Bibliometric Evaluation of Psychology Journals in Scimago: Impact and Scientific Visibility

Evaluación Bibliométrica de Revistas de Psicología en Scimago: Impacto y Visibilidad Científica

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Resumen

Introduction: This study aims to analyze psychology journals indexed in the 2023 Scimago Journal Rank (SJR) to understand their impact and scientific visibility. **Methodology:** A descriptive and analytical approach was employed based on secondary data collected from the SJR database. The main metrics considered include the SJR index, quartile ranking, and impact factor. Dynamic tables, visualizations, and advanced statistical analyses such as correlations were used for the analysis. **Results:** The results indicate a growing diversification in the field of psychology, with a notable increase in interdisciplinary and open-access journals. While high-impact journals remain dominant, there is significant growth in emerging journals with rising SJR indices. The internationalization of psychology research is evident, with broader global representation. A strong correlation between citation rates and academic impact highlights the importance of visibility and accessibility. **Conclusion:** The study provides a comprehensive view of the editorial landscape in psychology and suggests future research directions, such as evaluating the impact of emerging journals and tracking the evolution of trends in international publications.
Keywords: psychology, bibliometrics, evaluation

Abstract

Introducción: Este estudio tiene como objetivo analizar las revistas indexadas en el campo de la psicología, según el Scimago Journal Rank (SJR) 2023, para comprender su impacto y visibilidad científica.**Metodología:** Se empleó un enfoque descriptivo y analítico basado en la recopilación de datos secundarios de la base SJR. Las principales métricas consideradas incluyen el índice SJR, ranking de cuartil y factor de impacto. Para el análisis, se utilizaron tablas dinámicas, gráficos de visualización y análisis estadísticos avanzados, como correlaciones. **Resultados:** Los resultados indican una creciente diversificación en el ámbito de la psicología, con un notable aumento de revistas interdisciplinarias y de acceso abierto. Aunque las revistas con alto impacto continúan siendo preeminentes, se observa un crecimiento significativo en el número de revistas emergentes con índices SJR en ascenso. La internacionalización de la investigación en psicología es evidente, con una mayor representación global. Se destaca una fuerte correlación entre las tasas de citación y el impacto académico, lo que resalta la importancia de la visibilidad y la accesibilidad. **Conclusión:** El estudio proporciona una visión integral del panorama editorial en psicología y proponer futuras líneas de investigación, como la evaluación del impacto de revistas emergentes y la evolución de tendencias en publicaciones internacionales.
Palabras clave: psicología, bibliometría, evaluación

1. Introduction

The landscape of scientific research is evolving rapidly, with increasing emphasis on understanding and quantifying the impact of scholarly work (Diaz et al., 2021; Lewis, 2021). In this context, the Scimago Journal Rank (SJR) and the H-index have emerged as prominent metrics for evaluating scientific productivity and impact (Banasik-Jemielniak et al., 2022). The SJR, which reflects the average number of citations received per document published in a journal, weighted by the prestige of the citing journals, provides a nuanced view of journal influence (Adair & Vohra, 2003). It accounts for both the quantity and quality of citations, offering a more sophisticated measure of a journal's impact compared to traditional citation counts. Meanwhile, the H-index, developed by physicist Jorge Hirsch, combines productivity (the number of publications) and impact (the number of citations) into a single metric, aiming to capture a researcher's overall contribution to their field (Ball, 2002).

Despite their widespread use, these metrics have inherent limitations. The SJR, while incorporating citation quality, may still be influenced by citation practices that vary across disciplines and publication types (Tortosa-Pérez et al., 2020). For example, certain fields may exhibit higher citation rates due to their nature or audience, which can skew comparisons between journals from different disciplines (Badenes-Sastre & Expósito, 2021). Additionally, the H-index may favor researchers with a large number of publications and high citations over those with fewer, potentially groundbreaking works, thus overlooking significant but less frequently cited contributions.

Moreover, both the SJR and H-index have been critiqued for their potential to reinforce existing biases in the academic publishing world (Carey et al., 2023). For instance, journals and researchers that are already well-established may benefit disproportionately from these metrics, perpetuating a cycle where influential work receives more recognition simply due to its prior acclaim. This can undermine efforts to highlight emerging voices and interdisciplinary research that do not fit neatly into traditional categories (Yang & Shao, 2024).

In light of these challenges, it is essential to explore how the SJR and H-index align with contemporary research evaluation goals and to consider alternative or supplementary metrics that might offer a more comprehensive assessment (Kalita et al., 2018; Roldan-Valadez et al., 2019). The current study aims to critically assess the effectiveness of the SJR and H-index in capturing the full spectrum of

research productivity and impact. By investigating their strengths and limitations, this research seeks to contribute to a more nuanced understanding of scientific evaluation (Liu & Yang, 2024).

We will explore how these metrics reflect the complexity of modern research, including the increasing prominence of interdisciplinary studies and the varying citation practices across fields (Mejia et al., 2021). Additionally, the study will consider how socio-economic and institutional factors influence research output and impact, potentially affecting the validity of these metrics (Yang & Shao, 2024). By proposing an integrated evaluation framework that balances quantitative data with qualitative insights, the research aims to offer a more holistic view of scientific achievement.

Ultimately, the goal is to enhance the effectiveness and fairness of research evaluation processes, ensuring that they accurately reflect the diverse and evolving nature of scientific inquiry. This will be of great importance for researchers, institutions, and policymakers who seek to promote excellence and innovation in the global research community, ensuring that all valuable contributions are recognized and supported. This study analyzes psychology (Muthukrishna et al., 2021) journals indexed in the Scimago Journal Rank (SJR) for 2023.

2. Materials and Methods

The methodology for analyzing indexed journals in the field of psychology for 2023, using the Scimago Journal Rank (SJR) database, encompasses a comprehensive approach designed to capture a detailed understanding of journal metrics, trends, and patterns. This methodology is structured through several key phases, including research design, data collection, and data analysis (Ansari et al., 2020; Savage & Olejniczak, 2022; Szomszor et al., 2021).

The research design adopts a descriptive and analytical framework aimed at assessing the current landscape of psychology journals. The primary goal is to discern the top journals based on their impact, identify emerging trends, and evaluate the distribution of journals across various quartiles. This design enables a holistic understanding of journal influence and its implications for the field of psychology.

For data collection, secondary data were sourced from the Scimago Journal Rank (SJR) database (Manjarres et al., 2023), specifically targeting psychology journals for the year 2023. The dataset includes crucial metrics such as the journal

name, SJR index, quartile ranking, citation counts, and impact factor (Fister et al., 2016). These metrics were systematically downloaded in CSV format to ensure compatibility with analysis tools and to facilitate subsequent processing.

The analysis process was methodically executed in several stages. Initially, data extraction involved gathering the relevant information from the Scimago database (Shkulipa, 2020). This was followed by a rigorous data cleaning phase to address any inconsistencies, duplicates, or errors present in the dataset. The cleaned data were then organized into a structured database, allowing for detailed statistical analysis.

Descriptive statistics were employed to summarize the key metrics of the journals. This included calculating mean, median, and range for the SJR indices to gauge the central tendency and dispersion of journal impact. Furthermore, frequency distributions were analyzed to determine the number of journals within each quartile and to identify the concentration of high-impact journals.

Trend analysis was a critical component of the methodology. This phase involved examining publication trends such as the rise of interdisciplinary journals, the increasing prominence of open-access publications, and shifts in thematic focus within the field of psychology. Visualization tools such as graphs and tables were utilized to depict these trends clearly.

