Authorship Pattern and Collaboration Trends in International Journal of Physical Education, Fitness and Sports: A Bibliometric Analysis

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Abstract

The main aim of the study is to know the Authorship pattern and collaboration trends in the international journal of physical education, fitness, and sports (IJPEFS) during the five years from 2017-2021.159 article papers were published by 466 authorship this journal. The highest number of articles was 27.04%in 2019 and the lowest number of articles 15.09%in 2018and 6.2% of articles contributed by a single author and 19.7% of articles were contributed by two authors and the remaining 20.8% and 53.2% of articles were contributed by three authors and more than four. 93.76%authors contributed with joint authors from that 73.40% are contributed by male authors and citation used maximum 46.54% used more than 26 citations and maximum pages 66.03% used by more than 26 pages & maximum contribution is the USA with 28.75% and minimum Number contribution by 0.21%published by Uzbekistan, Singapore, Saudi Arabia, Romania, Philippines.

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Keywords
Awareness; Public libraries; Open E-Resources; Tirunelveli

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1. Introduction

The statistical Analysis of International Journal of Physical Education, Fitness and SportsBibliometric analysis of the journal Statistics such as year wise calculation of article and Author, Authorship Pattern, journal contributions by gender, and geographical wise, citations cited per an article in the journal, pages in the journal and Degree of collaboration, etc. In this context Authorshippattern, and degree of collaboration is very important and useful aspect. Because it measures the Author's contributions field in the research. The International Journal of Physical Education, Fitness, and Sports (IJPEFS) are an international, print / online quarterly journal published in English. IJPEFS aims to stimulate knowledge in professionals, researchers, and academicians working in the fields of Physical Education, Fitness, and Sports Sciences. IJPEFS publishes experimental, theoretical studies and critical reviews of the multidisciplinary aspects of the Sports and Exercise Sciences, Sports Medicine, Yoga, Psychology, Physiology, Performance Analysis, Anatomy, Biomechanics as well as Coaching and Talent identification, other interdisciplinary perspectives to integrate the field of sports science are encouraged. IJPEFS encourages the publication which includes the original investigations of exercise, validation of technological innovations in sports science or comprehensive reviews of topics relevant to the scientific study of sports are highlighted. The IJPEFS also publishes an opinion, case studies, letters to the editor, and priority communications. For this reason, the present study is selected the International Journals of Physical Education, Fitness, and Sports to conduct a Bibliometric study of authorship patterns and contributions trends in International Journals of Physical Education, Fitness, and Sports from 2017 to 2021.

2.Review of Literature

Manoj Kumar Verma and et.al (2019) evaluatedtheauthorship and collaboration pattern of the Researchers World: Journal of Arts, Science, and Commerce during the period (2010-2017) in which a total of 662 research papers were published in this journal. The highest number of articles 108 (16.31%) were published in the year 2017. The highest 2.24 collaboration index was recorded in the year 2010 and the overall average of collaboration index was 1.92. Out of 662 articles, the maximum 386 publications were co-authorship index while 276

publications were single author index.PrabinKarkee., and Sudha Sinha (2020)evaluated the authorship and collaboration pattern in the IASLIC bulletin during the year 2011-2018. Total 162 articles were published and out of 59 articles are published by a single author and the remaining 103 articles by more than two authors. The average degree of collaboration is 0.64, average collaboration coefficient is 0.56.Jisha Antony., and RajaSelvaraju (2019) analyzed the impact of Poultry industry Research Publications indexed in the Scopus database during the period 2008 to 2017. The analysis revealed that a total of 4248 documents were indexed in the database during the selected period of study. The highest productive year is 2017 with 610 publications (14.36%) and the lowest is 2008 with 268 publications (6.31%). The Exponential growth rate is found to be highest in the years 2012 and 2014 with a value of 0.226. The mean Degree of collaboration, Collaborative index, Collaborative coefficient is found to be 0.89, 4.62, and 0.66 respectively. Average citations per paper are 12.28 and the average Publication efficiency index is 1.15. Neha Verma., and Kunwar Singh (2017) conducted a study on authorship patterns and degree of collaboration in this Journal 255 articles during 2010-2016. The average number of authors per paper is 2.27. Further, the study has shown that the degree of collaboration during the seven years is 0.83 to 0.77. In the seven years of period, the joint authorship articles are higher productive.

