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Global Research in Clinical Psychology Domain: A Scientometric Assessment Based on Web of Science

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ABSTRACT

This paper attempts to examine the global research productivity and trends of clinical psychology based on Web of Science data and also highlights it from an Indian viewpoint. The study reveals a growing global interest in mental health issues. Overall, the volume of publications has increased, with the highest number produced in the form of articles. The COVID-19 pandemic has caused a drop in publications, with the relative growth rate decreasing and the doubling time increasing from 1990 to 2023. Countries like the United States, the UK, and Germany dominate the field due to their strong academic institutions and substantial funding. India collaborates most with the USA, England, and Australia. The interdisciplinary nature of clinical psychology, with overlap in neuroscience, psychiatry, and public health, has led to more comprehensive research outcomes addressing complex mental health issues. Key research areas, such as psychiatry, neuropsychology, psychopathology, family studies, health psychology, Substance abuse, and Rehabilitation, continue to drive innovation and inform evidence-based practices for advancing mental health care globally. The United States Department of Health and Human Services USA has funded the maximum number of publications globally, while the National Council on Science and Technology and the Indian Council of Medical Research have funded the most publications from India. Zvolensky Michael J has produced the maximum publications globally and Andrade Chittranjan is the topmost Indian author. The University of California System is the top affiliation globally and the National Institute of Mental Health & Neurosciences is the topmost affiliation from India.

Keywords: Clinical Psychology; Scientometrics; Web of Science; World.

1. Introduction

Clinical psychology is defined as "a branch of psychology that focuses on the assessment, diagnosis, treatment, and prevention of mental disorders and psychological distress"[1]. This field integrates theory, research, and clinical practice to understand and alleviate psychological problems affecting individuals across the lifespan[2].

Clinical psychology, as a discipline dedicated to understanding and alleviating mental health disorders through empirical research and evidence-based practice, occupies a pivotal role in modern healthcare[1]. This discipline encompasses a broad spectrum of studies focused on psychological assessment, diagnosis, treatment, and prevention of mental disorders, catering to diverse populations and contexts globally[3]. The field continually evolves, driven by the collective efforts of researchers worldwide who publish their findings in scholarly journals. A scientometric analysis offers a systematic approach to quantitatively and qualitatively assess this vast body of literature, providing insights into its growth, trends, and impact over time[3,4].

Clinical psychologists apply evidence-based interventions in various settings such as therapeutic settings, hospitals, clinics, private practices, and academic institutions[5]. Their work aims to promote mental health and well-being through comprehensive assessment and therapeutic techniques tailored to individual needs.

The Web of Science database stands as a cornerstone in the realm of scientometrics, offering a comprehensive repository of peer-reviewed journals spanning various disciplines, including clinical psychology[6]. Utilizing this platform allows for an in-depth exploration of the publications, citations, collaborations, and thematic developments within clinical psychology research[7,8].

This scientometric study aims to delve into the intricate landscape of clinical psychology literature as indexed in Web of Science. By employing bibliometric methods, this analysis will uncover patterns in publication output, identify key authors and institutions shaping the field, elucidate emerging research themes, and assess the impact of seminal works[9]. Such insights not only contribute to understanding the current state of clinical psychology research but also inform future directions for scientific inquiry, policy development, and clinical practice.

Through this investigation, we aim to provide a vast perspective on how clinical psychology as a discipline has evolved within the scholarly community, highlighting its contributions to advancing knowledge, addressing societal challenges, and improving mental health outcomes globally. This analysis will serve as a valuable resource for researchers, practitioners, and stakeholders seeking to understand the historical context, current state, and future directions of clinical psychology research.

The literature reviewed for clinical psychology scientometrics involves examining the scholarly literature that applies scientometric methods to analyze and understand the landscape of clinical psychology research. Possibly there are no studies that have examined the scientometric aspects of the clinical psychology domain. Still, there are certain similar studies related to the psychology domain that have been reviewed so far.

Hamidi et al. examined the psychological literature on COVID-19 to shed light on the viewpoint, fields of study, and global partnerships using information from the Web of Science. The findings suggest that researchers were interested in the following areas: anxiety, mental health, delirium, loneliness, and suicide. Considering the unique circumstances that COVID-19 brought about for human cultures, psychological research is arguably one of the most significant topics in the field of health[10].

Wang et al. analysed research trends from 1999 to 2021 by conducting a scientometric evaluation of Positive psychology papers using the Web of Science database and found that Positive psychology is steadily expanding. The most productive countries and institutions were the United States and Harvard University, respectively.

The journal with the most co-citations was the Journal of Personality and Social Psychology, while Frontiers in Psychology had the highest productivity. With 3,350 citations and 5,020 co-citations, Seligman was the author with the greatest impact. Research and development advancements in this field are centered around the COVID-19 epidemic, positive psychology intervention, character strengths, linguistic enjoyment, and systematic review[11].

Grover et al. used bibliometric techniques with Scopus to analyze the publication output of Indian authors on Covid-19 and psychology. Regarding citations per paper and relative citation index, authors from Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Pondicherry, had the greatest influence. The National Institute of Mental Health and Allied Sciences (NIMHANS) produced the most publications. Asian Journal of Psychiatry, with 158 papers published, was the journal with the most publications. According to the frequency with which keywords appeared, the most frequently researched themes were mental health (93), anxiety (80), and mental disease (68). They concluded that a significant amount of research on COVID-19 and psychology from India has been published[12].

Hulloli, performed scientometric assessment of the psychology literature produced in India using the Web of Science database during 2001-2020 and revealed that the maximum literature was produced during 2019, with a slight decrement during the year 2020. Most of the papers were published in Psychiatry, and Grover S was the most productive author[13]. He also used Web of Science to compare the quality of psychology research output between 2001 and 2020 in two different countries: South Africa and India. In terms of publishing growth, document type, language, and Activity Index, both countries were compared and it was found that 12,543 papers published in India have received 96,871 citations. South Africa, on the other hand, has published the most papers (9,938 total citations; 1,21,385)[14].

