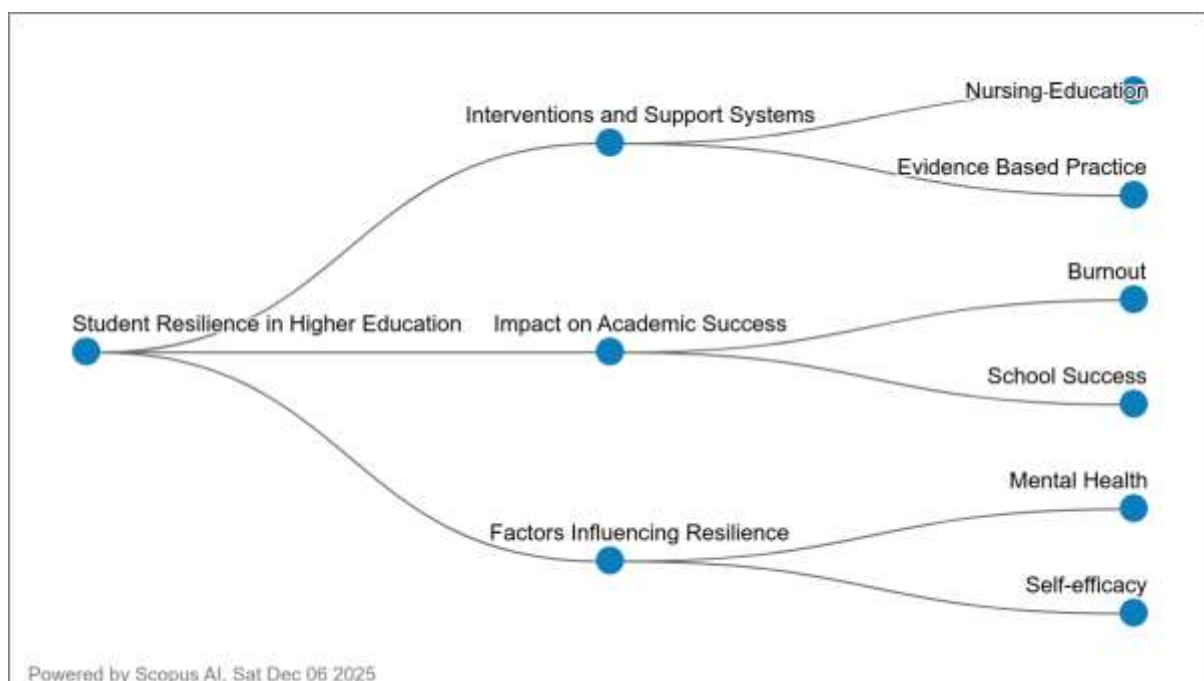
Another critical dimension of resilience is its relationship with student well-being and mental health. Studies have shown that resilience significantly enhances psychological well-being, reducing distress factors such as anxiety and depression (Sholichatun et al., 2025). The development of resilience is linked to positive psychological outcomes, including life satisfaction and emotional regulation, which are crucial for maintaining academic performance and personal growth (Bagdžiūnienė et al., 2025). The COVID-19 pandemic has further highlighted the importance of resilience, as students faced unprecedented challenges that tested their ability to adapt and thrive in a rapidly changing educational landscape (Engelberg, 2022) (Awais et al., 2024).

The role of educational institutions in fostering resilience is also a key area of focus. Institutions can support resilience through various means, including creating a supportive learning environment, providing access to mental health resources, and integrating resilience-building programs into the curriculum (Brewer et al., 2019) (Winters, 2022). For instance, the development of the Academic Resilience Model (ARM) provides a framework for understanding the sources of stress and protective

mechanisms that influence student resilience (Durso et al., 2021). Additionally, the implementation of resilience-focused interventions, such as the Thriving Students Framework, has been shown to improve student well-being and academic outcomes (Allen & Kannangara, 2024).

Despite the growing recognition of the importance of resilience, there are ongoing debates about its conceptualization and measurement. Some researchers argue that resilience should not be viewed solely as an individual trait but as an ecological construct involving multiple stakeholders (Willems & Reupert, 2013) (Mahon et al., 2024). This perspective emphasizes the need for a holistic approach to resilience that considers the broader social and institutional context. Moreover, there are calls for more equitable support systems that do not place the burden of resilience solely on students, particularly those from minority or disadvantaged backgrounds (Mahon et al., 2024).