3. Methodology

For this study, International Journal of Physical Education, Fitness, and Sports have been selected as the source journal. Twenty issues from five volumes from 2017 to 2021 have been selected for the study. Information regarding authorship patterns, contributions by gender, and geographical wise, etc., were checked and examined carefully. Then data were calculated, Tabulated and Analysis with MS - Excel.

4. Objectives

- To examine the authorship pattern.
- To examine the journal contributions by gender and geographical wise.
- To examine the number of citations cited per article in the journal.
- To examine the number of pages per article in the journal.
- To Study Degree of Collaboration.

5. Data Analysis and Interpretation

Table 1: Year-Wise Distribution of Articles

Year	Volume	Article	
2017	06	25	15.72%
2018	07	24	15.09%
2019	08	43	27.04%
2020	09	32	20.12%
2021	10	35	22.01%
Total		159	100%

5.1.Year-wise Distribution of Articles

Table-1: clearly shows that 159 articles are published in five volumes of International Journal of Physical Education, Fitness, and Sports from 2017 to 2021. The maximum number of articles 43 (27.04%) are published in the year 2019 followed by 35 (22.01%) contributions in the year 2021 and 32 (20.12%) articles are published in the year 2020.

Table 2: Authorship Pattern

Year	Vol-ume	No of Authors				Total
		One	Two	Three	More than four	
2017	06	12	10	12	17	51
2018	07	05	12	12	40	69
2019	08	07	26	18	79	130
2020	09	02	20	28	54	104
2021	10	03	24	27	58	112
Total		**29 (6.2%)**	**92 (19.7%)**	**97 (20.8%)**	**248 (53.2%)**	**466**

5.2.Authorship Pattern

The number of authors contributing to articles over the last five years from 2017 to 2021 in international journal of physical education, fitness, and sports Table -1: provides the details of the authorship pattern 6.2% of articles were contributed by a single author and 19.7% of articles were contributed by two authors and the remaining 20.8% and 53.2% of articles were contributed by three authors and more than four authors.

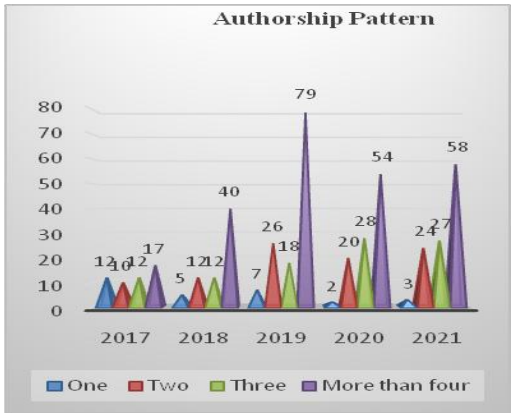


Fig. 1.Authorship Pattern

Table 3: Authorship Pattern of Single and Joint Contributions

Year	Volume	Single Author	Joint Author	Total
2017	06	12	39	51
2018	07	05	64	69
2019	08	07	123	130
2020	09	02	102	104
2021	10	03	109	112
Total		**29(6.26%)**	**437(93.76%)**	**466(100%)**

5.3.Authorship Pattern of single and joint contributions

From Table – 3 The data shows that the Authorship Pattern of single and joint contributions. It shows that out of 466 contributors 29(6.26%) contributors contributed with single authors and 437(93.76%) contributors contributed with joint authors.

Table 4: Distribution of Gender Wise

Year	Volume	Author		Total
		Male	Female	
2017	06	47	4	51
2018	07	54	15	69
2019	08	89	41	130
2020	09	75	29	104
2021	10	77	35	112
Total		342 (73.40%)	124 (26.60%)	466

5.4. Gender wise distribution

The gender-wise contributions of the Article over the last five years that is male and female from the table-4 provide the detailsabout gender contributions from the last five years. Totally 466 contributors have contributed to the 159 articles in that 342(73.40%) are contributed by male authors and 124(26.60%) are contributed by female authors. The data show that the maximum number of male authors' contributions is high compared to females.