In addition to descriptive statistics, more advanced statistical analyses were conducted to uncover significant patterns and relationships within the data. Correlation analyses were performed to explore the relationship between SJR indices and other metrics, such as citation counts and impact factors. This helped in identifying any significant associations or anomalies within the dataset.

Excel was used extensively for data mapping and visualization. After importing the cleaned data into Excel, various charts and graphs were created to visually represent the distribution and trends of journals. Scatter plots were used to analyze the relationship between SJR indices and other metrics, while heat maps provided a visual representation of the concentration and geographical distribution of high-impact journals. Pivot tables and data filters in Excel allowed for detailed exploration of the data and facilitated the generation of customized reports.

The results of the analysis were synthesized into a comprehensive report. This report includes graphical representations, detailed tables, and discussions on observed trends and their implications. The findings offer valuable insights

into the current state of psychology journals, highlighting key trends, the impact of journals, and the evolving dynamics within the discipline. This methodological approach ensures a thorough and nuanced understanding of the psychology journal landscape for the year 2023.

2. Results

In 2023, the vast majority of publications registered in Scimago were journals, accounting for an overwhelming 99.3% of the total (1367), highlighting the dominance of journal-based academic dissemination. In contrast, book series made up only 0.7% (9), and conferences and proceedings represented an even smaller fraction, just 0.1% (1). This heavy skew toward journals reflects the established preference for peer-reviewed journal articles as the primary medium for scholarly communication in academia (Table 1).

When examining the SJR best quartile rankings, the distribution was relatively balanced among the top four quartiles, with 25.3% of publications falling into Q4, 25.0% in Q3, 24.9% in Q1, and 24.3% in Q2. These figures suggest that while a large number of journals were in the lower quartiles, a substantial portion were also of high quality, as indicated by the presence of nearly a quarter of the publications in Q1. Only 0.5% of the publications did not have a quartile designation, showing that the vast majority of outlets were ranked and recognized in terms of their impact and reach.

Geographically, there was a clear concentration of academic output in Western Europe, which contributed 47.9% of the total publications, followed by North America with 37.0%. These regions have traditionally been hubs of scholarly activity, supported by strong research infrastructure and funding. In contrast, other regions like Eastern Europe (6.5%), Latin America (3.6%), and the Asiatic Region (2.5%) contributed significantly less, underscoring ongoing disparities in global academic production. Africa (0.4%) and the Middle East (1.2%) had even smaller representations, with a combined output of less than 2%, suggesting barriers to research participation and publication in these regions. The Pacific Region and mixed regions like Africa/Middle East had minimal contributions, reflecting geographic and resource limitations.

In terms of thematic areas, psychology was the most represented field, accounting for 20.1% of the total publications. However, interdisciplinary combinations were also common, with 23.2% of publications covering both

psychology and social sciences. This highlights the growing recognition of the importance of integrating psychological insights with broader social science frameworks to better understand human behavior and societal trends. Medicine and psychology together comprised 16.8% of the publications, pointing to the close relationship between psychological research and healthcare, particularly in areas like mental health, patient care, and health behavior.

The remaining publications spanned a wide array of interdisciplinary combinations, reflecting the increasingly collaborative nature of modern research. Fields such as business, management, and accounting alongside psychology contributed 2.3%, while smaller intersections like neuroscience and psychology (1.9%) or arts and humanities with psychology (3.8%) reflected the diverse applications of psychological principles across different domains. Other notable combinations included medicine, neuroscience, and psychology (3.1%), medicine, nursing, and psychology (0.4%), and computer science with psychology (0.4%), underscoring the growing use of technology in psychological research and practice.

These interdisciplinary combinations demonstrate a broader trend toward collaboration across fields, driven by the need for comprehensive solutions to complex global challenges. For example, the integration of psychology with health professions (1.2%) and social sciences highlights the importance of psychological perspectives in addressing issues like mental health, education, and organizational behavior. Similarly, the intersection of business and psychology (seen in 2.3% of the publications) reflects the increasing relevance of psychological research in understanding consumer behavior, decision-making, and organizational dynamics.

This comprehensive representation across regions and disciplines illustrates a dynamic academic landscape, where psychology not only stands as a major field but also acts as a bridge between various domains. The significant presence of psychology in combination with fields like medicine, neuroscience, social sciences, and business underscores its vital role in addressing diverse research questions that cut across health, society, and human behavior. Furthermore, the predominance of publications from Western Europe and North America points to the need for greater global inclusion and investment in underrepresented regions to foster a more equitable distribution of academic knowledge production.

The table presents a comprehensive breakdown of the geographical distribution of 1,377 publications, highlighting the countries that contributed to the scholarly output. The United States stands out as the most prolific, contributing 502 publications, which represents 36% of the total. This positions the U.S. as the leading country in research productivity within this sample. The United Kingdom follows closely behind, contributing 360 publications (26%), making it the second-largest contributor. Together, these two countries account for more than half of the total publications, underscoring their dominance in academic output (Figure 1).

European countries play a significant role in the overall distribution as well. For instance, the Netherlands (68 publications, 4.9%), Germany (59, 4.3%), Switzerland (36, 2.6%), and Spain (43, 3.1%) are among the key contributors. The robust presence of these nations points to a strong research infrastructure in Western Europe. Notably, Eastern Europe is also represented, with countries like Poland (23, 1.7%) and Russia (24, 1.7%) making visible contributions.

In addition to these major players, several countries contributed a smaller number of publications, often accounting for less than 1% of the total. These include Hungary (n = 7 publications, 0.5%), Italy (n = 32, 2.3%), and France (n = 37, 2.7%). Latin American nations also feature in the table, with Brazil contributing 21 publications (1.5%), Colombia with 13 (0.9%), and Mexico with 5 (0.4%). Smaller nations like Chile (n = 5, 0.4%), Uruguay (n = 1, <0.1%), and Peru (n = 1, <0.1%) reflect a more limited academic output in this region.

Countries from other parts of the world also make appearances, albeit with more modest contributions. For example, Australia (n = 3 publications, 0.2%), India (n = 7, 0.5%), and Japan (n = 5, 0.4%) are notable contributors from Asia and the Pacific region. China and South Korea each contributed 6 (0.4%) and 3 (0.2%) publications, respectively. In the Middle East, Turkey is the largest contributor (10 publications, 0.7%), while Egypt, the United Arab Emirates, and Israel each contributed less than 1%.

Several countries, including Ethiopia, Lithuania, and Costa Rica, contributed just one publication each, representing less than 0.1% of the total output. Similarly, nations like Finland, Malaysia, and Malta also accounted for less than 0.1% of the publications. This highlights the vast disparity in research productivity across regions.

In summary, the table illustrates a clear concentration of scholarly output in a few key regions, with the United States and the United Kingdom leading the way. Western Europe, particularly countries like the Netherlands, Germany, and Switzerland, plays a significant role, while other regions, including Latin America, Asia, and Africa, have a more modest presence in this global distribution of research. Despite this, the contributions from a wide range of countries reflect the growing internationalization of academic research.

Table 1.