In conclusion, the literature on student resilience in higher education underscores its critical role in promoting student well-being, academic success, and retention. The development of resilience is influenced by a complex interplay of personal, contextual, and institutional factors. As higher education continues to evolve, particularly in the wake of global challenges such as the COVID-19 pandemic, fostering resilience will remain a key priority for educators and policymakers. Future research should continue to explore innovative strategies for building resilience and address the conceptual and methodological challenges in this field.



**Figure 1.** Conceptual Framework of Student Resilience in Higher Education

Figure 1 presents a conceptual overview of research trends on student resilience in higher education, highlighting three interconnected thematic domains: factors influencing resilience, interventions and support systems, and the impact of resilience on academic success. Existing studies indicate that student resilience is strongly shaped by psychological and contextual factors such as mental health, self-efficacy, and coping capacity, which influence students' ability to adapt to academic

challenges. Research also increasingly emphasizes the role of structured interventions and institutional support systems, particularly within professional fields such as nursing education, where evidence-based practices are used to strengthen resilience and reduce burnout. Furthermore, resilient students are consistently associated with positive academic outcomes, including improved school success, persistence, and overall academic performance. Collectively, these trends demonstrate a growing scholarly focus on resilience as a multidimensional construct that bridges psychological well-being, educational practices, and student achievement. This research trend analysis underscores the importance of integrating resilience-building strategies into higher education policies and pedagogical approaches, while also identifying opportunities for future research to further examine holistic, evidence-informed interventions that support sustainable student success.

The research question, together with the purpose, expected outcomes, and target audience, guides how data are found, collected, and presented. In this paper, the aim to answer several key questions:

RQ1: What are the research trends in these studies according to the year of publication?

RQ2: Which are the top 10 most cited articles in this area of study?

RQ3: Which countries rank in the top 10 based on the number of publications?

RQ4: What are the popular keywords related to the study?

RQ5: What is co-authorship by countries' collaboration?

## **METHOD**

Bibliometrics means the combination, managing and investigation of bibliographic information obtained from publications which are scientific in nature (Verbeek et al., 2002). Along with general descriptive statistics, such as, publishing journals, publication year and main author classification (Wu and Wu, 2017); it also comprises complex techniques, such as, document co-citation analysis. An iterative sequence of suitable keywords, literature search and analysis are required for an effective review of literature, bibliography building and achieving reliable results, respectively (Fahimnia et al., 2015). The following section entails search term adoption, initial search result screening and search result refinement. Journals which specify Clarivate Analytics Journal Citation Reports (JCR) impact factor indicate high quality of the journal (Meier, 2011). Hence, the study tried to restrict to top-tier publication as they may assist in understanding the theoretical perspective regarding the mevolution of research domain. For the reasons mentioned earlier the study depended on Thomas ISI Web of Science (WoS) database for data collection (Di Stefano et al., 2010; Tan et al., 2014). Furthermore, to guarantee the inclusion of top-tier publications, only articles published in carefully peer-reviewed and high-quality academic journals were considered to the exclusion of books and conference proceedings (Liu et al., 2015). WoS, unlike Elsevier's Scopus, has a strong coverage since 1990. Scopus includes large quantity of journals, but themimpact is restricted to recent articles (Aghaei Chadegani et al., 2013). Social Science Citation Index (SSCI), Science Citation Index Expanded and Arts and Humanities Citation Index articles from 2010 to December 2020 were explored for analysis. The most widespread ,overage

of citation and bibliographic records in social science and humanities are included in Clarivate Analytics' WoS Core Collection and was, therefore, implemented for retrieval of articles in the present study (Aghaei Chadegani et al., 2013; Olijnyk, 2015).