Liu and Oakland, carried out research to determine the expansion and evolution of academic writing that explicitly makes mention to the word 'school psychology' in the Science Citation Index between 1907 and 2014 using the Web of Science database and found that even though the database contained publications from all around the world, the majority of the articles were written by Americans. Journal of School Psychology was the most productive journal and the University of Minnesota-Twin Cities was the topmost producer[15].

Naveed et al. employed the Web of Science to demarcate the overall patterns of publication as well as seminal theories and areas of focus in the field of child and adolescent psychiatry. Their findings indicated a growing trend of research in this area. Research on attention deficit hyperactivity disorder (ADHD), depression, PTSD, social phobia, checklists, psychopharmacology, and the design of psychometric instruments were the main areas of focus for psychiatric research, and in the field of child and adolescent psychiatry, there has been a notable surge in both innovation and development of study fields between 1980 and 2016[16].

2. Methodology

The present study examines the clinical psychology literature produced from 1989 to 2023 with the data extracted from the Web of Science database. The Web of Science Category 'Clinical psychology' was selected for analysis and the publications were refined selecting the timeframe 1989 -2023. Various bibliometric components were considered while extracting the data like year-wise data, publication type, authors, publication source, top-cited papers, institutions, funding agencies, countries, etc. The data has been downloaded, organized, tabulated, and analyzed using Ms-Excel software which is then shown in tables and graphs for interpretation.

3. Objectives

The following are the objectives for carrying out the scientometric study of global clinical psychology literature using Web of Science:

1. To analyze the publication trend of clinical psychology literature and identify the growth rate and doubling period of publications over a specific time.

2. To identify the type of clinical psychology publications, prolific authors, institutions, journals, top countries producing the maximum literature in clinical psychology.

3. To assess the citation impact of clinical psychology publications by identifying highly cited papers and influential authors contributing to the field.

4. To identify the core research areas, and emerging trends in clinical psychology research through keyword analysis.

5. To identify the maximum fund-providing agencies for clinical psychology researchers.

4. Data Analysis and Interpretation

As reflected in the Web of Science database, during 35 years, i.e., 1989-2023, 276800 publications have been produced in clinical psychology globally with 1018 publications from India.

Table 1: Chronological Distribution of the Global Publications in Clinical Psychology

Publication Year	Publication Count	%	Cumulative	RGR (Relative Growth Rate)	Doubling time (Dt)	Mean Relative Growth Rate	Mean Doubling Time
1989	3713	1.341	3713				
1990	4319	1.56	8032	0.772	0.082		
1991	4316	1.559	12348	0.430	0.146		
1992	3956	1.429	16304	0.278	0.227		
1993	4486	1.621	20790	0.243	0.259	0.345	0.143
1994	4529	1.636	25319	0.197	0.320		
1995	5225	1.888	30544	0.188	0.336		
1996	5334	1.927	35878	0.161	0.391		
1997	5429	1.961	41307	0.141	0.447		
1998	5450	1.969	46757	0.124	0.508	0.162	0.400
1999	6333	2.288	53090	0.127	0.496		
2000	5826	2.105	58916	0.104	0.605		
2001	5999	2.167	64915	0.097	0.650		
2002	5648	2.04	70563	0.083	0.755		
2003	6805	2.458	77368	0.092	0.684	0.101	0.638
2004	6062	2.19	83430	0.075	0.835		
2005	7209	2.604	90639	0.083	0.760		
2006	6493	2.346	97132	0.069	0.911		
2007	7632	2.757	104764	0.076	0.833		
2008	7703	2.783	112467	0.071	0.888	0.075	0.845
2009	7863	2.841	120330	0.068	0.932		
2010	9002	3.252	129332	0.072	0.873		
2011	9591	3.465	138923	0.072	0.881		
2012	9527	3.442	148450	0.066	0.950		
2013	10148	3.666	158598	0.066	0.953	0.069	0.918
2014	10110	3.652	168708	0.062	1.019		
2015	10121	3.656	178829	0.058	1.081		
2016	10745	3.882	189574	0.058	1.080		
2017	10187	3.68	199761	0.052	1.204		
2018	10314	3.726	210075	0.050	1.251	0.056	1.127
2019	14141	5.109	224216	0.065	0.967		

Publication Year	Publication Count	%	Cumulative	RGR (Relative Growth Rate)	Doubling time (Dt)	Mean Relative Growth Rate	Mean Doubling Time
2020	13049	4.714	237265	0.057	1.114		
2021	14737	5.324	252002	0.060	1.045		
2022	12702	4.589	264704	0.049	1.281		
2023	12096	4.37	276800	0.045	1.410	0.055	1.163
Total	276800						

Table 1 and Figure 1 present the chronological distribution of clinical psychology publications produced globally from 1989 to 2023. It can be depicted that the maximum no. of publications have been produced during the year 2021 i.e., 14737 (5.324%), followed by 2019 (14141, 5.109%), and 2020 (13049, 4.714%). The lowest number of publications was produced in 1989, i.e., 3713 (1.341%). Though fluctuations in the data have been observed throughout the time frame, the noticeable no. of publications drop after the year 2019 could be attributed to several potential factors such as many research activities being disrupted due to lockdowns, which affected data collection, participant recruitment, and overall research progress.