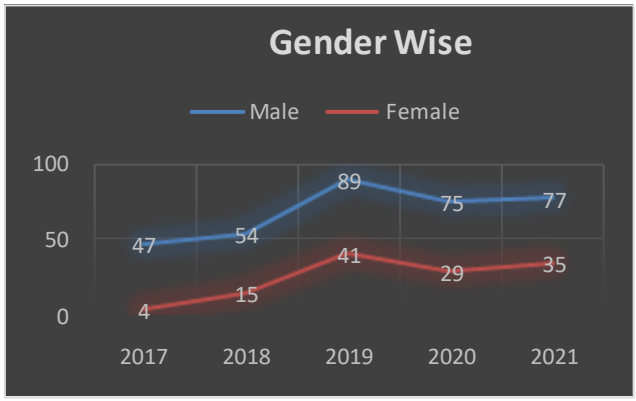


Fig.2. Gender wise distribution

Table 5: Citations Study of articles

No of citation	No of articles	%
01 - 05	07	4.4%
06 - 10	14	8.8%
11 - 15	21	12.57%
16-20	28	17.61%
21-25	15	9.43%
26 +	74	46.54%
Total	159	100%

5.5. Citations study of articles

The Investigator wanted to find the number of citation used by the contributor to write a research paper in the international journal of physical education, fitness, and sports, from the table-6,shows that the majority of 74 (46.54%) articles used more than 26 ciatation in this journal and only 07 of (4.4%) articles used less than 5 citation to write a research paper in this journal.

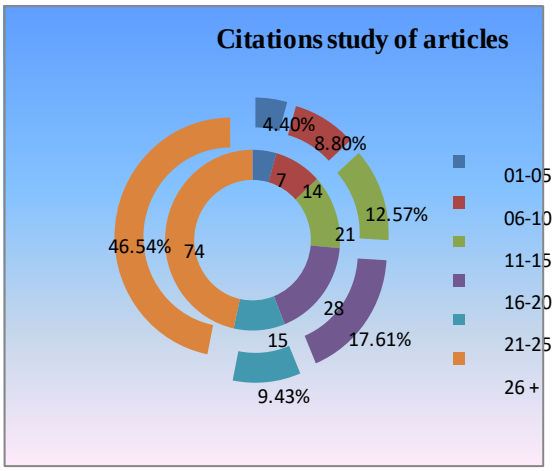


Fig.3. Citations study of articles

Table 6: Distributions of Page numbers-wise

No of Pages	No of articles	%
01-05	05	3.14%
06-10	14	8.8%
11-15	11	6.91%
16-20	10	6.28%
21-25	14	8.8%
26 +	105	66.03%
Total	**159**	**100%**

5.6. Distributions of Page numbers-wise

The researcher wanted to know the number of pages used by the contributor to write a research paper in the international journal of physical education, fitness, and sports, from the table-6shows that the majority of 105 (66.03%) articles used more than 26 pages in this journal and only 5 of (3.14%) articles used less than 5 pages to write a research paper in this journal.

