

## MAPPING BADMINTON RESEARCH SCOPUS DATABASE: A BIBLIOMETRIC ANALYSIS

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### **Abstract**

*This study aims to answer the research questions) how is the development of publications about badminton? 2) What publication themes are related to badminton? 3) What publication opportunities can be done in the future? . Article should be started by Title of Article followed by Authors Name and Affiliation Address This research uses the Scopus database which is retrieved using the publish or perish application. From the results of data extraction, 142 articles were obtained with keywords in the badminton article title. This research uses keyword co-occurrence analysis to identify and explore the main fields and topics that appear in publications. The application used to analyse the data is VosViewer. Based on the results of VosViewer analysis, there are eight clusters, with research trends increasing every year. With bibliometric analysis, it is expected to be a reference for researchers, especially about badminton, to continue to develop knowledge.*

**Keywords:** *Badminton; Bibliometric; Scopus.*

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## **INTRODUCTION**

Badminton is a sport that can be said to be a popular or popular sport. This sport attracts various age groups, various skill levels and both men and women play badminton (Berdhika et al., 2021; Wang, 2017). Badminton can be played indoors or outdoors for recreation or competition. The badminton court is divided into two equal sizes and separated by a net hanging on a net pole planted on the edge of the field (Bamaniya, 2016; Singh et al., 2017). The tools used are a racket as a hitting tool and a shuttlecock as a ball that is hit (Ihsan et al., 2022)(Okilanda et al., 2021). Badminton is a game that is not reflected and must be played in the air, so this game is a fast game that requires good reflexes and a high level of fitness (Arisman & Noviarini, 2021).

Badminton players can also benefit from this game in terms of social, entertainment and mental (Chen et al., 2022). Meanwhile, according to Jan & Yaday (2017) that badminton is known as a folk game because it has been played by people both in cities, in villages, by parents, children and men and women. To become a good and accomplished badminton player, it is required to master the basic badminton techniques (Pratama et al., 2022). "Basic badminton techniques are the main mastery that every player must understand and master in playing badminton (Miyake et al., 2016) (Taufik et al., 2021) Basic badminton techniques are the main mastery that must be mastered by every badminton player in carrying out badminton playing activities (Murjainah et al., 2020). Mastery of these basic techniques includes how to hold the racket, wrist movements, footwork, and concentration (Arisman et al., 2021). The player's ability is strongly influenced by mastery of technique, physicality, and strategy (Firdaus et al., 2018; Rachman et al., 2019). So, in every badminton practice the element of technique is very important for every player's shot. Research related to badminton techniques has been done a lot, but specifically there are still few studies that explore the experience of athletes. On this basis, this research will answer the question 1) how is the development of publications about badminton? 2) What publication themes are related to badminton? 3) What publication opportunities can be done in the future?

## **METHOD**

The data source of this bibliometric research is from scopus database, with the help of publish or perish tools. Data was retrieved on January 03, 2023 with the keyword on the article title "Badminton" from 2020-2022 with a maximum disbursement of 200. From the search results using the publish or perish device, 200 articles were obtained, then the data was saved using a file with the RIS/References manager extension so that the data was tidier, the researcher used the Mendeley tool to update the identity of the journal article (Putra et al., 2020). To present data mapping and keyword co-occurrence analysis, researchers used the VosViewer application (Okilanda et al., 2018).

## RESULT AND DISCUSSION

Based on the search results using the Publish or Perish application, with the maximum number of searches used, namely 200 articles, in the time span from 2020 to 2022 there were 142 publications of articles in the Scopus database according to the keywords. The disbursement results can be seen in Figure 1.