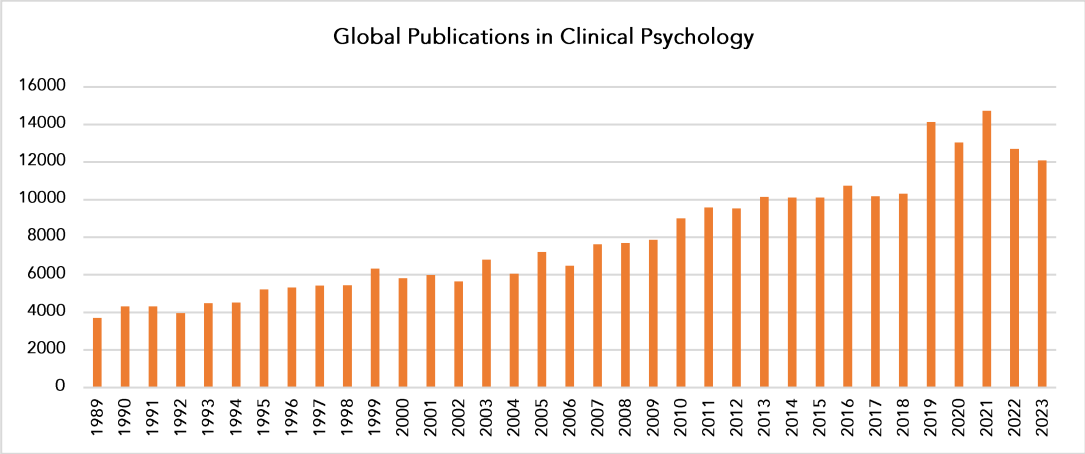

Figure 1: Chronological Distribution of the Global publications in Clinical Psychology

Funding and research priorities shifted to address the pandemic, which may have diverted attention and resources away from clinical psychology research. The peer review and publication process itself may have experienced delays due to the increased volume of submissions related to COVID-19 and the adjustments made by journals and publishers to handle the crisis.

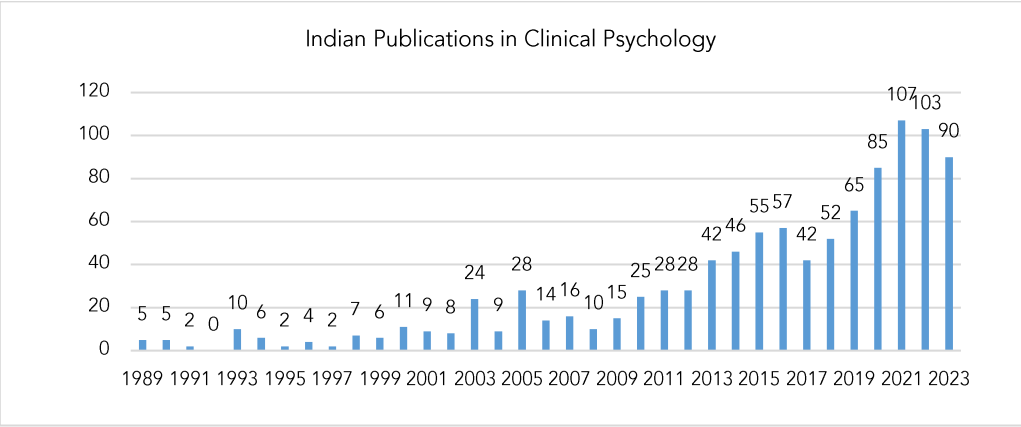

Figure 1.1: Chronological Distribution of the Indian Publications in Clinical Psychology

The chronological distribution of the Indian publications is visible in figure 1.1. The maximum no. of papers produced in the year 2021 (107 papers), followed by 2022 (103), and 2023 (90), with least number of publications in 1991 (2 publications). No publications have been produced during 1992 from India in the field of clinical psychology reason being that Web of Science may not have comprehensive coverage of all journals, especially older ones. Some journals from 1992 might not be included in their database or might not have been indexed at that time.

Table 1 and Figure 1.3 represent the relative growth rate and doubling time of the global publications in clinical psychology. It can be depicted that the Relative Growth Rate of publications has decreased from 0.772 in 1990 to 0.045 in 2023.

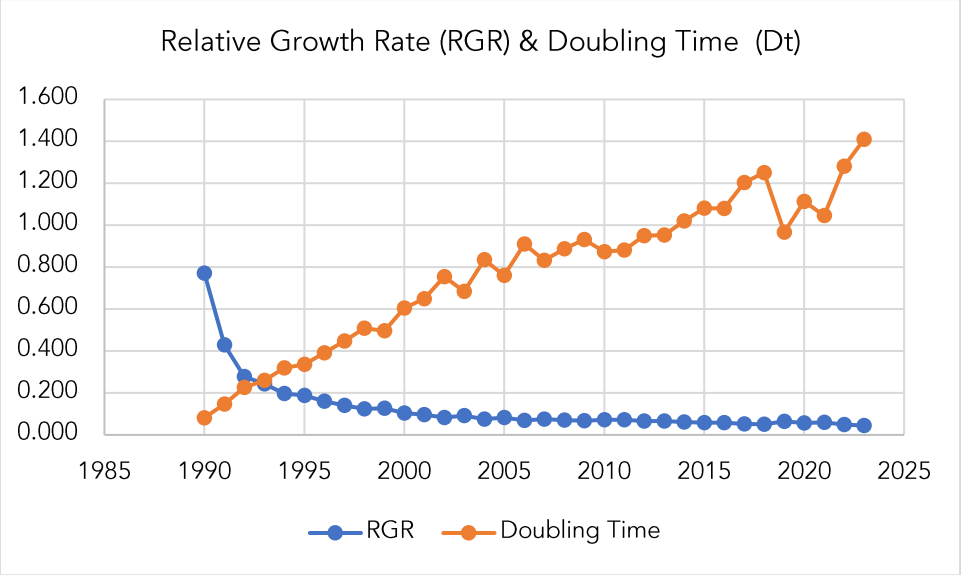

Figure 1.3: Relative Growth Rate and Doubling time of publications

On the other hand the Doubling time for the publications has been increased from 0.082 in 1990 to 1.410 in 2023. Both the RGR and Doubling time show fluctuations in between. The mean RGR is least during the time-frame 2019-2023 i.e., 0.056 and maximum during 1989-1992 i.e., 0.345. The mean doubling time for the publications is maximum during the years 2019 to 2023 i.e., 1.163 while it is minimum during the years 1989 to 1992 i.e., 0.143. This also depicts that the RGR is inversely proportional to the doubling time.