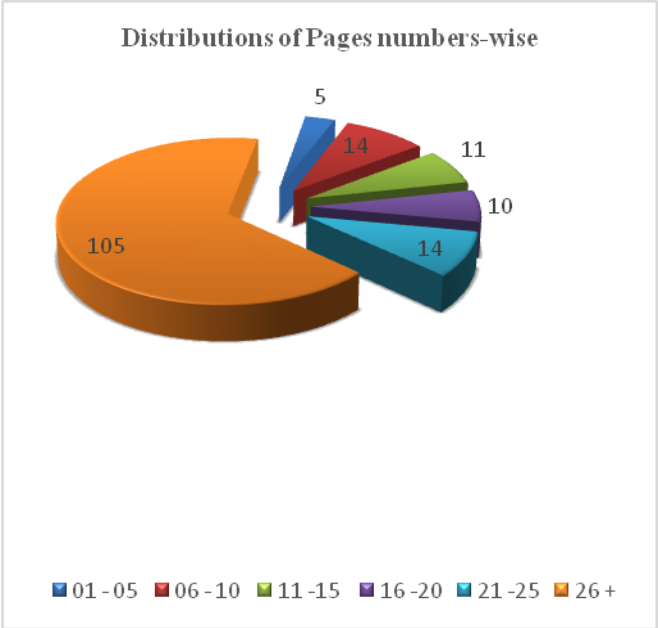


Fig.4. Distributions of Page numbers-wise

Table 7: Degree of Collaboration

Year	Single (N_s)	Multiple (N_m)	$N_s + N_m$	Degree of Collaboration
2012	12	39	51	0.7647
2013	05	64	69	0.9275
2014	07	123	130	0.94615
2015	02	102	104	0.9807
2016	03	109	112	0.9732
Total	**29**	**437**	**466**	**0.9377**

5.7. Degree of Collaboration

Table-5 Data of the international journal of physical education, fitness, and sports from 2017-2021 to determine the degree of author's collaborations calculated by using the following formula K. Subramanian 1982.

DOC = Degree of collaboration.
NS= Number of single paper author's
NM= Number of multi-paper author's

DOC Formula

DOC= NM/ NS+NM
DOC= 437/ 29+437
DOC= 473/ 466
DOC = 0.9377

As a result, the international journal of physical education, fitness, and sports during 2017-2021 is

0.9377which indicates the dominance of multiple authors.

Table 8: Geographical Wise Distribution of Author

Name of Country	No. of Author	%
USA	134	28.75%
India	39	8.36%
Europe	33	7.08%
Bosnia and Herzegovina	31	6.65%
Brazil	29	6.22%
UK	27	5.79%
Algeria	23	4.93%
Turkey	20	4.29%
Spain	15	3.21%
Portugal	13	2.78%
UAE	10	2.14%
Italy	10	2.14%
Georgia	10	2.14%
Canada	09	1.93%
Ethiopia	08	1.71%
Germany	07	1.50%
Poland	05	1.07%
China	05	1.07%
Bangladesh	05	1.07%
Australia	05	1.07%
Switzerland	04	0.85%
Morocco	04	0.85%
Montenegro	04	0.85%
Iran	04	0.85%
France	04	0.85%
Russia	03	0.64%
Uzbekistan	01	0.21%
Singapore	01	0.21%
Saudi Arabia	01	0.21%
Romania	01	0.21%
Philippines	01	0.21%
Total	**466**	**100%**

5.8. Geographical Wise Distribution of Authors

The geographical wise distribution in the international journal of physical education, fitness &sports.From, Table- 8 shows that the majority of 134(28.75%) authors contributed to research papers from the United States of America.Followed by India 39(8.36%)authors contributedresearch papers in this journal.

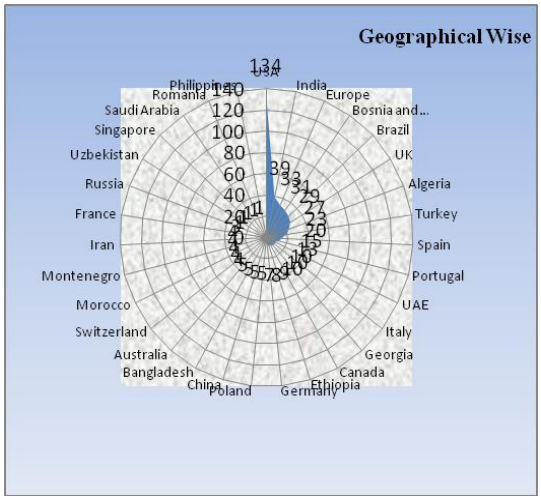


Fig.5. Geographical Wise Distribution of Author

6. Conclusion

The international journal of physical education, fitness, and sports(IJPEFS) is one of the highly cited journals in the field of physical education. Out of 20 issues& 159 articles were published by 466 authors from the five years (2017-2021).The result of the study shows that the authorship pattern and Collaboration trends can be better investigated through the author's collaboration. The majority of articles are contributed by joint authors than single authors and also male authors are more active in the contribution of research papers in this journal. The degree of the collaboration is 0.9377 which indicates the dominance of multiple authors. The majority of articles are published by the united state of America (USA).

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