Research on the Hotspots, Dynamics and Trends of Patriotic Education Publications for College Students Based on Citespace Bibliometric Analysis

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Abstract. Strengthening patriotic education is the common pursuit of all countries. Based on the core periodical database and CSSCI database of China National Knowledge Infrastructure (CNKI), there are 386 literatures published from 1993 to 2023 with the themes of "college students" and "patriotic education". The network visual analysis function of CiteSpace software and the relevant statistical tools of CNKI were used to analyze the research status quo of patriotic education for college students. The purpose is to identify the research hotspots, dynamics and trends in this field, and to provide suggestions for future related research. The results show that (1) The research of patriotic education for college students has been continuously paid attention to, and a certain core author group has been formed during the research process, and the topics of concern have been expanded growingly. (2) The existing research has made useful explorations on the patriotic education for college students in terms of national spirit, socialism, collectivism, national defense education, and quality education. (3) In the new era, the research on the cultivation of college students' patriotic feelings, historical responsibility and cultural self-confidence should be further deepened. At the same time, efforts should be made to strengthen communication and cooperation among authors. In the future, we should make full use of big data to provide intellectual support for patriotic education, so as to carry out patriotic education activities more accurately and effectively.

Keywords: Patriotic education · Citespace · Bibliometric analysis

1 Introduction

Strengthening patriotic education is the common pursuit of all countries. College students is the main force in national development, and strengthening their patriotic education can enhance their sense of national identity and social responsibility. At present, along with the deepening of the research on patriotic education for college students, there are not many discussions on the current research status quo in this field [1, 2]. Therefore, in

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order to clarify the research hot spots, dynamics and trends in this field, it is necessary to conduct a bibliometric analysis of the literature in this field. CiteSpace software can help to visualize the structures, rules and distribution of scientific knowledge [3]. Through the research on the number, institution, author and keyword of literature, the current research status quo is visualized. Timeline map and cluster analysis are used to study the hotspots transfer and development trends. In doing so, we can provide suggestions for future related research.

2 Materials and Methods

2.1 Data Source and Retrieval Conditions

The retrieved data were collected from CNKI. First, select "Advanced Search" in the CNKI database, and then set the search conditions to "Subject" = "College Students" and "Patriotic Education", and set the literature source as the core periodical database and CSSCI database. The search was conducted on March 08, 2023 and the span was "1993–2023". As a result, a total of 386 relevant literatures were retrieved, and txt. Documents in Reworks format were exported.

2.2 Methodology

CiteSpace software was used to quantify and visualize the literature. The study imported 386 valid literature results into CiteSpace in the form of Reworks, with the time span of 1993 to 2023 and the Time Partition (Years per Slice) of "1"; Term Sources are Term, Keyword, Author and Institution. At the same time, Timeline map and cluster map were used for display. Use the quantitative analysis function of the CNKI platform to Obtain literature data on the number of publications, hot journals, and prolific authors.

3 Quantitative Analysis Results

3.1 Annual Distribution of Literature

To investigate the overall situation of research in the field of patriotic education for college students, the Annual distribution of literature was analyzed, as shown in Fig. 1. As can be seen in Fig. 1, research on patriotic education for college students in China began at the end of the 20th century, and the first article on patriotic education for college students was published in 1993. Between 1993 and 2023, there were three research booms in the study of patriotic education for college students. The first research boom came in 1995, with 18 articles published; The second research boom came in 2009, with 25 articles published; The third research boom came in 2020, with 27 articles published. After 2020, it entered a stage of steady development. Overall, the number of papers in the field of patriotic education for college students fluctuated, but it showed an overall growth trend, which shows that researchers have been constantly exploring this field, and related research has been receiving continuous attention.