Table 2: Type of Publications

Sr. no.	Type of Publications	Publication count	% of Count
1	Article	194310	70.199
2	Meeting Abstract	33218	12.001
3	Book Review	16062	5.803
4	Review Article	12309	4.447
5	Editorial Material	12165	4.395
6	Proceeding Paper	6694	2.418
7	Letter	4036	1.458
8	Note	1206	0.436
9	Biographical-Item	545	0.197
10	Book Chapters	407	0.147

Sr. no.	Type of Publications	Publication count	% of Count
11	News Item	221	0.080
12	Item About an Individual	109	0.039
13	Bibliography	88	0.032
14	Software Review	43	0.016
15	Retracted Publication	40	0.014
	Others (13)		

Table 2 and figure 2 represents the type of publications produced in the clinical psychology domain. A total of 28 document types have been recorded including articles, book reviews, abstracts, review papers, editorials, proceeding papers, letters, notes, biographical items, book chapters, news items, retrac6ted publications, and many more.

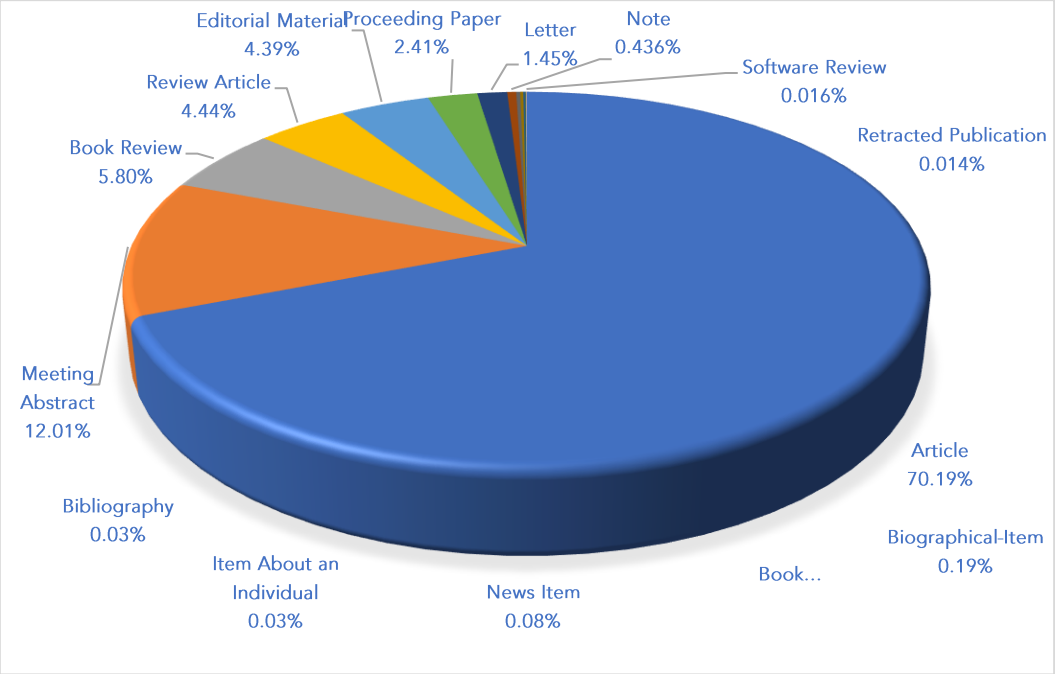

Figure 2: Type of publications

The maximum no. of publications has been produced in the form of articles i.e., 194310 (70.199%), followed by meeting abstracts i.e., 33218 (12.001%), and book reviews (16062, 5.803).

Table 3: Top Authors of Clinical Psychology

Rank	Top Authors	Affiliation	Country	Publications	%	h-index
1	Zvolensky Michael J	University of Houston	USA	465	0.168	71
2	Strauss Bernhard	Voestalpine AG	Austria	443	0.16	38
3	Petermann Franz	University of Bremen	Germany	398	0.144	53
4	Brahler Elmar	University of Leipzig	Germany	374	0.135	82
5	Treasure J	King's College London	England	344	0.124	99
6	Joiner TE	Florida State University	USA	342	0.124	97
7	Rief Winfried	Philipps University Marburg	Germany	330	0.119	80
8	Schmidt Norman B	Florida State University	USA	317	0.115	69
9	Bulik Cynthia M	University of North Carolina	USA	316	0.114	78
10	Crosby Ross D	Sanford University	USA	287	0.104	90

The top ten writers globally who have contributed the most papers in clinical psychology are shown in Table 3. Zvolensky Michael J from the University of Houston, USA has produced the maximum number of publications i.e., 465 (0.168%, Rank 1) having an h-index value equivalent to 71, followed by Strauss Bernhard from Voestalpine AG, Austria (443 publications, 0.16%, Rank 2) having h- index =38, and Petermann Franz from University of Bremen, Germany having 398 publications (0.144%, Rank 3) having an h-index equal to 53. Brahler Elmar from the University of Leipzig, Germany, possesses Rank 4 contributing (374 publications, 0.135%) and has an h-index value of 83, is found to be the highly cited award recipient from the year 2019-2023, in the subject categories Psychology, Psychiatry, Public, Environmental & Occupational Health and Oncology with 34,860 total citations. Rief Winfried from Philipps University Marburg, Germany (Rank 7, 330, 0.199% publications) also got a highly cited researcher award from the year 2021-2023 in subject categories Psychology, Psychiatry, Neurosciences & Neurology, and Pharmacology & Pharmacy with 30,197 total citations and h-index equal to 80.