### **Data search strategy**

To retrieve relevant bibliographic data for this research trend analysis, a systematic search was conducted using the Scopus Advanced Search database, selected due to its extensive coverage of high-quality, peer-reviewed scholarly publications. The detailed search strategy and Boolean search string applied in this study are presented in Table 1. The search query was designed to capture publications focusing on student resilience and academic resilience within higher education contexts, specifically targeting university students. To ensure the relevance and timeliness of the retrieved literature, the search was limited to publications published between 2015 and 2025, written in English, and indexed in Scopus at the time of access in December 2025. Following the initial data retrieval, a screening process was conducted based on predefined inclusion and exclusion criteria, as summarized in Table 2. Only journal articles were included to ensure methodological rigor and originality, while conference proceedings, books, book chapters, and review papers were excluded to avoid redundancy and secondary interpretations. Publications at the final and in-press stages were retained to reflect the most current research output. Additionally, the subject areas were restricted to Environmental Science, Energy, and Social Sciences, with a particular emphasis on Social Sciences due to its relevance to educational psychology and student development research. Articles falling outside these subject areas were excluded to maintain thematic consistency. After applying all selection criteria and removing irrelevant records, duplicates, and non-compliant documents, a final dataset comprising 834 journal articles was obtained. This refined dataset provides a robust foundation for subsequent bibliometric analyses, including publication trend analysis, keyword co-occurrence mapping, and thematic evolution, ensuring the reliability and transparency of the research trend analysis.

**Table 1.** The search string.

<b>Scopus</b>	<b>TITLE-ABS-KEY ( TITLE-ABS-KEY ( student resilience AND academic resilience OR higher education AND university students ) ) AND PUBYEAR &gt; 2015 AND PUBYEAR &lt; 2025 AND ( LIMIT-TO ( LANGUAGE , "English" ) )</b>
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**Table 2.** The selection criterion is searching

<b>Criterion</b>	<b>Inclusion</b>	<b>Exclusion</b>
<b>Language</b>	English	Non-English
<b>Time line</b>	2015 – 2025	< 2025
<b>Literature type</b>	Journal (Article)	None
<b>Publication Stage</b>	Final In Press	None

### **Data analysis**

Data sets containing the study publication year, publication title, author name, journal, citation and keyword in PlainText format were acquired from WoS database covering the period 2010 to

December 2020 and was analysed in VOSviewer software version 1.6.15. This software was utilized for analysis and formation of maps by employing the VOS clustering and mapping methods. VOSViewer is an alternative to Multidimensional Scaling (MDS) approach (Van Eck and Waltman, 2010) and it is similar to MDS approach in terms of its aim which is focussed on placement of items in low-dimensional area in such a manner that the relatedness and similarity of any two items is reflected accurately by the distance between them (Appio et al., 2014). Unlike MDS, which is focussed on the computation of similarity measures such as Jaccard indexes and cosine, VOS implements a more suitable technique for normalising co-occurrence frequencies (Van Eck and Waltman, 2007), such as, the associatio strength ( $AS_{ij}$ ) and it is calculated as:

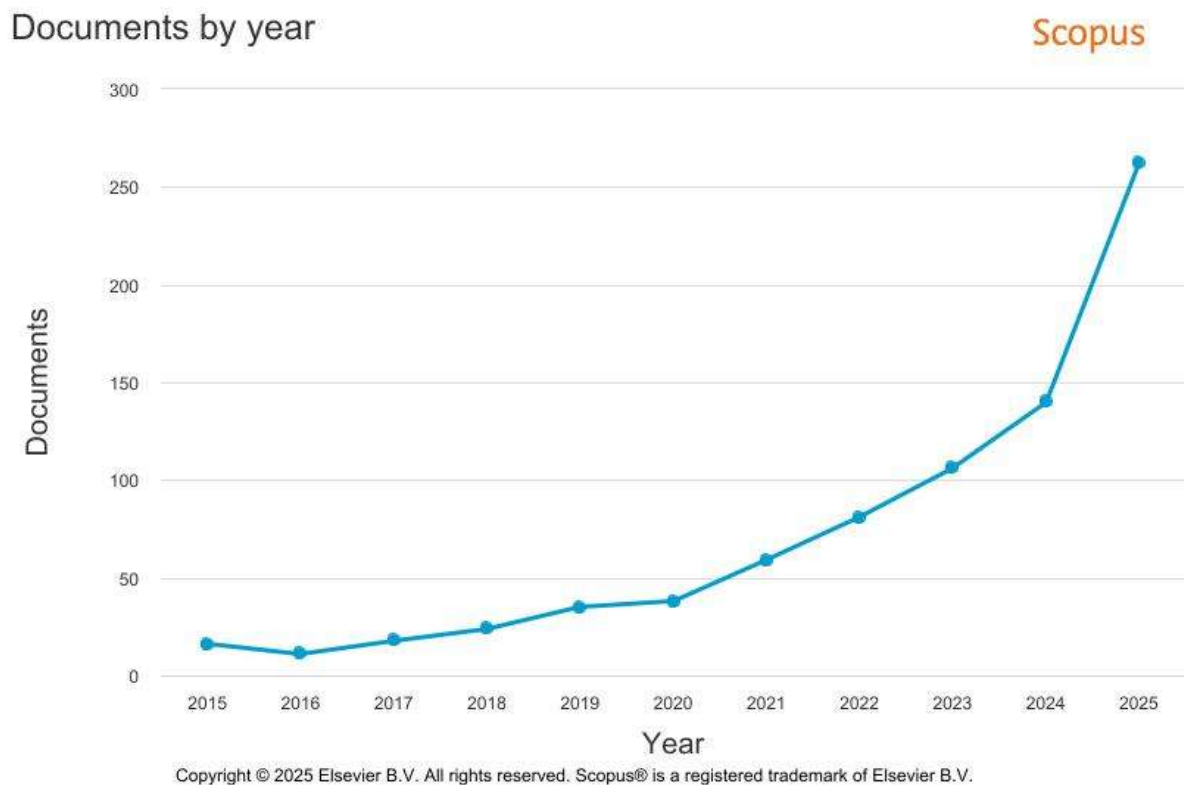
$$AS_{ij} = \frac{C_{ij}}{w_i w_j}$$

which is “proportional to the ratio between on the one hand the observed number of cooccurrences of  $i$  and  $j$  and on the other hand the expected number of co-occurrences of  $i$  and  $j$  under the assumption that co-occurrences of  $i$  and  $j$  are statistically independent” (Van Eck and Waltman, 2010, p. 531). Hence, with help of this index, VOSviewer places items in the form of a map after reducing the weighted sum of the squared distances between all item pairs. According to Appio et al. (2016), the LinLog/modularity normalization was implemented. Furthermore, by applying visualisation techniques through VOSviewer to the data set, patterns built on mathematical relationships were uncovered and analyses such as keyword co-occurrence, citation analysis and co-citation analysis were performed.

Hence, with help of this index, VOSviewer places items in the form of a map after reducing the weighted sum of the squared distances between all item pairs. According to Appio et al. (2016), the LinLog/modularity normalization was implemented. Furthermore, by applying visualisation techniques through VOSviewer to the data set, patterns built on mathematical relationships were uncovered and analyses such as keyword co-occurrence, citation analysis and co-citation analysis were performed. Development of research area during a period can be explored by keyword co-occurrence analysis (Zhao, 2017) and is successful in identifying popular topics in different fields (Li et al., 2016). Whereas, citation analysis is useful in identifying key research issues, trends and techniques, along with exploring the historical relevance of a discipline’s main area of focus (Allahverdiyev and Yucesoy, 2017). Document co-citation analysis is one of the frequently applied bibliometric methods (Appio et al., 2016; Fahimnia et al., 2015; Liu et al., 2015) and its result is map dependent on the network theory to identify relevant structure of data (Liu et al., 2015).

## **RESULTS AND DISCUSSION**

**RQ1:** What are the research trends in this studies according to the year of publication?



**Figure 2.** Annual Publication Trends on Student Resilience in Higher Education (2015–2025)

Figure 2 illustrates the annual publication trends on Student Resilience in Higher Education from 2015 to 2025, revealing a clear and accelerating growth pattern in scholarly output. As shown in Figure 2, the number of publications remained relatively modest between 2015 and 2018, ranging from 11 to 24 documents per year, indicating that student resilience was still an emerging research area during this period. From 2019 to 2020, a gradual increase is observed, with publications rising from 35 to 38, suggesting a growing awareness of resilience as an important construct within higher education research. This steady upward trend reflects early efforts to conceptualize resilience and examine its relationship with academic adjustment, psychological well-being, and student engagement.