Journals, book series, conference and proceedings registered in Scimago 2023.

	n (%)
Type	
book series	9 (0.7%)
conference and proceedings	1 (0.1%)
journal	1367 (99.3%)
SJR Best Quartile	
without quartile	7 (0.5%)
Q1	343 (24.9%)
Q2	335 (24.3%)
Q3	344 (25.0%)
Q4	348 (25.3%)
Region	
Africa	5 (0.4%)
Africa/Middle East	2 (0.1%)
Asiatic Region	35 (2.5%)
Eastern Europe	90 (6.5%)
Latin America	50 (3.6%)
Middle East	17 (1.2%)
Northern America	509 (37.0%)
Pacific Region	9 (0.7%)
Western Europe	660 (47.9%)
Areas	
Psychology	277 (20.1%)
Arts and Humanities; Psychology	52 (3.8%)
Business, Management and Accounting; Psychology	32 (2.3%)

Medicine; Psychology	231 (16.8%)
Neuroscience; Psychology	26 (1.9%)
Business, Management and Accounting; Psychology; Social Sciences	21 (1.5%)
Psychology; Social Sciences	320 (23.2%)
Medicine; Neuroscience; Psychology	43 (3.1%)
Medicine; Psychology; Social Sciences	54 (3.9%)
Arts and Humanities; Computer Science; Psychology	1 (0.1%)
Mathematics; Psychology	5 (0.4%)
Arts and Humanities; Mathematics; Medicine; Psychology	2 (0.1%)
Medicine; Nursing; Psychology; Social Sciences	4 (0.3%)
Arts and Humanities; Psychology; Social Sciences	54 (3.9%)
Arts and Humanities; Business, Management and Accounting; Computer Science; Decision Sciences; Psychology	1 (0.1%)
Business, Management and Accounting; Decision Sciences; Psychology; Social Sciences	1 (0.1%)
Arts and Humanities; Medicine; Psychology	21 (1.5%)
Arts and Humanities; Business, Management and Accounting; Psychology	1 (0.1%)
Health Professions; Psychology	16 (1.2%)
Health Professions; Psychology; Social Sciences	13 (0.9%)
Business, Management and Accounting; Economics, Econometrics and Finance; Medicine; Psychology	1 (0.1%)
Computer Science; Psychology; Social Sciences	6 (0.4%)
Agricultural and Biological Sciences; Business, Management and Accounting; Neuroscience; Psychology; Social Sciences	1 (0.1%)
Mathematics; Psychology; Social Sciences	5 (0.4%)
Neuroscience; Psychology; Social Sciences	18 (1.3%)
Agricultural and Biological Sciences; Arts and Humanities; Psychology	1 (0.1%)
Medicine; Pharmacology, Toxicology and Pharmaceutics; Psychology	3 (0.2%)
Arts and Humanities; Environmental Science; Medicine; Psychology	1 (0.1%)
Computer Science; Psychology	1 (0.1%)
Computer Science; Medicine; Psychology; Social Sciences	1 (0.1%)
Biochemistry, Genetics and Molecular Biology; Medicine; Psychology	3 (0.2%)
Economics, Econometrics and Finance; Psychology; Social Sciences	5 (0.4%)
Computer Science; Neuroscience; Psychology	4 (0.3%)
Business, Management and Accounting; Decision Sciences; Psychology	1 (0.1%)
Business, Management and Accounting; Economics, Econometrics and Finance; Psychology	4 (0.3%)
Biochemistry, Genetics and Molecular Biology; Medicine; Neuroscience; Psychology	4 (0.3%)
Business, Management and Accounting; Medicine; Psychology; Social Sciences	2 (0.1%)
Nursing; Psychology	3 (0.2%)

Engineering; Psychology; Social Sciences	1 (0.1%)
Arts and Humanities; Computer Science; Engineering; Psychology	1 (0.1%)
Medicine; Nursing; Psychology	5 (0.4%)
Computer Science; Medicine; Neuroscience; Psychology	6 (0.4%)
Arts and Humanities; Business, Management and Accounting; Economics, Econometrics and Finance; Psychology; Social Sciences	2 (0.1%)
Environmental Science; Psychology	2 (0.1%)
Computer Science; Neuroscience; Psychology; Social Sciences	3 (0.2%)
Decision Sciences; Economics, Econometrics and Finance; Psychology	1 (0.1%)
Arts and Humanities; Medicine; Psychology; Social Sciences	8 (0.6%)
Arts and Humanities; Business, Management and Accounting; Decision Sciences; Psychology; Social Sciences	1 (0.1%)
Arts and Humanities; Medicine; Neuroscience; Psychology	1 (0.1%)
Economics, Econometrics and Finance; Psychology	3 (0.2%)
Arts and Humanities; Computer Science; Psychology; Social Sciences	2 (0.1%)
Arts and Humanities; Neuroscience; Psychology	5 (0.4%)
Health Professions; Medicine; Psychology	8 (0.6%)
Health Professions; Medicine; Psychology; Social Sciences	4 (0.3%)
Business, Management and Accounting; Engineering; Psychology; Social Sciences	1 (0.1%)
Agricultural and Biological Sciences; Psychology; Social Sciences	4 (0.3%)
Health Professions; Neuroscience; Psychology; Social Sciences	2 (0.1%)
Computer Science; Decision Sciences; Mathematics; Psychology	1 (0.1%)
Arts and Humanities; Economics, Econometrics and Finance; Psychology; Social Sciences	3 (0.2%)
Computer Science; Engineering; Psychology; Social Sciences	3 (0.2%)
Medicine; Neuroscience; Nursing; Psychology; Social Sciences	2 (0.1%)
Biochemistry, Genetics and Molecular Biology; Neuroscience; Psychology	5 (0.4%)
Business, Management and Accounting; Economics, Econometrics and Finance; Psychology; Social Sciences	1 (0.1%)
Agricultural and Biological Sciences; Medicine; Neuroscience; Psychology; Social Sciences	1 (0.1%)
Health Professions; Neuroscience; Nursing; Psychology; Social Sciences	2 (0.1%)
Decision Sciences; Psychology; Social Sciences	3 (0.2%)
Arts and Humanities; Biochemistry, Genetics and Molecular Biology; Medicine; Psychology	1 (0.1%)
Nursing; Psychology; Social Sciences	3 (0.2%)
Computer Science; Health Professions; Psychology; Social Sciences	2 (0.1%)
Agricultural and Biological Sciences; Psychology	3 (0.2%)
Decision Sciences; Psychology	1 (0.1%)
Immunology and Microbiology; Medicine; Neuroscience; Psychology	1 (0.1%)

Biochemistry, Genetics and Molecular Biology; Health Professions; Medicine; Psychology	1 (0.1%)
Arts and Humanities; Neuroscience; Psychology; Social Sciences	2 (0.1%)
Agricultural and Biological Sciences; Biochemistry, Genetics and Molecular Biology; Neuroscience; Psychology; Social Sciences	1 (0.1%)
Agricultural and Biological Sciences; Arts and Humanities; Computer Science; Psychology	1 (0.1%)
Agricultural and Biological Sciences; Computer Science; Psychology	1 (0.1%)
Biochemistry, Genetics and Molecular Biology; Environmental Science; Psychology	1 (0.1%)
Arts and Humanities; Computer Science; Neuroscience; Psychology	1 (0.1%)
Business, Management and Accounting; Materials Science; Psychology; Social Sciences	2 (0.1%)
Computer Science; Earth and Planetary Sciences; Mathematics; Psychology	1 (0.1%)
Medicine; Neuroscience; Psychology; Social Sciences	2 (0.1%)
Arts and Humanities; Computer Science; Decision Sciences; Economics, Econometrics and Finance; Psychology; Social Sciences	1 (0.1%)
Computer Science; Decision Sciences; Engineering; Medicine; Psychology	1 (0.1%)
Decision Sciences; Mathematics; Psychology; Social Sciences	1 (0.1%)
Biochemistry, Genetics and Molecular Biology; Immunology and Microbiology; Medicine; Pharmacology, Toxicology and Pharmaceutics; Psychology	1 (0.1%)
Arts and Humanities; Engineering; Neuroscience; Psychology; Social Sciences	1 (0.1%)
Biochemistry, Genetics and Molecular Biology; Health Professions; Medicine; Neuroscience; Psychology	1 (0.1%)
Computer Science; Mathematics; Psychology	1 (0.1%)
Health Professions; Medicine; Neuroscience; Psychology	1 (0.1%)
Arts and Humanities; Mathematics; Psychology	1 (0.1%)
Arts and Humanities; Health Professions; Psychology; Social Sciences	1 (0.1%)
Business, Management and Accounting; Computer Science; Psychology; Social Sciences	1 (0.1%)
Biochemistry, Genetics and Molecular Biology; Neuroscience; Psychology; Social Sciences	2 (0.1%)
Business, Management and Accounting; Economics, Econometrics and Finance; Neuroscience; Psychology	1 (0.1%)
Environmental Science; Materials Science; Psychology	1 (0.1%)
Arts and Humanities; Decision Sciences; Psychology; Social Sciences	1 (0.1%)
Arts and Humanities; Business, Management and Accounting; Psychology; Social Sciences	1 (0.1%)
Energy; Engineering; Materials Science; Psychology; Social Sciences	1 (0.1%)
Health Professions; Multidisciplinary; Psychology; Social Sciences	1 (0.1%)
Medicine; Neuroscience; Pharmacology, Toxicology and Pharmaceutics; Psychology	1 (0.1%)
Engineering; Environmental Science; Psychology; Social Sciences	1 (0.1%)