Table 3.1: Top Indian Authors

Indian Rank	Global Rank	Author Name	Affiliation	Papers	%	h-Index
1	72	Andrade Chittranjan	National Institute of Mental Health & Neurosciences	159	15.61%	35
2	6381	Ghosh, Abhishek	Post Graduate Institute of Medical Education & Research (PGIMER), Chandigarh	21	2.06%	16
3	11111	Basu, Debasish	Post Graduate Institute of Medical Education & Research (PGIMER), Chandigarh	14	1.37%	20
4	11306	Dhikav, Vikas	ICMR - National Institute for Implementation Research on Non-Communicable Diseases (NIIRNCD)	14	1.37%	13
5	12025	Sarkar, Siddharth	All India Institute of Medical Sciences (AIIMS) New Delhi	14	1.37%	21
6	14402	Kumar, Devvarta	National Institute of Mental Health & Neurosciences - India	12	1.17%	9
7	14537	Mattoo, Surendra K	Post Graduate Institute of Medical Education & Research (PGIMER), Chandigarh	12	1.17%	22
8	14853	Sagar, Rajesh	All India Institute of Medical Sciences (AIIMS) New Delhi	12	1.17%	67
9	18728	Janardhan Reddy, Y. C.	National Institute of Mental Health & Neurosciences - India	10	0.98%	42
10	19063	Telles, Shirley	National Institute of Mental Health & Neurosciences - India	10	0.98%	29

Table 3.1 lists the leading Indian authors who have made the maximum contributions to clinical psychology, along with their rankings both domestically and globally. Rank 1 is possessed by Andrade Chittranjan (Global rank 72, h-index 35), affiliated with the National Institute of Mental Health & Neurosciences, contributing 159 papers, i.e., 15.61% of the Indian publications followed by Ghosh, Abhishek with rank 2, (Global rank 6381, h-index 16), and Basu, Debasish with rank 3, (Global rank 11111, h-index 20) from Post Graduate Institute of Medical Education & Research

(PGIMER), Chandigarh, contributing 21 i.e., 2.06% and 14 i.e., 1.37% publications respectively. Among the top 10 Indian authors 4 authors are affiliated to National Institute of Mental Health & Neurosciences, 3 are affiliated to PGIMER, Chandigarh, 2 are affiliated to AIIMS, New Delhi and 1 is affiliated to ICMR - National Institute for Implementation Research on Non-Communicable Diseases (NIIRNCD).

Table 4: Top International Affiliations of Clinical Psychology

Rank	Affiliations	Country	Publications	%
1	University of California System	USA	11362	4.188
2	University of London	England	8777	3.235
3	US Department of Veterans Affairs	USA	8092	2.983
4	Harvard University	USA	7970	2.938
5	Veterans Health Administration VHA	USA	7928	2.922
6	Pennsylvania Commonwealth System of Higher Education PCSHE	USA	6685	2.464
7	State University System of Florida	USA	6600	2.433
8	University System of Ohio	USA	6562	2.419
9	King S College London	England	5102	1.881
10	University of Texas System	USA	4925	1.815

Table 4 depicts the top most productive international affiliations of clinical psychology. Rank 1 is occupied by University of California System, USA contributing 11362 i.e., 4.18% publications, Rank 2 by University of London, England, with 8777, 3.23% papers and rank 3 by US Department of Veterans Affairs, USA with 8092, i.e., 2.98% publications. Rank 4 is occupied by Harvard University, USA with 7970, i.e., 2.93% publications and rank 5 is occupied by Veterans Health Administration, USA with 7928, i.e., 2.92% publications. Among top 10 most productive affiliations of the world 8 affiliations belong to USA and remaining 2 from England. The US institutions dominate clinical psychology research due to significant funding, high-quality education, state-of-the-art research facilities, interdisciplinary collaboration, access to prestigious journals and conferences, diverse research opportunities, strong professional networks, and historical leadership. The US also encourages collaboration across disciplines, leading to more comprehensive research outcomes. The US has also been a leader in the development of psychology, with many foundational theories and practices originating from American researchers.

Table 4.1: Top Indian Affiliations

Indian Rank	World rank	Name of the Affiliation	State	Publications	%
1	507	National Institute of Mental Health Neurosciences	Karnataka	249	24.45
2	1193	All India Institute of Medical Sciences	Delhi	63	6.18
3	1751	Post Graduate Institute of Medical Education Research	Chandigarh	35	3.43
4	1920	Indian Institute of Technology System	West Bengal	31	3.04
5	2256	University of Delhi	Delhi	24	2.35
6	2296	Manipal Academy of Higher Education	Karnataka	23	2.25
7	2514	National Drug Dependence Treatment Centre	Uttar Pradesh	20	1.96
8	2602	Tata Institute of Social Sciences	Maharashtra	19	1.86
9	2636	Christian Medical College Hospital	Tamil Nadu	18	1.76
10	3087	Banaras Hindu University	Uttar Pradesh	14	1.37

Table 4.1 lists the top affiliations of India contributing maximum research in clinical psychology domain. It can be clearly depicted that the researchers from the National Institute of Mental Health and Neurosciences, Karnataka contributes maximum papers i.e., 249 publications (0.24.45% of the Indian publications), world rank 507. This can conclude to the fact that it is a leading center for mental health research, education, and clinical services in India. Its significant contribution to clinical psychology research is attributed to its specialized focus on mental health and neuroscience, comprehensive facilities, interdisciplinary approach, high volume of clinical cases, government support, advanced training programs, collaborations with national and international research organizations, universities, and healthcare institutions, and a focus on relevant issues in the Indian context. Rank 2 is occupied by All India Institute of Medical Sciences, Delhi with 63 publications i.e., 6.18%, and Rank 3 is occupied by Post Graduate Institute of Medical Education Research, Chandigarh, with 35 publications i.e., 3.43%.