A substantial surge in publications is evident from 2021 onwards, as depicted in Figure 2, with research output increasing sharply from 59 documents in 2021 to a peak of 262 documents in 2025. This pronounced growth can be largely attributed to the global disruption caused by the COVID-19 pandemic, which intensified academic stress, uncertainty, and mental health challenges among university students. Consequently, researchers increasingly focused on resilience as a critical protective factor supporting students' adaptability, persistence, and academic success in online and hybrid learning environments. The notable rise in publications during 2024 and 2025 also suggests the maturation of this research domain, marked by more interdisciplinary approaches, institutional-level analyses, and evidence-based intervention studies. Overall, Figure 2 highlights student resilience as a rapidly expanding and sustained research focus in higher education, driven by evolving educational challenges and a growing emphasis on holistic student well-being.

**Table 3.** Yearly Distribution of Publications on Student Resilience in Higher Education (2015–2025)

YEAR	Total Publications
2025	262
2024	140
2023	106
2022	81
2021	59
2020	38
2019	35
2018	24
2017	18
2016	11
2015	16

Table 3 shows the number of publications on Student Resilience in Higher Education published annually between 2015 and 2025. The results indicate a clear upward trend in research output over the observed period, demonstrating the growing scholarly interest in this topic. A total of 790 publications were recorded, with relatively low publication numbers in the early years, ranging from 11 publications in 2016 (1.39%) to 24 publications in 2018 (3.04%). In 2015, 16 articles were published, representing 2.03% of the total publications, followed by 18 publications in 2017 (2.28%). A gradual increase is observed from 2019 onwards, with 35 publications in 2019 (4.43%) and 38 publications in 2020 (4.81%). The growth became more pronounced after 2021, with 59 publications in 2021 (7.47%) and 81 publications in 2022 (10.25%). This upward momentum continued in 2023 and 2024, with 106 publications (13.42%) and 140 publications (17.72%), respectively. Notably, 2025 recorded the highest number of publications at 262, accounting for 33.16% of the total output. Overall, the findings suggest that research on student resilience in higher education has expanded significantly in recent years, reflecting increasing academic and institutional concern for student well-being, adaptability, and academic success.

**RQ2:** What are the most top 10 cited articles?

**Table 4.** Highly Cited Publications in Student Resilience Research

Authors	Title	Year	Cited by
(Slavin et al., 2014)	The mental health of university students during the COVID-19 pandemic: An online survey in the UK	2022	252
(Lai et al., 2020)	Mental Health Impacts of the COVID-19 Pandemic on International University Students, Related Stressors, and Coping Strategies	2020	162
(Bono et al., 2020)	Stress and wellbeing in urban college students in the u.S. during the covid-19 pandemic: Can grit and gratitude help?	2020	146
(Chow et al., 2018)	Resilience and well-being of university nursing students in Hong Kong: A cross-sectional study	2018	146
(Beauvais et al., 2014)	Factors related to academic success among nursing students: A descriptive correlational research study	2014	155
(Slavin et al., 2014)	Medical student mental health 3.0: Improving student wellness through curricular changes	2014	338
(Hartley, 2011)	Examining the relationships between resilience, mental health, and academic persistence in undergraduate college students	2011	218



(Obradović et al., 2009)	Academic achievement of homeless and highly mobile children in an urban school district: Longitudinal evidence on risk, growth, and resilience	2009	176
Le Cornu, R.	Building resilience in pre-service teachers	2009	167
(Nota et al., 2004)	Self-regulation and academic achievement and resilience: A longitudinal study	2004	269

As shown in Table 4, the top 10 cited articles reveal that research on student resilience in higher education is strongly anchored in the intersection of mental health, academic persistence, and student well-being, with both foundational and crisis-driven studies exerting substantial scholarly influence. The most highly cited work, Slavin et al. (2014) with 338 citations, emphasizes the importance of systemic and curricular interventions in improving medical student mental health, reflecting early recognition of resilience as an institutional responsibility rather than solely an individual attribute. Similarly, foundational studies by Nota et al. (2004) and Hartley (2011), with 269 and 218 citations respectively, established robust empirical links between resilience, self-regulation, mental health, and academic persistence. These seminal works continue to shape contemporary scholarship due to their strong theoretical grounding, longitudinal research designs, and broad applicability across higher education contexts. The prominence of studies focusing on nursing and medical education further highlights the critical role of resilience in high-pressure professional training environments.