Business, Management and Accounting; Health Professions; Medicine; Psychology; Social Sciences	2 (0.1%)
Computer Science; Environmental Science; Psychology; Social Sciences	1 (0.1%)
Biochemistry, Genetics and Molecular Biology; Health Professions; Medicine; Multidisciplinary; Psychology; Social Sciences	1 (0.1%)
Decision Sciences; Medicine; Psychology; Social Sciences	1 (0.1%)
Health Professions; Mathematics; Medicine; Psychology	1 (0.1%)
Agricultural and Biological Sciences; Psychology; Veterinary	1 (0.1%)
Biochemistry, Genetics and Molecular Biology; Psychology	1 (0.1%)
Health Professions; Medicine; Social Sciences	1 (0.1%)
Business, Management and Accounting; Mathematics; Psychology; Social Sciences	1 (0.1%)
Health Professions; Medicine; Nursing; Psychology	1 (0.1%)
Computer Science; Engineering; Psychology	1 (0.1%)

The map illustrates the global distribution of psychology journals indexed in Scimago for the year 2023, highlighting significant contributions from specific regions. The United States stands out as the most dominant country, contributing 36% of all indexed psychology journals. This indicates a strong presence of American academic output in the field. Following the U.S., the United Kingdom makes a substantial contribution with 26%, further reinforcing the influence of English-speaking countries in psychological research (Figure 1).

In Western Europe, several countries also play a pivotal role. Nations like the Netherlands (4.9%), Germany (4.3%), Switzerland (2.6%), France (2.7%), and Spain (3.1%) show moderate levels of contributions. These figures suggest that Europe, particularly Western Europe, remains a key player in psychology publications. However, other European countries contribute smaller percentages, reflecting a more concentrated research output in specific nations.

In Latin America, Brazil stands out with 1.5% of the journals, followed by Colombia with 0.9%, indicating a growing but still limited presence in global psychology research. Other Latin American countries such as Mexico and Chile have smaller contributions, each around 0.4% and 0.1%, respectively. This suggests that Latin American representation in psychology publications is still developing, with room for growth.

Across Asia, countries like India, China, and Japan contribute between 0.4% and 0.5% of the indexed journals. While these contributions are relatively small compared to Western countries, they represent an emerging presence of Asian countries in psychology research. Similarly, Africa shows limited contributions,

with Egypt and South Africa accounting for less than 1% of the indexed journals, signaling minimal representation from the African continent. In summary, the map showcases the regional disparity in psychology research publications, with the United States and United Kingdom dominating the field, followed by moderate contributions from Western Europe. Other regions, including Latin America, Asia, and Africa, show smaller but growing contributions to global psychology research.

Figure 1.

Percentages of journals indexed in Scimago 2023 (Psychology)
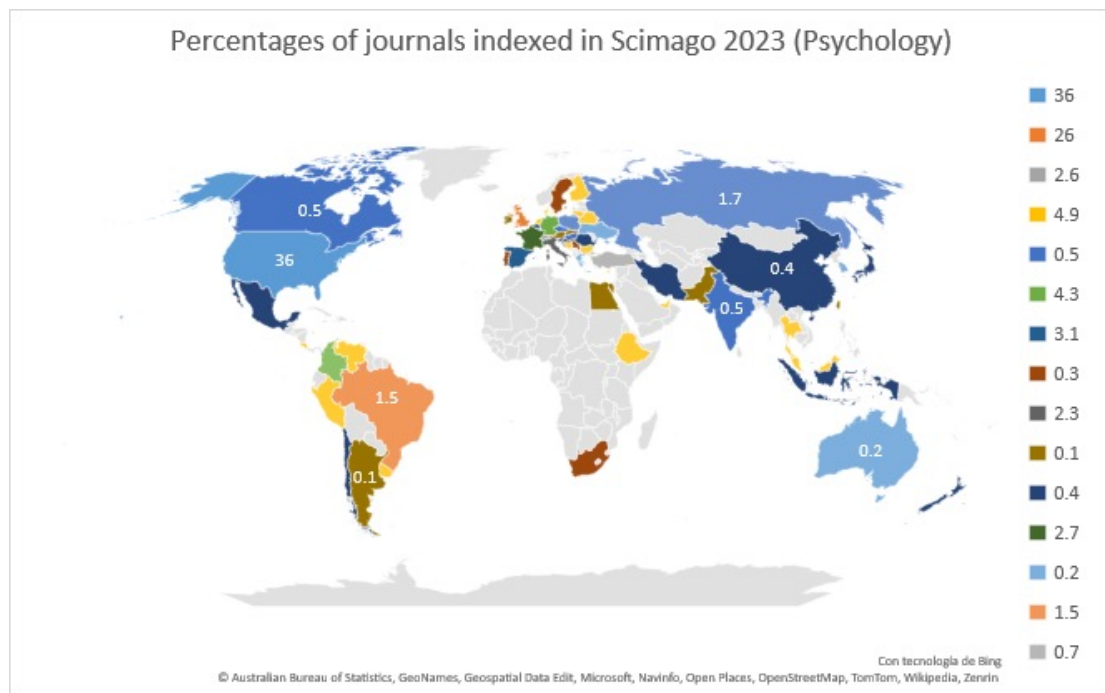
The table 2 provides a detailed overview of scientific production and publication visibility for various countries according to Scimago's criteria for 2023. This includes metrics such as the Scimago Journal Rank (SJR) index, the H-index, the total number of documents published, and citations, among other relevant indicators.

Firstly, the United States, accounting for 37% of the sample, stands out with an SJR index of 0.79, an H-index of 60, and an average of 2.35 citations per document. These metrics indicate a high level of production and visibility in

comparison to other countries. The United States not only leads in the number of documents published but also shows substantial citation totals, reflecting its significant influence and leadership in the global scientific research landscape.

The United Kingdom, representing 26% of the sample, follows with an SJR index of 0.69 and an H-index of 47. Although slightly lower than the United States, the United Kingdom remains a major player in scientific publication and citation. Its relatively high citation rate per document underscores the quality and impact of its research output, indicating that UK-based research is frequently referenced and holds considerable academic value.