Table 5: Top Journals of Clinical Psychology

Rank	Journal Titles	Publisher	Publications	%	(JCI)
1	Archives of Clinical Neuropsychology	Oxford University Press, United Kingdom	11059	3.995	0.83
2	Journal of Clinical Psychiatry	Physicians Postgraduate Press, United Kingdom	10832	3.913	1.15
3	Psychological Medicine	Cambridge University Press, United Kingdom	8557	3.091	2.36
4	International Psychogeriatrics	Cambridge University Press, United Kingdom	7503	2.711	1.38
5	Addictive Behaviors	Pergamon-Elsevier Science Ltd, Netherlands	6887	2.488	1.34
6	International Journal of Behavioral Medicine	Springer, USA	6515	2.354	0.71
7	Clinical Neuropsychologist	Taylor & Francis Inc, United Kingdom	5887	2.127	1.11
8	Behaviour Research and Therapy	Pergamon-Elsevier Science Ltd, Netherlands	4981	1.799	1.5
9	Archives of Sexual Behavior	Springer, USA	4869	1.759	1.31
10	Journal of Clinical and Experimental Neuropsychology	Taylor & Francis Inc, U.K	4822	1.742	0.61

*JCI = Journal Citation Indicator, recorded from Web of Science.

Table 5 enlists the top journals in which most research has been published related to clinical psychology topics. Rank 1 is occupied by Archives of Clinical Neuropsychology (JCI =0.83), published by Oxford University Press, United Kingdom with 11059 i.e., 3.99% publications, rank 2 is occupied by Journal of Clinical Psychiatry (JCI = 1.15), published from Physicians Postgraduate Press, United Kingdom, with 10832 i.e., 3.91 % publications, and rank 3 is occupied by Psychological Medicine (JCI= 2.36), published by Cambridge University Press, United Kingdom with 8557 i.e., 3.09% publications. Among the top 10 journals 6 of the journals are published in the UK, 2 from the USA, and the remaining 2 from the Netherlands.

Table 6: Top Countries Contributing Maximum Research in Clinical Psychology

Rank	Countries/Regions	Publications	%
1	USA	137585	49.706
2	England	25739	9.299
3	Germany	20097	7.260
4	Canada	17900	6.467
5	Australia	15039	5.433
6	Netherlands	10377	3.749
7	Spain	5950	2.150
8	Peoples R China	5009	1.810
9	Italy	4880	1.763
10	Israel	3932	1.421
	India	1018	0.368

Table 6 enliststhe top nations contributing maximum publications in the clinical psychology domain. The USA holds rank 1 contributing 137585 papers i.e., 49.70% of the total, rank 2 is occupied by England contributing 25739 i.e., 9.29% of the total papers, rank 3 is occupied by Germany with 20097 papers, i.e., 7.26%. These nations are followed by Canada and Australia with 17900 (6.46%) and 15039 (5.43%) publications. Due to their robust academic institutions, significant financing, historical roots, multidisciplinary collaboration, worldwide influence, and strong public backing, the United States, England, and Germany are the top three nations in the world for clinical psychology research. Prominent research and academic institutions in these nations, like the University of Oxford, Stanford, and Harvard, offer strong academic settings for training and research. A significant amount of funding is provided for psychological research by organizations like the Deutsche Forschungsgemeinschaft (DFG) in Germany, the Medical Research Council (MRC) in the United Kingdom, and the National Institutes of Health (NIH) in the United States. In these nations, interdisciplinary cooperation enables clinical psychology to interact with other disciplines, such as neuroscience, medicine, and social sciences, producing more thorough and significant research results. Strong professional networks are offered by associations such as the American Psychological Association (APA), the British Psychological Society (BPS), and the German Psychological Society (DGPs), which encourage research, establish ethical guidelines, and assist in the communication of results.

Table 6.1: Top Collaborating Countries with India

Rank	Country	Collaborated Publications	%
1	USA	203	19.941
2	England	125	12.279
3	Australia	59	5.796
4	Canada	49	4.813
5	Netherlands	40	3.929
6	Peoples R China	39	3.831
7	Italy	36	3.536
8	Brazil	35	3.438
9	Switzerland	34	3.34
10	Germany	31	3.045

Table 6.1 depicts the top collaborating countries with India for contributing publications of clinical psychology. Maximum collaborated publications with India are from the USA i.e., 203 publications (19.94%), followed by England, 125 publications i.e., 12.27%, and Australia with 59 (5.79% publications. By partnering with organizations in these nations, Indian researchers gain access to state-of-the-art techniques, resources, and knowledge that improve the caliber and significance of their work. The fact that English is widely spoken among scholars in these nations makes communication and cooperation easier. Mental health conditions including depression, anxiety, and trauma are typically of interest to researchers from these nations, and through cooperative endeavors, they address these problems from several angles and provide appropriate interventions.

Table 7: Most Cited Papers of Clinical Psychology

Rank	Publication Title	Authors	Journal	Citations	Year
1	The Mini-International Neuropsychiatric Interview (MINI): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10	Sheehan, DV et al.	Journal of Clinical Psychiatry	18366	1998
2	The structure of negative emotional states - comparison of the depression anxiety stress scales (DASS) with the beck depression and anxiety inventories	Lovibond, PF; Lovibond, SH	Behaviour Research and Therapy	8053	1995
3	Clinical-significance - a statistical approach to defining meaningful change in psychotherapy-research	Jacobson, NS; Truax, P	Journal of Consulting and Clinical Psychology	7535	1991
4	Short screening scales to monitor population prevalences and trends in non-specific psychological distress	Kessler, RC, et al.	Psychological Medicine	6741	2002
5	Measuring emotion - the self-assessment mannequin and the semantic differential	Bradley, MM; Lang, PJ	Journal of Behavior Therapy and Experimental Psychiatry	5814	1994
6	Factor structure of the Barratt Impulsiveness Scale	Patton, JH; Stanford, MS; Barratt, ES	Journal of Clinical Psychology	5749	1995
7	Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC)	Connor, KM; Davidson, JRT	Depression and Anxiety	5655	2003
8	The Pain Catastrophizing Scale: Development and validation	Sullivan, MJL; Bishop, SR; Pivik, J	Psychological Assessment	5575	1995
9	Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale	Gratz, KL; Roemer, L	Journal of Psychopathology and Behavioral Assessment	5072	2004
10	Development of the World Health Organization WHOQOL-BREF quality of life assessment	Harper, A; Power, M	Psychological Medicine	4876	1998