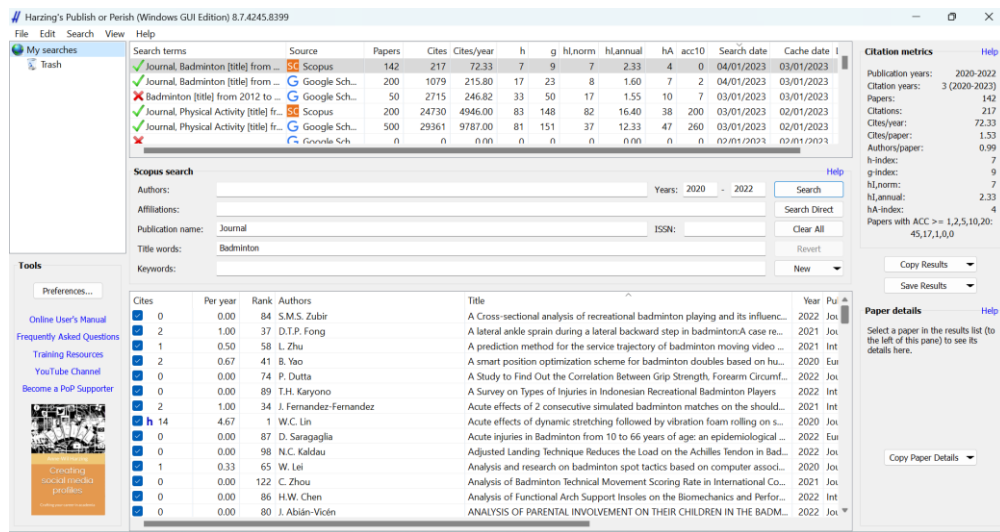


Figure 1. Data search results using the publish or perish application

Based on Figure 1, in total there are 217 citations from 142 articles with an average annual citation of 72.33, the h-index of 142 articles is 9. With such data, publications related to badminton on the Scopus database can be said to be high. Based on the publication trend within 3 years, badminton publications in the Scopus database tend to increase, the increasing trend can be seen in Figure 2.

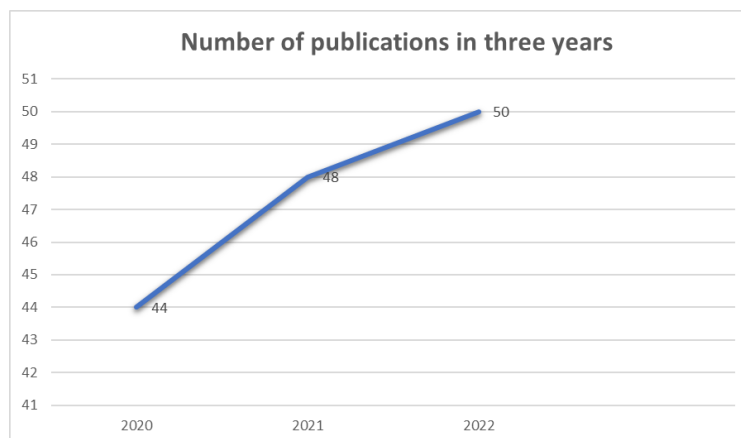


Figure 2. Number of publication in three years

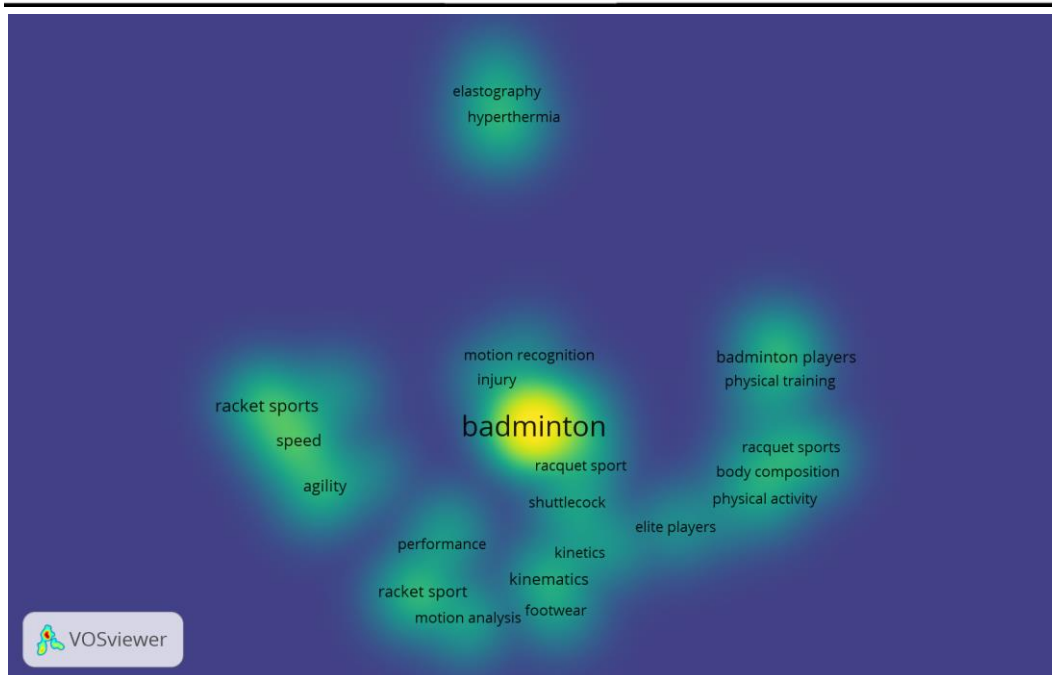
Based on Figure 2, in 2020 there were 44 articles, 2021 48 articles and 2022 50 articles published in Scopus indexed journals. The increase in the number of articles is an indication that publications about badminton are interesting to continue to be studied. of the 142 articles identified, the publications with the most citations in the period 2020 to 2022, as for the top 10 articles with the most citations can be seen in table 1.