Switzerland, with a much smaller percentage of 2.6%, has an SJR index of 0.70 and an H-index of 28. While its production and visibility are less prominent compared to leading countries like the United States and the United Kingdom, Switzerland's publications still demonstrate a notable impact. The good citation rate per document suggests that Swiss research contributes significantly to its fields of study, albeit on a smaller scale.

In contrast, countries such as Hungary and Germany, with lower shares in the sample, exhibit significantly lower SJR and H-index values. Hungary's SJR index stands at 0.23 with an H-index of 16, while Germany has an SJR index of 0.34 and an H-index of 22. These figures reflect lower levels of scientific output and visibility compared to top-ranking countries. The lower citation rates suggest that while these countries are contributing to the scientific community, their impact and recognition are not as pronounced.

Countries with smaller scientific presences, such as Iceland, Malaysia, and Malta, also show lower SJR and H-index values. Iceland's research output is limited, with modest citation rates, while Malaysia and Malta exhibit similar trends. Despite their smaller scale, these countries still contribute to their respective fields, although their impact is comparatively less significant.

Overall, the table highlights the disparities in scientific production and impact across different countries. It illustrates how nations with greater resources and broader collaboration networks tend to achieve higher visibility and influence in the global scientific arena. This disparity underscores the role of institutional support, research funding, and international collaboration in shaping the global landscape of scientific research and publication.

Table 2.

Impact of the Scimago 2023 criteria in terms of the country.

Characteristic	SJR	H index	Total Docs. (2023)	Total Docs. (3years)	Total Refs.	Total Cites (3years)	Citable Docs. (3years)	Cites / Doc. (2years)	Ref. / Doc.	%Female	Overton	SDG
n	1,372	1,372	1,372	1,372	1,372	1,372	1,372	1,372	1,372	1,372	1,372	1,372
United States N = 501 (37%)	0.79 (0.45, 1.29)	60 (32, 102)	44 (24, 83)	127 (75, 219)	2,533 (1,240, 4,974)	359 (139, 853)	119 (69, 213)	2.35 (1.41, 3.51)	56 (46, 65)	56 (47, 64)	0 (0, 1)	10 (4, 21)
United Kingdom N = 360 (26%)	0.69 (0.41, 1.04)	47 (22, 85)	50 (27, 94)	134 (77, 225)	2,679 (1,168, 5,544)	281 (99, 747)	120 (69, 212)	1.96 (1.21, 3.23)	54 (44, 65)	57 (46, 66)	0 (0, 1)	10 (5, 24)
Switzerland N = 36 (2.6%)	0.70 (0.46, 0.91)	28 (16, 54)	36 (24, 69)	108 (79, 182)	2,048 (1,589, 4,949)	256 (131, 724)	94 (74, 164)	2.20 (1.44, 3.01)	60 (49, 67)	51 (45, 59)	0 (0, 1)	10 (5, 38)
Netherlands N = 67 (4.9%)	0.70 (0.30, 1.09)	42 (14, 89)	62 (21, 124)	131 (53, 322)	3,416 (1,040, 7,584)	281 (46, 1,117)	127 (46, 302)	2.27 (0.86, 3.17)	58 (45, 68)	50 (35, 60)	0 (0, 1)	10 (3, 27)
Hungary N = 7 (0.5%)	0.23 (0.18, 0.37)	16 (12, 22)	21 (16, 30)	55 (44, 90)	1,199 (844, 1,712)	30 (16, 86)	53 (44, 78)	0.80 (0.36, 1.84)	63 (55, 73)	49 (42, 59)	0 (0, 0)	4 (3, 5)
Germany N = 59 (4.3%)	0.34 (0.30, 0.71)	22 (13, 43)	28 (18, 50)	86 (58, 146)	1,108 (714, 1,855)	86 (37, 176)	72 (52, 126)	1.21 (0.40, 1.89)	48 (30, 56)	52 (43, 59)	0 (0, 0)	4 (1, 11)
Spain N = 43 (3.1%)	0.30 (0.21, 0.50)	17 (12, 28)	22 (16, 32)	73 (54, 110)	1,164 (747, 1,490)	88 (70, 158)	72 (50, 106)	0.91 (0.62, 1.62)	51 (41, 58)	57 (44, 64)	0 (0, 0)	8 (5, 12)
Sweden N = 4 (0.3%)	0.52 (0.40, 0.87)	7 (7, 24)	10 (7, 20)	32 (27, 52)	718 (405, 1,214)	48 (38, 172)	32 (27, 52)	1.22 (1.06, 2.31)	60 (48, 68)	54 (42, 56)	0 (0, 0)	3 (2, 4)
Italy N = 32 (2.3%)	0.19 (0.14, 0.31)	12 (6, 17)	16 (8, 33)	74 (56, 114)	845 (411, 1,408)	30 (21, 66)	70 (55, 106)	0.42 (0.18, 0.71)	48 (32, 56)	58 (44, 67)	0 (0, 0)	3 (2, 8)
Canada N = 7 (0.5%)	0.44 (0.19, 0.46)	18 (14, 44)	12 (10, 20)	88 (85, 124)	538 (288, 833)	118 (70, 148)	84 (74, 121)	0.64 (0.43, 1.49)	45 (38, 54)	68 (59, 80)	0 (0, 0)	1 (0, 8)
Egypt N = 2 (0.1%)	0.64 (0.39, 0.88)	23 (16, 30)	34 (22, 45)	94 (70, 118)	1,210 (937, 1,483)	125 (80, 170)	90 (69, 112)	1.41 (0.82, 2.01)	49 (40, 58)	51 (44, 57)	0 (0, 0)	18 (11, 26)
India N = 7 (0.5%)	0.34 (0.29, 0.41)	15 (10, 18)	32 (26, 56)	83 (58, 118)	1,038 (960, 2,301)	80 (56, 179)	78 (52, 95)	0.92 (0.86, 1.27)	38 (37, 46)	44 (39, 57)	0 (0, 0)	11 (8, 20)
New Zealand N = 6 (0.4%)	0.60 (0.24, 0.92)	43 (26, 50)	56 (5, 148)	275 (48, 491)	3,230 (422, 5,793)	507 (96, 1,438)	269 (48, 488)	2.04 (0.84, 3.13)	44 (9, 60)	46 (11, 46)	0 (0, 0)	10 (0, 23)
Taiwan N = 2 (0.1%)	0.55 (0.37, 0.73)	17 (12, 22)	38 (37, 39)	95 (86, 104)	2,454 (2,399, 2,510)	230 (146, 313)	95 (86, 104)	2.52 (1.51, 3.54)	65 (62, 68)	43 (39, 47)	0 (0, 0)	18 (17, 20)
France N = 37 (2.7%)	0.14 (0.11, 0.18)	10 (5, 16)	27 (15, 57)	94 (69, 138)	782 (336, 1,458)	15 (6, 42)	85 (64, 131)	0.14 (0.04, 0.44)	26 (7, 44)	53 (36, 61)	0 (0, 0)	3 (0, 6)
Czech Republic N = 7 (0.5%)	0.19 (0.17, 0.23)	8 (4, 14)	23 (10, 36)	70 (62, 120)	879 (334, 1,644)	40 (30, 52)	70 (58, 116)	0.48 (0.26, 0.73)	36 (29, 42)	29 (20, 52)	0 (0, 0)	7 (2, 12)
Japan N = 5 (0.4%)	0.15 (0.11, 0.23)	19 (14, 21)	14 (7, 32)	66 (44, 78)	537 (413, 1,301)	25 (8, 34)	57 (41, 78)	0.20 (0.09, 0.54)	39 (36, 41)	38 (34, 41)	0 (0, 0)	1 (0, 5)