Table 4 also illustrates that more recent highly cited publications, particularly those published between 2020 and 2022, reflect a strong scholarly response to the COVID-19 pandemic, which significantly disrupted higher education systems worldwide. Studies by Slavin et al. (2022), Lai et al. (2020), and Bono et al. (2020) attracted substantial citations due to their timely focus on student mental health challenges, stressors, and coping strategies during an unprecedented global crisis. These articles gained visibility because they addressed urgent, globally shared concerns, utilized diverse or large-scale samples, and provided practical implications for institutional support and resilience-building interventions. In addition, cross-cultural and contextual studies such as Chow et al. (2018) and Obradović et al. (2009) expanded the scope of resilience research by demonstrating its relevance across different populations and socio-economic conditions. Overall, the patterns shown in Table 4 suggest that the most influential studies in this field are those that integrate strong theoretical foundations,

methodological rigor, and contextual relevance, particularly during periods of heightened academic and psychological stress.

**RQ3:** Where are the top 10 countries based on number of publications?



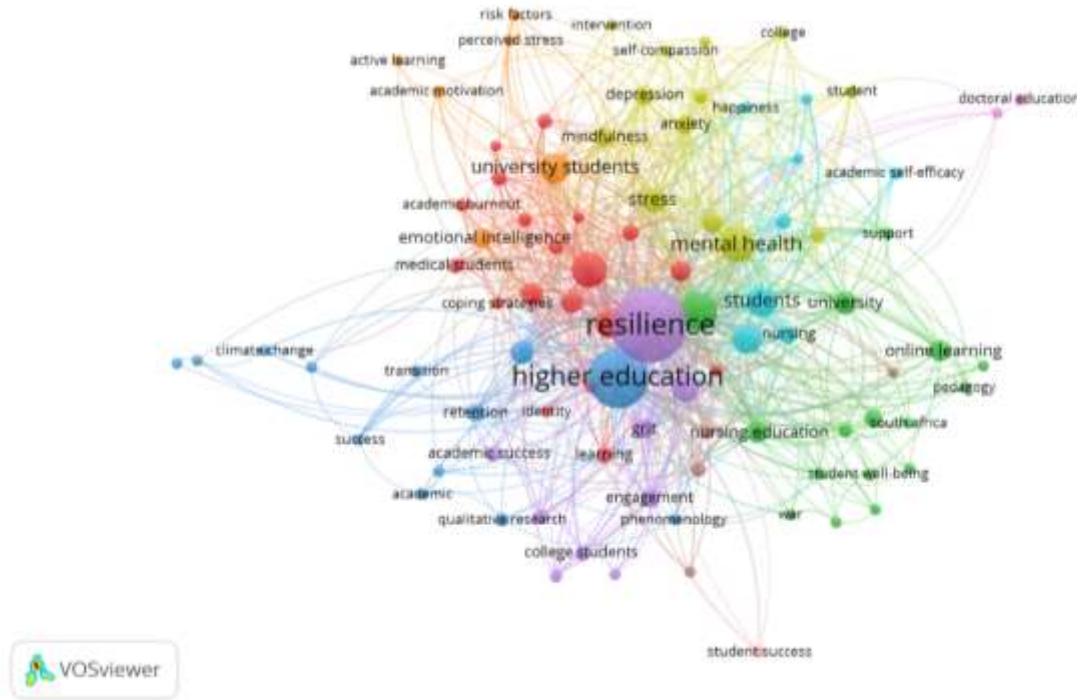
**Figure 3.** Geographic Distribution of Publications on Student Resilience in Higher Education

As shown in Figure 3, the distribution of publications by country indicates that research on Student Resilience in Higher Education is heavily concentrated in a small number of academically advanced and research-intensive nations. The United States leads with 142 publications, followed by the United Kingdom (97) and Australia (83), demonstrating the dominance of English-speaking countries in this research area. This pattern reflects strong research infrastructure, substantial funding, and a long-standing emphasis on educational psychology, student mental health, and student support systems within these countries. In addition, the widespread use of English as the primary language of scholarly communication and the strong presence of these countries in Scopus-indexed journals contribute to their higher visibility and research output. Figure 3 also suggests that institutions in these countries were among the earliest to prioritize resilience research, particularly in response to growing concerns about student well-being, academic stress, and retention in higher education.