Table 7 presents the top most cited papers during the period of study in the clinical psychology domain. The most cited paper is entitled as "The Mini-International Neuropsychiatric Interview (MINI)…" (1998) by Sheehan, DV et al is published in the Journal of Clinical Psychiatry have 18366 citations. This indicates that it has provided significant information or a well accepted approach, as evidenced by the fact that researchers often cite the publication in their own research. It is followed by "The structure of negative emotional states…" (1995) by Lovibond, PF and Lovibond, SH published in Behaviour Research and Therapy have 8053 citations and "Clinical-significance - a statistical approach….." (1991) by Jacobson, NS and Truax, P published in Journal of Consulting and Clinical Psychology have 7535 citations. Papers with groundbreaking findings, novel methodologies, or significant advancements are often used as foundational references for subsequent research. The paper's broad applicability, collaboration, and high-quality research enhance its credibility and attracts more citations. Additionally, papers with cross-cultural or global relevance are more likely to be cited by a diverse range of researchers worldwide.

Table 8: Top Research Areas of Clinical Psychology

Sr. no.	Subject categories	Publications	%
1	Psychology	276800	100.000
2	Psychiatry	92189	33.305
3	Neurosciences Neurology	24283	8.773
4	Substance Abuse	17479	6.315
5	Family Studies	16899	6.105
6	Social Sciences Other Topics	14365	5.190
7	Geriatrics Gerontology	7503	2.711
8	Nutrition Dietetics	5714	2.064
9	Criminology Penology	4324	1.562
10	Pharmacology Pharmacy	4052	1.464
11	Rehabilitation	3732	1.348
12	Public Environmental Occupational Health	2763	0.998
13	Obstetrics Gynecology	1969	0.711
14	Health Care Sciences Services	1694	0.612
15	Education Educational Research	1295	0.468
16	Pediatrics	1135	0.410
17	Biomedical Social Sciences	724	0.262
18	Medical Informatics	563	0.203
19	Behavioral Sciences	412	0.149
20	Science Technology Other Topics	130	0.047
21	Music	61	0.022
22	Toxicology	10	0.004

Table 8 enlists the subject categories that illustrate the broad scope and interdisciplinary connections of clinical psychology research, highlighting its relevance to a wide range of scientific and applied fields. Maximum publications relate to psychology i.e., 276800 (100%) because this broad category encompasses research that spans various psychological disciplines, including the whole clinical psychology along with others like cognitive, developmental and social psychology. This category is followed by psychiatry with 92189 publications i.e., 33.30%. This field of research focuses on mental health disorders: their diagnosis, treatment, and prevention. Psychiatry and clinical psychology often intersect, particularly in research about mental health issues and therapeutic

approaches. Next comes the Neurosciences and Neurology with 24283 publications, i.e., 8.77% which frequently focuses on the biological causes of psychiatric illnesses. Research in this field may include examinations using neuroimaging, evaluations using neuropsychology, and the effects of neurological disorders on mental health.

Table 9: Top International Funding Agencies

Rank	Funding Agencies	Country	Funded publications	%
1	United States Department of Health Human Services	USA	31062	11.222
2	National Institutes of Health	USA	30198	10.910
3	National Institute of Mental Health	USA	11419	4.125
4	National Institute on Drug Abuse	USA	7178	2.593
5	National Institute on Alcohol Abuse Alcoholism	USA	3398	1.228
6	National Institute of Child Health Human Development	USA	2829	1.022
7	UK Research Innovation	UK	2469	0.892
8	National Institute on Aging	USA	2231	0.806
9	Medical Research Council	UK	1859	0.672
10	Canadian Institutes of Health Research	Canada	1843	0.666

Table 9 represents the world's top funding agencies that provide funds to carry out research work in the clinical psychology domain. United States Department of Health Human Services USA has funded the maximum number of publications i.e., 31062 (11.22%) and holds rank 1, followed by the National Institutes of Health, USA with 30198 (10.91%) funded publications, and the National Institute of Mental Health, USA with 11419 (4.12%) funded publications. Among the top 10 funding agencies, 7 are from the USA and 2 & 1 from the UK and Canada, respectively.

Table 9.1: Top Indian Funding Agencies

Rank	Top Funding Agencies in India	Funding count	%
1	National Council on Science and Technology	32	3.14
2	Indian Council of Medical Research	17	1.66
3	Ministry of Health and Welfare	9	0.88
4	Department of Science Technology India	9	0.88
5	University Grants Commission India	7	0.68
6	Department of Biotechnology	7	0.68
7	All India Institute of Medical Sciences New Delhi	4	0.39
8	Indian Statistical Institute	2	0.19
9	Ramanujan Fellowship	2	0.19
10	Council of Scientific and Industrial Research	2	0.19

Table 9.1 represents the top funding agencies of India for clinical psychologists based on WoS data. National Council on Science and Technology holds rank 1, funding 32 publications i.e., 3.14% of the Indian publications, followed by the Indian Council of Medical Research which funded 17 publications (1.66%), and the Ministry of Health and Welfare with 9 funded publications i.e., 0.88%.