Australia N = 3 (0.2%)	0.31 (0.25, 0.43)	13 (10, 18)	13 (9, 22)	45 (44, 66)	196 (98, 664)	50 (40, 119)	43 (42, 58)	1.12 (0.78, 1.52)	37 (18, 38)	55 (37, 69)	0 (0, 0)	4 (2, 8)
Singapore N = 3 (0.2%)	0.53 (0.32, 0.53)	11 (6, 20)	44 (34, 50)	67 (53, 96)	2,170 (1,860, 2,446)	114 (60, 246)	62 (50, 93)	1.23 (0.72, 2.14)	49 (49, 57)	51 (47, 51)	0 (0, 0)	10 (8, 16)
Ukraine N = 3 (0.2%)	0.17 (0.17, 0.35)	6 (5, 8)	31 (30, 32)	90 (72, 104)	1,268 (1,065, 1,299)	87 (83, 104)	88 (68, 104)	1.02 (0.86, 2.02)	41 (35, 41)	58 (58, 61)	0 (0, 0)	10 (8, 10)
Austria N = 2 (0.1%)	0.31 (0.21, 0.41)	12 (8, 16)	23 (12, 34)	61 (39, 83)	608 (304, 912)	66 (33, 98)	38 (27, 50)	0.71 (0.36, 1.06)	13 (7, 20)	26 (13, 39)	0 (0, 0)	6 (3, 8)
Brazil N = 21 (1.5%)	0.15 (0.13, 0.19)	11 (6, 17)	18 (5, 35)	111 (92, 128)	620 (143, 1,409)	33 (16, 68)	111 (92, 125)	0.19 (0.07, 0.37)	31 (22, 36)	56 (47, 66)	0 (0, 0)	4 (0, 10)
Turkey N = 10 (0.7%)	0.21 (0.17, 0.25)	7 (5, 11)	33 (27, 42)	103 (65, 128)	1,576 (1,234, 2,344)	54 (37, 136)	100 (63, 128)	0.56 (0.40, 0.84)	45 (40, 60)	57 (48, 60)	0 (0, 0)	7 (5, 15)
Indonesia N = 4 (0.3%)	0.19 (0.16, 0.27)	5 (4, 6)	22 (18, 27)	49 (47, 54)	1,132 (952, 1,344)	43 (35, 65)	49 (47, 54)	1.02 (0.80, 1.33)	50 (44, 56)	43 (37, 45)	0 (0, 0)	6 (6, 7)
Iran N = 5 (0.4%)	0.29 (0.22, 0.30)	10 (7, 10)	59 (32, 60)	108 (107, 154)	1,922 (1,606, 1,971)	124 (96, 179)	102 (100, 153)	0.84 (0.62, 1.49)	33 (32, 37)	47 (31, 49)	0 (0, 0)	16 (13, 22)
China N = 6 (0.4%)	0.19 (0.12, 0.31)	6 (4, 8)	108 (43, 162)	216 (104, 457)	4,008 (1,884, 6,974)	78 (69, 83)	214 (104, 456)	0.45 (0.21, 1.15)	41 (33, 49)	43 (39, 48)	0 (0, 0)	20 (8, 35)
Ireland N = 2 (0.1%)	0.28 (0.19, 0.36)	4 (3, 5)	4 (2, 7)	34 (33, 34)	252 (126, 378)	29 (14, 44)	29 (28, 30)	0.94 (0.47, 1.40)	28 (14, 42)	29 (14, 43)	0 (0, 0)	0 (0, 1)
Finland N = 1 (<0.1%)	0.43 (0.43, 0.43)	14 (14, 14)	24 (24, 24)	50 (50, 50)	1,241 (1,241, 1,241)	135 (135, 135)	47 (47, 47)	2.82 (2.82, 2.82)	52 (52, 52)	45 (45, 45)	0 (0, 0)	5 (5, 5)
Malaysia N = 1 (<0.1%)	0.43 (0.43, 0.43)	17 (17, 17)	12 (12, 12)	61 (61, 61)	733 (733, 733)	151 (151, 151)	61 (61, 61)	2.29 (2.29, 2.29)	61 (61, 61)	58 (58, 58)	0 (0, 0)	4 (4, 4)
Poland N = 23 (1.7%)	0.22 (0.18, 0.30)	11 (8, 12)	31 (23, 36)	84 (68, 98)	1,293 (974, 2,082)	64 (38, 100)	81 (64, 96)	0.66 (0.42, 0.94)	47 (41, 54)	55 (52, 63)	0 (0, 0)	7 (4, 12)
Belgium N = 6 (0.4%)	0.14 (0.12, 0.18)	10 (8, 16)	21 (5, 22)	86 (81, 96)	370 (73, 714)	16 (8, 55)	83 (75, 90)	0.14 (0.06, 0.60)	16 (3, 20)	54 (13, 60)	0 (0, 0)	4 (1, 6)
Colombia N = 13 (0.9%)	0.19 (0.15, 0.28)	13 (7, 18)	23 (11, 29)	89 (72, 100)	1,413 (394, 1,695)	61 (30, 81)	76 (66, 96)	0.43 (0.24, 0.93)	49 (44, 54)	49 (37, 52)	0 (0, 0)	8 (4, 11)
Slovakia N = 2 (0.1%)	0.25 (0.19, 0.31)	18 (15, 20)	22 (21, 23)	62 (56, 69)	1,112 (1,079, 1,144)	63 (40, 86)	62 (56, 68)	0.74 (0.55, 0.94)	51 (50, 52)	51 (48, 54)	0 (0, 0)	6 (5, 6)
South Africa N = 4 (0.3%)	0.32 (0.24, 0.37)	13 (8, 21)	22 (14, 29)	103 (86, 113)	1,092 (534, 1,676)	134 (93, 160)	102 (84, 112)	0.95 (0.64, 1.25)	46 (40, 54)	64 (57, 70)	0 (0, 0)	8 (6, 12)
Chile N = 5 (0.4%)	0.25 (0.25, 0.33)	21 (9, 23)	19 (18, 28)	69 (49, 74)	1,061 (567, 1,226)	67 (52, 91)	69 (44, 72)	0.99 (0.96, 1.00)	47 (37, 59)	52 (50, 53)	0 (0, 0)	9 (4, 16)
Serbia N = 4 (0.3%)	0.22 (0.19, 0.26)	11 (5, 17)	22 (21, 29)	68 (61, 87)	1,298 (1,132, 1,526)	64 (32, 92)	68 (61, 85)	0.64 (0.48, 0.76)	51 (45, 57)	65 (60, 70)	0 (0, 0)	8 (5, 12)
Malta N = 1 (<0.1%)	0.34 (0.34, 0.34)	14 (14, 14)	23 (23, 23)	38 (38, 38)	1,020 (1,020, 1,020)	50 (50, 50)	35 (35, 35)	0.79 (0.79, 0.79)	44 (44, 44)	78 (78, 78)	0 (0, 0)	7 (7, 7)