Figure 3 further illustrates the growing contribution of non-Western and emerging research regions. China (56) and Spain (44) show notable publication activity, reflecting increasing academic attention to student resilience in highly competitive and reform-oriented higher education systems. South Africa (41) stands out within the Global South, likely driven by national challenges related to educational access, inequality, and student persistence. Moderate contributions from Canada (29) and Indonesia (26) indicate expanding research engagement, while lower publication counts in Saudi Arabia (19) and Malaysia (16) may be linked to smaller research communities, limited funding, or the relatively recent integration of resilience as a key research theme. Overall, the geographical patterns presented in Figure 3 highlight disparities in research capacity across countries, while also indicating a gradual

global expansion of interest in student resilience as higher education institutions worldwide respond to increasing academic and psychological demands.

**RQ4:** What are the popular keywords related to the study?



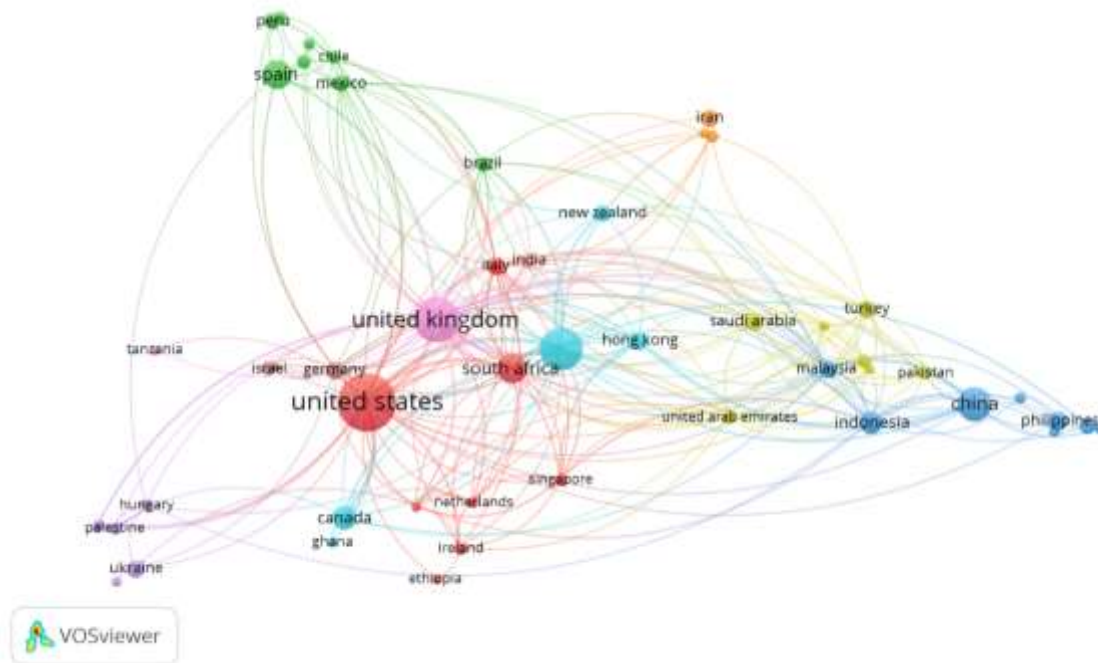
**Figure 4.** Network Visualization of Author Keyword Co-occurrence in Student Resilience Research

As shown in Figure 4, the co-occurrence analysis of author keywords using VOSviewer reveals the underlying conceptual structure and thematic relationships within the research field of student resilience in higher education. Co-occurrence analysis is based on the assumption that keywords appearing together frequently in the same publications are conceptually related and represent shared research themes. In the network visualization, each node represents an author keyword, with node size indicating frequency of occurrence and link strength reflecting the intensity of co-occurrence relationships. The spatial proximity between keywords signifies thematic closeness, while different colors indicate distinct clusters. In Figure 4, central keywords such as “resilience” and “higher education” dominate the network, highlighting their pivotal role in anchoring the research domain and connecting multiple thematic areas, including mental health, stress, student well-being, academic success, and learning contexts.

