



## **Systematic Literature Review: Research on Pencak Silat using Vos Viewers in the Scopus Database for 2018-2022**

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### **Article Info**

Article History :

Received : January 2023

Revised : March 2023

accepted : March 2023

### **Keywords:**

Bibliometrics,  
Pencak Silat,  
Vos Viewers,

### **Abstract**

Pencak silat is a branch of full body contact martial arts which is categorized as a strenuous sport where the body requires quite a lot of energy to produce excellent physical condition in supporting techniques and tactics. This study uses a descriptive quantitative method with a bibliometrics approach. The research data used for scientific journals or articles spanning 2018-2022 is sourced from the Scopus database. A scientific article search was carried out using the Publish or Perish application with the keyword "Pencak Silat" in the article title, category, abstract, keywords. The map for the development of the Pencak Silat scientific publication model was analyzed using the VOSViewer application. From the search results using the Publish or Perish application, with the maximum number of searches used, namely 1000 articles, there were 200 published articles according to the keywords entered, then by type filtering using articles there were 32 papers written in article form. Based on the results and discussion, it can be concluded that there have been increases and decreases in the last 2 years, namely in 2021 there has been a significant increase of 11 articles or 34.4% as the highest number of publications because in 2022 it has decreased with the publication of articles of 9 articles or 28.1%.



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## INTRODUCTION

Pencak silat is a branch of full body contact martial arts which is categorized as a strenuous sport where the body requires quite a lot of energy to produce excellent physical condition in supporting techniques and tactics.(Lubis et al., 2021; Mulyana & Lutan, 2021;Subekti et al., 2020;Apriantono et al., 2020). Pencak refers more to the external aspect, while Silat is the movement of attack and defense which is closely related to the spiritual, so that it can nourish the instincts, move the human conscience and immediately surrender to the presence of God Almighty.(Lubis, Fitrianto, et al., 2021) Sartono et al., 2018;Irawan et al., 2021; Hadiana et al., 2022; Ramadiani et al., 2021). Silat refers more to a spiritual form(Lubis et al., 2021;Sampurna et al., 2021; Putro et al., 2020).

In pencak silat competitions, there are several categories, namely the sparring category and the arts category. For the competition category the number of matches is adjusted according to body weight and for the arts category according to the numbers are single arts, doubles arts and team arts. In the pencak silat match, the match category is played within 2 minutes, clean or dirty, for 3 rounds. In the sense that if you play 2 dirty minutes then the competing athlete will play for 2 minutes with the clock running. While 2 minutes net athletes who compete will play for 2 minutes with the time being stopped when the referee intervenes when the athlete competes exceeds 6 attacks and the match time will start when the referee continues the match(Lisdayanti et al., 2019; Pomatah, 2018;Razak et al., 2022;Doewes et al., 2021; Syarif et al., 2020).

Pencak silat is a sport that is very closely related to agility and body weight, agility can be trained with an appropriate training program to increase agility, by having good agility a fighter will play with a flexible technique, so that it can support the level of achievement in competition(Soo et al., 2018;Hadiana et al., 2022)

## METHODS

This study uses a descriptive quantitative method with a bibliometrics approach. According to(Reitz, 2002)Bibliometrics is a mathematical and statistical method used to study and identify patterns of material use and analyze the development of a particular literature, especially for authorship, publication and use. When bibliometrics is used to review a scientific journal, an overview of the journal such as journal quality, journal maturity, journal productivity and so on will be obtained.(Saleh & Sumarni, 2016). The research data used in this study are scientific journals or articles spanning 2018-2022 sourced from the Scopus database. A scientific article search is carried out using the Publish or Perish application with the keyword "Pencak Silat" in the article title, category, abstract, keywords. The Pencak Silat scientific publication model development map was analyzed using the VOSViewer application.

## RESULTS

From the search results using the Publish or Perish application, the maximum number of searches used is 1000 articles, there are 200 published articles according to the keywords entered, then by type filtering using articles there are 32 papers written in article form

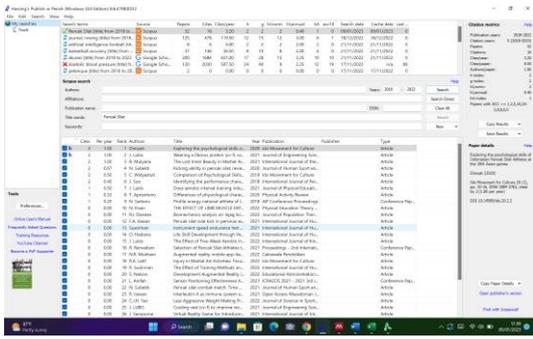


Fig 1. Display Search Results Publish Or Perish

Research on Pencak Silat in the 2018-2022 period in the Scopus database has increased and decreased every year. In 2018 there was no increase and decrease in 2019 while 2020 experienced a double increase from the previous year. With 2021 experiencing a significant increase of 11 articles or 34.4% as the highest number of publications because in 2022 there has been a decrease with article publications of 9 articles or 28.1%.