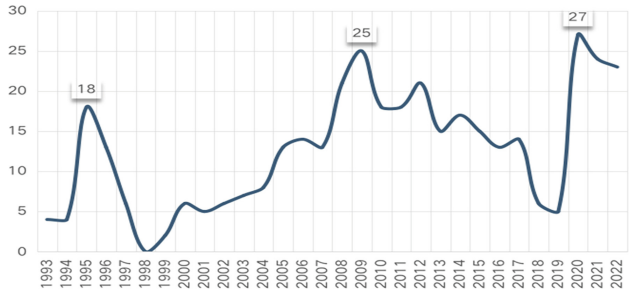

Fig. 1. Annual distribution of literature (The source of the table is self-made based on the results of the study)

3.2 Authors' Contribution and Relationship Analysis

Through the core prolific authors, we can learn about the leading figures and the core researches in the field [4]. The accepted method for determining core authors is Price law. The formula is:

$$M = 0.749 \times \sqrt{N_{max}} \tag{1}$$

("M" is the minimum number of articles published by certain core author, and "N_{max}"is the number of articles published by the author with the most posts) [5]. By calculating $M = 2.996$, it means that the core author has at least 3 publications. Through statistics, it is found that there are three authors who meet this requirement: Qu Jianwu, Ye Peng and Lin Yan, indicating that there are few core prolific authors in this field. The author co-occurrence knowledge map generated by CiteSpace can reveal the communication and cooperation between researchers to a certain extent. In the author's co-occurrence map, there are not many lines between authors, and the clustering is relatively loose, indicating that there is less cooperation between authors in the field of patriotic education for college students.

3.3 Journal Distribution

The number of articles published in a certain field by a journal can reflect the level of interest it has given to a particular realm. As shown in Fig. 2, "The Party Building and Ideological Education in Schools" is the journal with the largest number of literatures published on this topic, with 52 articles, accounting for 13.4% of the total publications. The top 10 journals published a total of 215 related articles, accounting for 55.7% of the total publications. It is not difficult to see that "The Party Building and Ideological Education in Schools" shows great interest in the topic of patriotic education for college students, so we should pay close attention to the relevant research of this journal in the future.

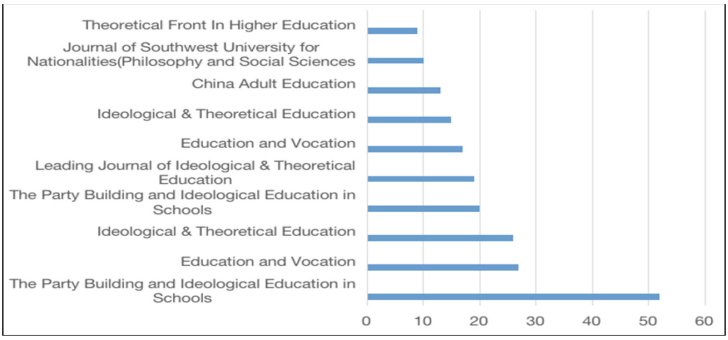

Fig. 2. Distribution map of hot journals. (The source of the table is self-made based on the results of the study)

4 Visual Analysis Results

4.1 Research Dynamics Based on Keyword Analysis

As shown in Fig. 4, 386 sample literatures were imported through CiteSpace software, and a keyword co-occurrence map was drawn, as shown in Fig. 3. The connection lines in the map represent the relationship between the node and other nodes. The size of the node indicates how often the keyword appears, and the larger the node, the more research is focused on the topic. In this study, the map has 406 nodes and 678 connections whose density is 0.0084. This means that 406 keywords were crawled, of which 13 were found more than 5 times.

From the analysis results of Citespace, it can be seen that in addition to college students, patriotism, and universities, there are 6 keywords with a co-occurrence frequency larger than or equal to 10 and the centrality larger than 0.1. After removing words that have no practical analytical meaning, they are A New Era of Socialism with Chinese Characteristics, National Spirit, Socialism, Countermeasures, and Globalization. It can be seen that in the research of patriotic education for college students, scholars have focused on the leading principle of adhering to socialism, the strengthening of the cultivation of college students' national spirit, and the countermeasures to enhance college students' patriotic consciousness under the conditions of globalization and the new era. In general, a series of research hotspots have been formed around the patriotic education for college students.

4.2 Research Hotspots Based on Keyword Analysis

The keyword cluster map can reflects the core research group that has been formed, which has a certain reference for understanding the hot spots and dynamics in this field. In this cluster map, LLR algorithm was used to extract cluster labels, K keywords were selected to extract objects, and a keyword cluster map of patriotic education research for college students was drawn, as shown in Fig. 4. It can be seen from the Fig. 4 and Table 1 that in addition to college student, patriotism, and university, national defense