Country												
Portugal N = 4 (0.3%)	0.17 (0.15, 0.22)	11 (8, 18)	22 (16, 51)	80 (73, 154)	869 (831, 2,082)	35 (22, 232)	78 (71, 144)	0.50 (0.32, 0.85)	46 (41, 49)	67 (59, 69)	0 (0, 0)	8 (5, 32)
Russian Federation N = 23 (1.7%)	0.19 (0.17, 0.26)	7 (5, 11)	49 (35, 59)	146 (121, 183)	1,648 (1,262, 1,804)	76 (40, 115)	145 (117, 181)	0.50 (0.34, 0.71)	33 (26, 40)	67 (63, 73)	0 (0, 0)	12 (7, 18)
Romania N = 5 (0.4%)	0.21 (0.19, 0.22)	10 (7, 17)	11 (11, 17)	51 (47, 52)	663 (530, 711)	38 (24, 60)	50 (46, 52)	0.58 (0.48, 0.89)	48 (42, 56)	54 (52, 62)	0 (0, 0)	3 (1, 7)
Mexico N = 5 (0.4%)	0.16 (0.15, 0.21)	12 (5, 20)	37 (0, 39)	64 (33, 104)	374 (0, 1,387)	12 (7, 26)	60 (26, 104)	0.23 (0.12, 0.29)	9 (0, 36)	42 (0, 43)	0 (0, 0)	1 (0, 6)
United Arab Emirates N = 1 (<0.1%)	0.28 (0.28, 0.28)	39 (39, 39)	22 (22, 22)	60 (60, 60)	1,112 (1,112, 1,112)	86 (86, 86)	57 (57, 57)	1.45 (1.45, 1.45)	51 (51, 51)	49 (49, 49)	0 (0, 0)	5 (5, 5)
Thailand N = 1 (<0.1%)	0.27 (0.27, 0.27)	9 (9, 9)	25 (25, 25)	69 (69, 69)	1,733 (1,733, 1,733)	108 (108, 108)	69 (69, 69)	1.28 (1.28, 1.28)	69 (69, 69)	46 (46, 46)	0 (0, 0)	10 (10, 10)
Greece N = 3 (0.2%)	0.19 (0.17, 0.23)	5 (4, 9)	10 (10, 22)	45 (40, 72)	609 (524, 1,648)	30 (28, 34)	45 (38, 70)	0.33 (0.32, 0.65)	61 (52, 69)	60 (53, 63)	0 (0, 0)	4 (2, 6)
Argentina N = 2 (0.1%)	0.20 (0.17, 0.22)	10 (9, 12)	62 (49, 76)	102 (86, 118)	3,343 (2,634, 4,052)	89 (60, 118)	102 (86, 118)	0.66 (0.52, 0.80)	53 (53, 53)	55 (54, 57)	0 (0, 0)	24 (15, 33)
Denmark N = 1 (<0.1%)	0.22 (0.22, 0.22)	25 (25, 25)	30 (30, 30)	100 (100, 100)	894 (894, 894)	44 (44, 44)	70 (70, 70)	0.54 (0.54, 0.54)	30 (30, 30)	66 (66, 66)	0 (0, 0)	10 (10, 10)
Croatia N = 5 (0.4%)	0.18 (0.13, 0.21)	10 (8, 11)	17 (8, 34)	68 (32, 79)	391 (388, 1,238)	12 (10, 44)	62 (31, 71)	0.18 (0.17, 0.43)	31 (28, 49)	80 (70, 89)	0 (0, 0)	5 (1, 6)
Uruguay N = 1 (<0.1%)	0.21 (0.21, 0.21)	5 (5, 5)	25 (25, 25)	61 (61, 61)	1,189 (1,189, 1,189)	44 (44, 44)	61 (61, 61)	0.75 (0.75, 0.75)	48 (48, 48)	51 (51, 51)	0 (0, 0)	7 (7, 7)
Pakistan N = 2 (0.1%)	0.18 (0.17, 0.19)	8 (8, 9)	42 (41, 42)	126 (124, 129)	1,860 (1,744, 1,977)	90 (70, 110)	126 (124, 128)	0.77 (0.55, 0.98)	45 (42, 47)	60 (50, 71)	0 (0, 0)	17 (15, 19)
Venezuela N = 1 (<0.1%)	0.19 (0.19, 0.19)	5 (5, 5)	18 (18, 18)	57 (57, 57)	946 (946, 946)	44 (44, 44)	56 (56, 56)	0.76 (0.76, 0.76)	53 (53, 53)	48 (48, 48)	0 (0, 0)	5 (5, 5)
Bulgaria N = 1 (<0.1%)	0.19 (0.19, 0.19)	9 (9, 9)	19 (19, 19)	76 (76, 76)	1,025 (1,025, 1,025)	40 (40, 40)	70 (70, 70)	0.50 (0.50, 0.50)	54 (54, 54)	38 (38, 38)	0 (0, 0)	4 (4, 4)
Peru N = 1 (<0.1%)	0.19 (0.19, 0.19)	10 (10, 10)	40 (40, 40)	104 (104, 104)	1,974 (1,974, 1,974)	59 (59, 59)	100 (100, 100)	0.48 (0.48, 0.48)	49 (49, 49)	50 (50, 50)	0 (0, 0)	10 (10, 10)
South Korea N = 3 (0.2%)	0.12 (0.12, 0.15)	8 (7, 9)	31 (24, 40)	108 (82, 116)	1,140 (936, 1,226)	10 (10, 31)	108 (82, 114)	0.24 (0.16, 0.34)	41 (32, 41)	47 (46, 49)	0 (0, 0)	5 (3, 12)
Slovenia N = 6 (0.4%)	0.11 (0.10, 0.14)	6 (4, 8)	16 (7, 21)	47 (36, 86)	628 (185, 941)	8 (4, 13)	43 (33, 83)	0.15 (0.04, 0.24)	27 (19, 50)	26 (0, 58)	0 (0, 0)	2 (0, 4)
Cyprus N = 1 (<0.1%)	0.14 (0.14, 0.14)	3 (3, 3)	11 (11, 11)	15 (15, 15)	648 (648, 648)	7 (7, 7)	14 (14, 14)	0.71 (0.71, 0.71)	59 (59, 59)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Belarus N = 1 (<0.1%)	0.13 (0.13, 0.13)	4 (4, 4)	41 (41, 41)	175 (175, 175)	1,255 (1,255, 1,255)	37 (37, 37)	175 (175, 175)	0.18 (0.18, 0.18)	31 (31, 31)	60 (60, 60)	0 (0, 0)	11 (11, 11)
Bosnia and Herzegovina N = 1 (<0.1%)	0.12 (0.12, 0.12)	3 (3, 3)	38 (38, 38)	56 (56, 56)	1,158 (1,158, 1,158)	13 (13, 13)	55 (55, 55)	0.26 (0.26, 0.26)	30 (30, 30)	64 (64, 64)	0 (0, 0)	16 (16, 16)

Costa Rica N = 1 (<0.1%)	0.12 (0.12, 0.12)	2 (2, 2)	13 (13, 13)	18 (18, 18)	699 (699, 699)	8 (8, 8)	18 (18, 18)	0.44 (0.44, 0.44)	54 (54, 54)	53 (53, 53)	0 (0, 0)	4 (4, 4)
Ethiopia N = 1 (<0.1%)	0.11 (0.11, 0.11)	3 (3, 3)	19 (19, 19)	55 (55, 55)	880 (880, 880)	7 (7, 7)	52 (52, 52)	0.08 (0.08, 0.08)	46 (46, 46)	0 (0, 0)	0 (0, 0)	11 (11, 11)
Lithuania N = 1 (<0.1%)	0.11 (0.11, 0.11)	6 (6, 6)	3 (3, 3)	22 (22, 22)	118 (118, 118)	4 (4, 4)	21 (21, 21)	0.19 (0.19, 0.19)	39 (39, 39)	100 (100, 100)	0 (0, 0)	2 (2, 2)
p-value	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
q-value	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

3. Discussion

The data presented in the table underscores significant disparities in scientific production and visibility among different countries. It reveals how factors such as research infrastructure, funding, and institutional support can greatly influence a country's position in the global scientific landscape (Adair & Vohra, 2003; Ansari et al., 2020).