Table 1. Percentage of Number of Publications

Year of Publication	Number of Articles	Percentage
2018	3	9.4%
2019	3	9.4%
2020	6	18.8%
2021	11	34.4%
2022	9	28.1%

Research on Pencak Silat has increased and decreased in the last 2 years, where the highest percentage increase in articles occurred in 2021 and decreased in 2022. This shows that the topic of Pencak Silat is not consistent for research every year

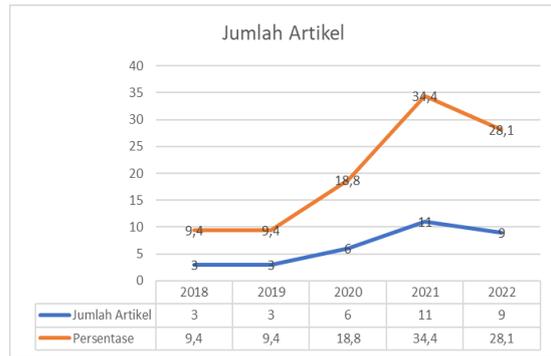


Fig 2. Graph The number of studies that examined

Table 2 contains the 9 studies with the most citations in the 2018-2022 period, Table 2 shows that Dimiyati, is the author who has the highest number of citations, with a total of 4 citations, the article written by Dimiyati entitled Exploring the psychological skills of Indonesian Pencak Silat Athletes at the 18th Asian games published in the journal Ido Movement for Culture in 2020. For an explanation of articles ranked 2 to 9, which were published in the 2018-2022 period can be seen in table 2 below.

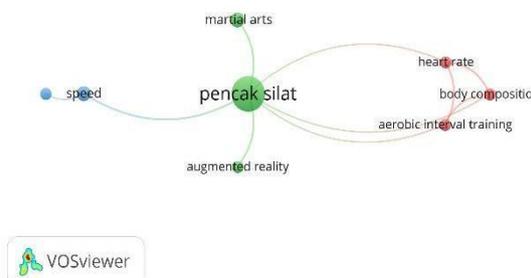
Table 2. Research based on the number of citations

No	Cites	Authors	Title	Year	Publication
1	3	Dimiyati	Exploring the psychological skills of Indonesian Pencak Silat Athletes at the 18th Asian games	2020	Ido Movement for Culture
2	2	J. Lubis	Wearing a fibrous protein (cv-f) cooling vest to reduce fatigue among Indonesian pencak silat athletes: Is it effective?	2021	Journal of Engineering Science and Technology
3	2	B. Mulyana	The Lost Inner Beauty in Martial Arts: A Pencak Silat Case	2021	International Journal of the History of Sport
4	2	N. Subekti	Kicking ability in pencak silat, reviewed from eye-foot coordination, speed, and ratio of limb length-body height	2020	Journal of Human Sport and Exercise
5	2	C. Widyastuti	Comparison of Psychological Skills Between Pencak Silat and Karate	2019	Ido Movement for Culture
6	2	J. Soo	Identifying the performance characteristics explanatory of fight outcome in elite Pencak Silat matches	2018	International Journal of Performance Analysis in Sport
7	1	J. Lubis	Does aerobic interval training induce a decrease in body weight in pencak silat elite athletes?	2021	Journal of Physical Education and Sport
8	1	T. Apriantono	Differences of physiological characteristics of taekwondo junior players vs pencak silat junior players	2020	Physical Activity Review
9	1	N. Sartono	Profile energy national athlete of Indonesia Pencak silat	2018	AIP Conference Proceedings

The publication development map using the Rowing keyword in the VOSViewers application has several discussion item clusters which can be seen in the following table:

**Table 3.** Table of the Number of Clusters

Clusters	Items
Cluster 1	aerobic interval training, body composition, heart rate
Cluster 2	augmented reality, martial arts, pencak silat
Cluster 3	pencak silat kick, speed

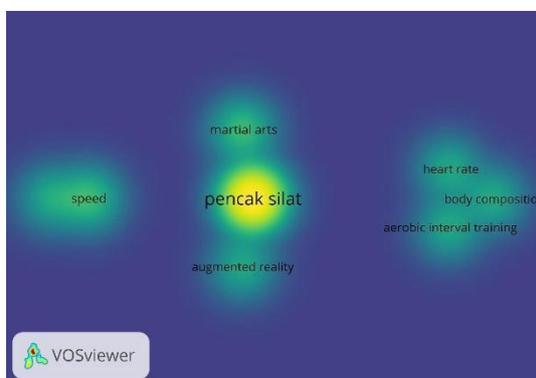


**Fig 3.** VOS viewer

From the picture it can be explained that the development of publications using the keyword Pencak Silat has 3 clusters, of which Cluster 1 has a red color with a focus on discussion of Pencak Silat, Cluster 2 has a green color with a focus on augmented reality discussion, Cluster 3 has a blue color with a focus discussion of pencak silat kick. The trend of publications using Pencak Silat keywords always changes every year which can be seen in the following table:

**Table 4.** Keyword density ranking

No	Keywords
1	Martial arts
2	augmented reality
3	martial arts



**Fig 3.** Density Visualization of Pencak Silat

From the picture it can be explained that the most used keywords are Pencak Silat keywords, where the next word with a slightly thick density is in the keywords augmented reality and Martial arts, apart from these three keywords having the same density

## CONCLUSION

Based on the results and discussion, it can be concluded that there have been increases and decreases in the last 2 years, namely in 2021 there has been a significant increase of 11 articles or 34.4% as the highest number of publications because in 2022 it has decreased with the publication of articles of 9 articles or 28.1%. In 2020 dimiyati, is the author who has the highest number of citations, with a total of 4 citations, the article written by dimiyati entitled exploring the psychological skills of indonesian pencak silat athletes at the 18th asian games was published in the journal movement for culture. Based on bibliometric analysis using vosviewer, pencak silat has 3 clusters, of which cluster 1 has red color with a focus on discussion of pencak silat, cluster 2 has green color with a focus on discussion of augmented reality, cluster 3 has blue color with a focus on discussion of pencak silat kick

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