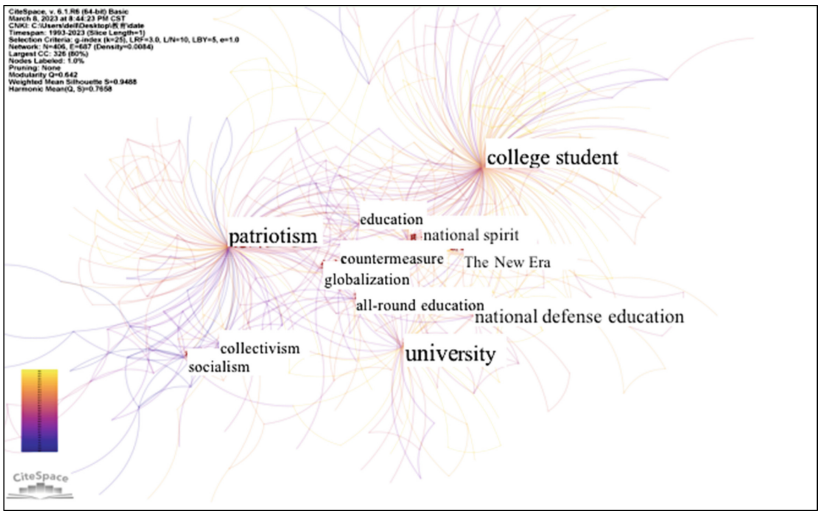

Fig. 3. Keyword co-occurrence map in this field

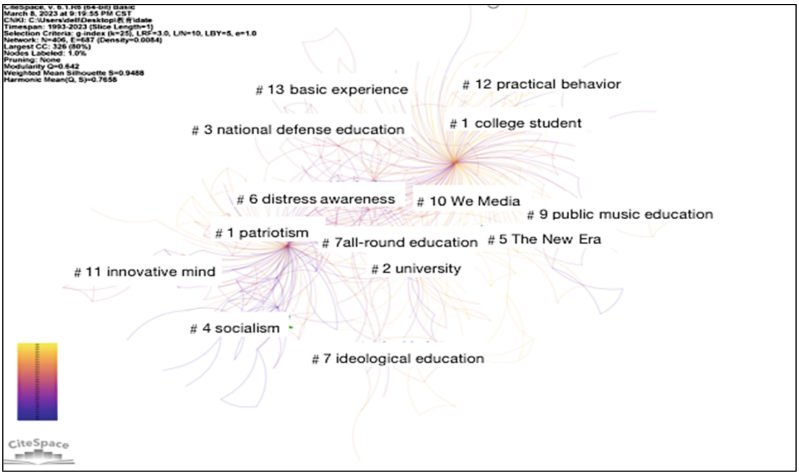

Fig. 4. Keyword cluster map in this field

education, socialism, the New Era, the sense of distress, ideological education, and all-round education are the top-ranked clusters. The intersection of various cluster groups in the map shows that this field not only forms a characteristic research direction, but also shows the cross-integration of research fields.

4.3 Research Hotspot Transfer Based on Keyword Analysis

Keyword time zone map can be used to reflect the main research content of a topic over time, and can also reflect the research trends over a certain period of time. Taking the

Table 1. Keywords clustering information table

number of nodes	time	keywords	cluster closeness value	number of nodes	time	keywords	cluster closeness value
26	2008	National defense education	0.907	10	2006	public music education	0.979
25	1999	Socialism	0.924	8	2010	We Media	0.978
24	2018	The New Era	0.858	7	2003	Sense of innovation	0.99
14	2005	The sense of distress	0.907	5	2022	practical behavior	0.995
13	2012	Ideological education	0.939	5	2008	basic experience	0.983
13	2007	All-round education	0.932				

keywords as nodes, the time interval was set from 1993 to 2023, and the time slice was set to 1 year, and finally the Keyword time zone map of patriotic education research of college students was obtained after CiteSpace processing as shown in Fig. 5.

Combined with the annual distribution of literature, the changes of research hotspots can be divided into three stages. First, the rapid start stage (1993–1995), the research hotspots mainly focus on: socialism, collectivism, market economy, and national unity. The second is the tortuous development stage (1995–2009). The research presents a trend of multi-point attention at this stage, and the hot spots mainly focus on traditional culture, national defense education, national spirit, campus culture, sense of distress, quality education. The third is to deepen the development stage (2019–2023). After years of exploration, the relevant research at this stage has gradually matured, and patriotic feelings, historical responsibility, cultural confidence have become new research hotspots. To sum up, the research on patriotic education for college students has changed from focusing on "socialism" and "collectivism" (large and few) to diversified development (small and many). This shows its future research potential and the increasing attention of the academic community. However, from the map, there has not been a major hot spot in recent years.