The United States emerges as a dominant force in global scientific research, with the highest Scimago Journal Rank (SJR) index and H-index among the countries listed. The substantial volume of publications and high citation rates per document reflect not only a vast output of scientific work but also a high level of impact and recognition within the international research community (Ball, 2002). This prominence can be attributed to the extensive resources available to U.S. institutions, including substantial research funding, advanced research facilities, and a strong network of academic collaborations (Carey et al., 2023; Banasik-Jemielniak et al., 2022). The leading position of the United States indicates its role as a central hub for groundbreaking research and scholarly influence (Hanson et al., 2024; Diaz et al., 2021).

In comparison, the United Kingdom, while slightly behind the United States in SJR and H-index metrics, still demonstrates a strong presence in the scientific community. The UK's research output and citation rates highlight its significant contributions to global knowledge (Muthukrishna et al., 2021). The country's ability to maintain high-quality research despite having fewer resources compared to the United States reflects its effective use of available resources and its strong academic institutions (Tortosa-Pérez et al., 2020). The UK's performance illustrates how strategic investment in research and collaboration can elevate a country's scientific profile (Manjarres et al., 2023).

Switzerland, though having a much smaller share of the global scientific output, shows a commendable SJR index and H-index relative to its size. This suggests that Swiss research, while less voluminous, has a considerable impact in its specialized fields (Fister et al., 2016). The high citation rates per document point to the quality and relevance of Swiss research, which, despite its smaller scale, is recognized and valued by the international academic community (Lewis, 2021). This example highlights that impact and quality of research can be achieved even with relatively smaller research outputs (Liu & Yang, 2024).

In contrast, countries like Hungary and Germany exhibit lower SJR and H-index values, reflecting less prominence in the global scientific arena. The lower citation rates suggest that while these countries are active in research, their work does not achieve the same level of recognition and influence as that of leading nations (Yang & Shao, 2024). Factors such as limited research funding, fewer international collaborations, and less institutional support may contribute to these lower metrics (Adair & Vohra, 2003). This disparity points to the challenges faced by countries with fewer resources in achieving high visibility and impact in the global scientific landscape (Ansari et al., 2020).

Smaller scientific presences, such as Iceland, Malaysia, and Malta, also show lower SJR and H-index values, indicating their relatively minor role in global scientific research. The limited research output and citation rates reflect the challenges these countries face in terms of scale and resources. However, it is important to recognize that these countries still contribute to their respective fields, and their research can be valuable within specific contexts or regions (Carey et al., 2023; Banasik-Jemielniak et al., 2022).

Overall, the data underscores the significant role of institutional support, research funding, and international collaboration in shaping a country's scientific output and visibility. Countries with greater resources and robust research infrastructures tend to achieve higher visibility and impact. Conversely, countries with fewer resources may struggle to attain similar levels of recognition, despite their contributions to scientific knowledge (Ball, 2002; Muthukrishna et al., 2021). Addressing these disparities requires targeted investment in research infrastructure, support for international collaborations, and policies aimed at enhancing the visibility and impact of scientific work across all nations (Fister et al., 2016).

4. Conclusion

The United States stands out as the global leader in scientific research, with its dominance reflected in its high Scimago Journal Rank (SJR) index and H-index. This leadership is attributed to substantial investments in research infrastructure, extensive funding, and the development of extensive collaborative networks. The sheer volume of research output from the U.S. and the high citation rates of its publications emphasize its central role in advancing scientific knowledge worldwide. The U.S. research ecosystem benefits from a well-established framework that supports innovation and knowledge dissemination, reinforcing its position at the forefront of global science.

The United Kingdom, although slightly behind the United States, maintains a strong position in the global scientific landscape. This strong performance demonstrates the effective use of resources and the strength of its academic institutions. Despite its smaller scale compared to the U.S., the high impact of UK research shows that significant contributions to scientific knowledge can be achieved with relatively fewer resources. The UK's success can be attributed to its strategic approach to research funding, a culture of academic excellence, and the fostering of international collaborations that enhance the visibility and impact of its research.

Switzerland exemplifies how a smaller nation can achieve significant research impact. Despite its limited size, Switzerland's high SJR index and H-index indicate that its research, though not as voluminous as that of larger nations, is highly influential and well-regarded. This success underscores that high-impact research can be produced even with limited resources, highlighting the importance of research quality and strategic focus over sheer volume. Switzerland's notable scientific contributions illustrate that smaller countries can exert substantial influence in their areas of expertise through dedicated efforts and strategic investments.

On the other hand, countries such as Hungary, Germany, Iceland, Malaysia, and Malta face challenges in achieving high levels of scientific visibility and impact, as reflected in their lower SJR and H-index values. These challenges are often linked to limited research funding, fewer opportunities for international collaboration, and less robust research infrastructures. Addressing these challenges is crucial for enhancing the scientific profiles of these nations. This involves increasing research support, fostering international partnerships, and

building stronger research institutions to elevate their research output and impact.

The data highlights the critical role that investment in research infrastructure and international collaboration plays in shaping a country's scientific output and global visibility. Nations with substantial resources and well-developed support systems tend to achieve higher levels of research recognition and impact. In contrast, countries with fewer resources face greater obstacles in reaching similar levels of scientific prominence. To bridge these gaps, it is essential to focus on improving research funding, encouraging international collaborations, and strengthening institutional support. These measures can help enhance the research profiles of nations with fewer resources and contribute to a more equitable global scientific landscape.

Addressing the disparities in scientific research output and impact between nations requires targeted policy interventions. Governments and research institutions should prioritize increasing research funding, supporting international collaborative projects, and enhancing institutional capacities. Implementing these policies will not only support the development of individual nations' research capabilities but also contribute to a more balanced and inclusive global scientific community.

Limitations and future research

Despite the insights gained from this study, several limitations must be acknowledged. First, the research primarily relies on quantitative metrics such as Scimago Journal Rank (SJR) and H-index to evaluate scientific impact. While these metrics provide valuable information, they may not fully capture the nuances of research quality or the broader impact of scientific work. The reliance on these indicators may overlook important factors such as the socio-economic context of research and the varied contributions of different types of scientific work.

Additionally, the study's focus on specific countries may limit the generalizability of the findings. While the selected countries provide a broad perspective, there may be significant variations in research impact and practices within these nations that are not fully represented in the analysis. Future research should consider a more comprehensive range of countries and regions to offer a more nuanced understanding of global research dynamics.

Another limitation is the lack of qualitative analysis of the factors influencing research output and impact. Understanding the underlying causes of disparities in scientific productivity and influence requires a deeper exploration of institutional practices, funding mechanisms, and international collaborations. Incorporating qualitative methods, such as interviews with researchers and policymakers, could provide richer insights into these dynamics.

Future research should address these limitations by incorporating a wider array of indicators and qualitative approaches. Expanding the study to include a broader range of countries and research metrics will enhance the understanding of global research disparities. Additionally, examining the impact of specific policies and institutional practices on research productivity could provide actionable insights for improving research outcomes across different contexts.

Ultimately, addressing these limitations and pursuing these avenues for future research will contribute to a more comprehensive and equitable assessment of global scientific impact, leading to better-informed strategies for enhancing research productivity and influence worldwide.

7. Authors' contribution

AR: Data collection, analysis of results, discussion, final revision of the article.
VQ: Data collection, discussion and final revision of the article.
LC: Conceptualization and final revision of the article.
PM: Discussion and final revision of the article.
AL: Conceptualization and final revision of the article.

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