Table 10: Top Keywords

Rank	Citation Topics Meso	Count	%	Citation Topics Micro	Count	%
1	Psychiatry & Psychology	50294	18.17	Ptsd	14018	5.064
2	Psychiatry	45723	16.518	Eating Disorders	13460	4.863
3	Nutrition & Dietetics	17212	6.218	Psychotherapy	11473	4.145
4	Substance Abuse	11858	4.284	Parenting	10569	3.818
5	Neuroscanning	11036	3.987	Depression	8818	3.186
6	Autism & Development Disorders	10591	3.826	Schizophrenia	6709	2.424
7	Social Psychology	8154	2.946	Methadone	6286	2.271
8	Neurodegenerative Diseases	7098	2.564	Dementia	6091	2.201
9	Palliative Care	4966	1.794	Mindfulness	6007	2.170
10	Gender & Sexuality Studies	4338	1.567	Autism	5424	1.960

Table 10 shows the most popular keywords that were found through a combination of focused analysis of the individual elements such as particular publications, contributors, or their citations and an intermediate analysis of the patterns and trends in relation to broader groupings like communities, institutions, or other subfields. This analysis provided in-depth insights into the use and impact of individual research contributions. Understanding the complete range of research influence and citation patterns requires both levels of analysis, which provide insights at various granularities. While analyzing the broader terms i.e., Meso, the most popular topics found are psychiatry and psychology which relate to 50294 (18.17%) of the publications, followed by psychiatry, nutrition and dietetics, substance abuse, and neuroscanning with 45723 (16.51%), 17212 (6.21%), 11858 (4.28%) and 11036 (3.98%) respectively. While analyzing detailed individual elements i.e., micro, the popular topics found are Ptsd (14018 i.e., 5.06%), Eating disorders (13460, i.e., 4.86%), psychotherapy (11473, 4.14%), parenting (10569, i.e., 3.81%) and depression (8818, i.e., 3.185%). The most often recurring keywords throughout time suggest a greater amount of research in that specific subject, indicating a greater level of interest in such topics among scholars.

5. Results

1) Globally the maximum no. of publications has been produced during the year 2021 i.e., 14737 (5.324%), followed by 2019 (14141, 5.109%), and 2020 (13049, 4.714%). The lowest number of publications was produced in 1989, i.e., 3713 (1.341%). From India the maximum no. of papers produced in the year 2021 (107 papers), followed by 2022 (103), and 2023 (90), with least number of publications in 1991 (2 publications). No publications have been produced during 1992.

2) Relative Growth Rate of publications has decreased from 0.772 in 1990 to 0.045 in 2023. Doubling time for the publications has been increased from 0.082 in 1990 to 1.410 in 2023. Both the RGR and Doubling time show fluctuations in between.

3) The maximum no. of publications has been produced in the form of articles i.e., 194310 (70.199%), followed by meeting abstracts i.e., 33218 (12.001%), and book reviews (16062, 5.803).

4) Globally Zvolensky Michael J from the University of Houston, USA has produced the maximum number of publications i.e., 465 (0.168%) and Andrade Chittranjan (Global rank 72, h-index 35), affiliated with the National Institute of Mental Health & Neurosciences, contributing 159 papers, i.e., 15.61% is the top author from India.

5) Internationally Rank 1 is occupied by the University of California System, USA contributing 11362 i.e., 4.18% of publications and the National Institute of Mental Health and Neurosciences, Karnataka contributes maximum papers i.e., 249 publications (0.24.45% of the Indian publications), world rank 507.

6) Archives of Clinical Neuropsychology (JCI =0.83), published by Oxford University Press,

United Kingdom with 11059 i.e., 3.99% publications is the topmost journal in terms of publication counts.

7) The USA is the topmost country contributing 137585 papers i.e., 49.70% of the total publications and also collaborates maximum publications with India i.e., 203 publications.

8) The most cited paper is entitled as "The Mini-International Neuropsychiatric Interview (MINI)…" (1998) by Sheehan, DV et al is published in the Journal of Clinical Psychiatry have 18366 citations.

9) Maximum publications relate to psychology i.e., 276800 (100%) followed by psychiatry with 92189 publications i.e., 33.30%. Next comes the Neurosciences and Neurology with 24283 publications, i.e., 8.77%.

10) Globally United States Department of Health Human Services USA has funded the maximum number of publications i.e., 31062 (11.22%), and National Council on Science and Technology is the topmost from India, funding 32 publications i.e., 3.14% of the publications.

11) The most popular topics found are psychiatry and psychology which relate to 50294 (18.17%) of the publications, followed by psychiatry, nutrition and dietetics, substance abuse, and neuroscanning with 45723 (16.51%), 17212 (6.21%), 11858 (4.28%) and 11036 (3.98%) respectively. While analyzing detailed individual elements i.e., micro, the popular topics found are Ptsd (14018 i.e., 5.06%), Eating disorders (13460, i.e., 4.86%), psychotherapy (11473, 4.14%), parenting (10569, i.e., 3.81%) and depression (8818, i.e., 3.185%).

6. Discussion and Conclusion

The scientometric assessment of global clinical psychology publications, based on Web of Science data, reveals significant trends in the field. Overall, the volume of publications has increased, indicating a growing global interest in mental health issues. Though fluctuations in the data have been observed throughout the time frame, the noticeable no. of publications drop after the year 2019 could be attributed to COVID - 19. The Relative Growth Rate of global publications decreased and the doubling time for the publications increased from 1990 to 2023. Countries like the United States, the UK, and Germany dominate the field due to their strong academic institutions and substantial funding. India collaborates the most with the USA, England and Australia. The interdisciplinary nature of the field, with overlap in neuroscience, psychiatry, and public health, has led to more comprehensive research outcomes addressing complex mental health issues. Key research areas, such as psychiatry, neuropsychology, psychopathology, family studies, health psychology, Substance abuse and Rehabilitation continue to drive innovation and inform evidence-based practices for advancing mental health care globally.

In conclusion, this scientometric assessment demonstrates that clinical psychology is a dynamic and evolving field with a broadening scope and increasing global participation. The insights gained from this analysis provide a valuable foundation for guiding future research directions, fostering international collaborations, and addressing the diverse mental health needs of populations worldwide. Similar studies can be conducted in other fields too, to analyze dynamic research trends in terms of publications, authors, institutions, funding agencies, subject research areas, keywords etc.

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