4.4 Emergent Research Based on Burst Term Analysis

Burst term refers to those words that pop up suddenly in a study. Based on the burst term, the research trend of the field can be judged [6]. In this paper, CiteSpace software is used to perform burst detection after clustering all keywords in the literatures. According to the results, six frontier keywords that emerged in the field of patriotic education for college students from 1993 to 2023 were selected, and then the burst term map was drawn, as shown in Fig. 6.

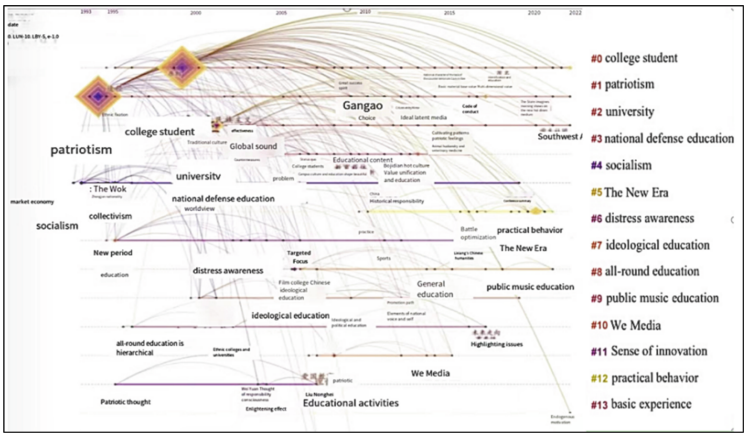

Fig. 5. Hot spot transfer map in this field

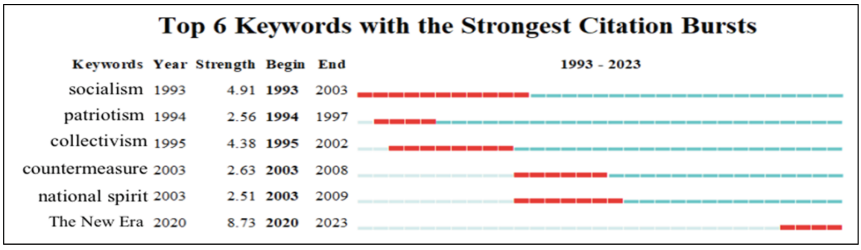

Fig. 6. Burst words appeared in this field

In 1993, the term "socialism" first became prominent in the patriotic education for college students and lasted for ten years. Socialism became a hot spot in the study of patriotic education for college students. From 1994 to 2003, in addition to socialism, collectivism also became a hot spot in the study of patriotic education for college students. From 2003 to 2009, Cultivating the national spirit and exploring ways to enhance the patriotic awareness of college students have become the focus of research. In 2020, the term "the New Era" is prominent and has a strength of 8.73, which is significantly higher than other Burst term. This shows that recent research has begun to focus on the issue of patriotic education for college students in the context of the New Era.

5 Conclusion

This article has exploited the CiteSpace metrology visualization analysis software to do a bibliometric analysis on the articles of patriotic education for college students downloaded from CNKI. The following conclusions are drawn:

1. The number of papers in the field of patriotic education for college students fluctuated, but it showed an overall growth trend, which shows that researchers have been constantly paying attention to this field.

2. The research on patriotic education for college students is still in the exploratory stage on the whole. There are many researchers who pay attention to the patriotic education for college students, but the core prolific authors are few and scattered. The themes of concern have been expanded growingly, and national spirit, socialism, collectivism, and national defense education have become hot words, but they have not formed major research hotspots. In the future, it is necessary to strengthen the communication and cooperation among authors and to carry out in-depth research on the content of interests.
3. The patriotic education for college students has been continuously paid attention to. In the new era, the cultivation of college students' patriotic feelings, sense of historical responsibility and cultural self-confidence are research hotspots. In the future, it is supposed to explore more research fields so as to find more effective ways to enhance the patriotic awareness of college students.
4. Actively using big data technology can improve the efficiency of patriotic education for college students. In the future, we should make full use of big data to provide intellectual support for patriotic education, so as to carry out patriotic education activities more accurately and effectively.

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