**Table 1.** 10 Ranking of badminton citations

Cites	Authors	Title	Year	Source	GRank
14	W.C. Lin	Acute effects of dynamic stretching followed by vibration foam rolling on sports performance of badminton athletes	020	Journal of Sports Science and Medicine	1
12	S. Nugroho	Effect of intensity and interval levels of trapping circuit training on the physical condition of badminton players	021	Journal of Physical Education and Sport	2
11	D.N. Pardiwala	Badminton Injuries in Elite Athletes: A Review of Epidemiology and Biomechanics	020	Indian Journal of Orthopaedics	3
9	M. Sharma	Badminton match outcome prediction model using Naïve Bayes and Feature Weighting technique	021	Journal of Ambient Intelligence and Humanized Computing	4
8	D. Rojas-Valverde	Identification of games and sex-related activity profile in junior international badminton	020	International Journal of Performance Analysis in Sport	5
8	C.L. Hung	Influences of lateral jump smash	020	Journal of Sports Science	6

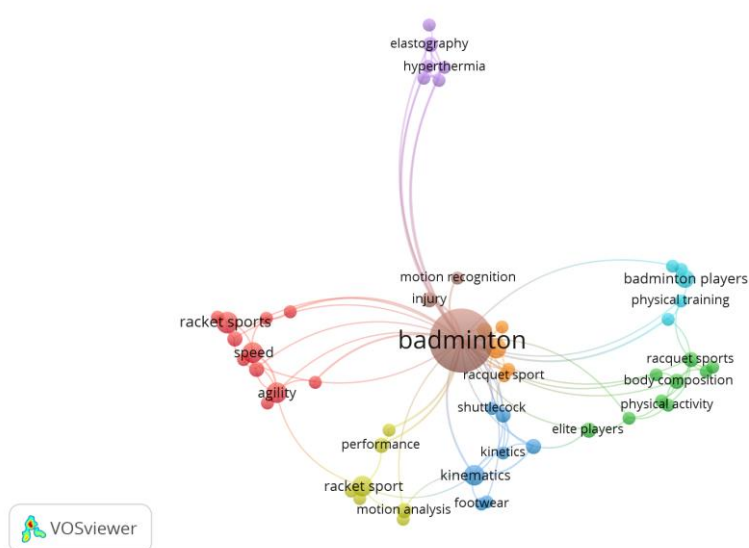
Cites	Authors	Title	Year	Source	GRank
		actions in different situations on the lower extremity load of badminton players		and Medicine	
8	M.H. Kosack	The acute effect of mental fatigue on badminton performance in elite players	020	Internat ional Journal of Sports Physiology and Performance	7
7	S.A. McErlain-Naylor	Effect of racket-shuttlecock impact location on shot outcome for badminton smashes by elite players	020	Journal of Sports Sciences	8
7	N.A. Rahmad	The new Convolutional Neural Network (CNN) local feature extractor for automated badminton action recognition on vision based data	020	Journal of Physics: Conference Series	9
6	O. Dieu	Complementing subjective with objective data in analysing expertise: A machine-learning approach applied to badminton	020	Journal of Sports Sciences	10

Based on the results of network visualization analysis using VosViewer from the research data, it is found that words that often appear with the minimum number of occurrences of keywords option 3 obtained 55 thresholds from 412 keywords. The words that appear most often include 'badminton' 'elastography' 'hyperthemia' 'kinemathic'. Density Visualization of the research can be seen in Figure 3.



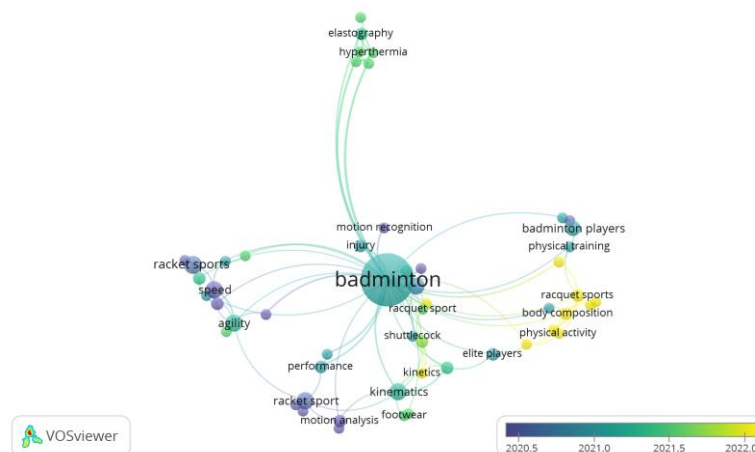
**Figure 3.** Occorunce Visualization dari katakunci badminton

Furthermore, co-occurrence analysis based on the highest frequency of keywords forms clusters related to badminton. from the results of the VosViewer analysis formed eight clusters. The division of clusters can be seen in Figure 4.



**Figure 4:** Badminton-related Research Networking

The VosViewer application presents data related to the development of publications on badminton from year to year, based on the data analyzed from 2020-2022 visually presented in Figure 5.



**Figure 5.** Average highest frequency by year of publication in Badminton.

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