Figure 4 was generated using the full counting method, whereby each keyword occurrence was counted equally across documents. A minimum occurrence threshold of five was applied to ensure analytical relevance, resulting in 91 keywords meeting the criterion out of a total of 2,240 extracted keywords. Additionally, a minimum cluster size of five was set, leading to the formation of ten distinct clusters that represent the major research themes in the field. These clusters reflect diverse but interconnected areas such as mental health and stress management, nursing and medical education, online learning and pedagogy, emotional intelligence, coping strategies, and academic success. The

visualization contributes to the body of knowledge by demonstrating that student resilience research is inherently interdisciplinary and increasingly focused on psychological well-being and institutional support mechanisms. The prominence and interconnection of clusters in Figure 4 suggest that resilience functions as an integrative construct linking mental health, learning environments, and student outcomes, thereby providing a comprehensive thematic foundation for future empirical, theoretical, and policy-oriented research in higher education.

**RQ5:** What are co-authorship by countries' collaboration?



**Figure 5.** International Co-authorship Network by Country in Student Resilience Research

As shown in Figure 5, the co-authorship by countries analysis generated using VOSviewer illustrates international research collaboration patterns in the field of student resilience in higher education. Co-authorship co-occurrence analysis is based on the assumption that when authors from different countries jointly publish academic work, a collaborative relationship exists between those countries. In the network visualization, each node represents a country, the size of the node reflects the volume of publications, and the links indicate the strength of collaborative ties through co-authored documents. Countries positioned closer together demonstrate stronger or more frequent collaboration, while different colors represent clusters of countries that tend to collaborate more intensively with one another. In Figure 5, countries such as the United States, the United Kingdom, and China appear as central and highly connected nodes, indicating their pivotal role in driving international research collaboration and knowledge exchange within this research domain.

Figure 5 was generated using the full counting method, whereby each country contributing to a publication received equal credit, ensuring a comprehensive representation of collaborative activity. A minimum publication threshold of five was applied, resulting in 51 countries meeting the inclusion criteria out of a total of 98 identified countries. Additionally, a minimum cluster size of five was set,

producing ten distinct collaboration clusters that reflect regional, linguistic, and academic partnerships. These clusters reveal strong collaboration networks among English-speaking countries, as well as emerging regional collaborations involving Asia, the Middle East, and parts of Africa. The findings contribute to the body of knowledge by highlighting the increasingly global and interconnected nature of student resilience research, demonstrating that this field extends beyond national boundaries and benefits from cross-cultural perspectives. The presence of both established and emerging research nations within the network underscores the growing international recognition of student resilience as a critical issue in higher education, while also indicating opportunities for broader collaboration and more inclusive global research agendas in future studies.

## CONCLUSION

This study was conducted to examine the research landscape of student resilience in higher education by identifying publication trends, influential contributions, thematic focus areas, and global collaboration patterns through bibliometric analysis. The purpose was to address key questions related to the growth of scholarly output over time, dominant research themes, leading countries and publications, and the structural relationships within the literature. By applying systematic bibliometric techniques, this study aimed to provide a structured overview of how research on student resilience has developed and how the field is currently positioned within the broader context of higher education research.

The findings reveal a clear and accelerating increase in publications, particularly after 2020, indicating heightened academic attention to student resilience during periods of widespread educational disruption and mental health concern. Research output is concentrated in a limited number of research-intensive countries, while collaboration networks show expanding international engagement. Keyword co-occurrence analysis demonstrates that student resilience research is strongly connected to themes such as mental health, stress, academic success, student well-being, and learning environments, reflecting its interdisciplinary nature. Highly cited publications tend to combine strong conceptual grounding with practical relevance, especially in contexts involving health-related education and crisis situations. These patterns suggest that resilience is increasingly understood as a multidimensional construct shaped by individual, institutional, and contextual factors.

This study contributes to the field by offering a comprehensive synthesis of the intellectual structure and thematic evolution of student resilience research in higher education. The results provide useful insights for educators, institutional leaders, and policymakers by highlighting areas where resilience-focused strategies and support mechanisms are most frequently studied and applied. However, several limitations should be acknowledged, including reliance on a single database, restriction to English-language journal articles, and exclusion of qualitative insights beyond bibliometric indicators. Future research may expand data sources, include longitudinal comparisons

across databases, and integrate qualitative reviews to deepen understanding of contextual and cultural differences. Overall, this bibliometric analysis demonstrates the value of systematic mapping approaches in clarifying research trends and guiding future scholarly inquiry on student resilience in higher education.

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