

Review of Hot Spots in China's Public Opinion Research on Examination (2002-2021)

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Abstract:

Public opinion is a universal social phenomenon, and public opinion on examination is not isolated, but closely related to other social issues. This study reviewed the last two decades of public opinion research on exams in China, and explored the research hotspots and frontier topics in this field through Citespace keyword default clustering analysis and keyword automatic clustering analysis. The research found: 1) the development of communication media has created a centralized outbreak of online public opinion on exams; 2) state-secret and high-level selective exams have occupied the mainstream of the exam-related public opinion research in the past two decades; and 3) other forms of tests have gained increasing interest from all walks of life as the testing system continues to develop.

Keywords: *Public opinion, Examination, Media, Citespace, Keyword default clustering analysis, Keyword automatic clustering analysis.*

I. INTRODUCTION

The term “public opinion” is derived from the Latin “opinio”, which refers to uncertain judgments that have not been fully demonstrated. Later on, with the rise of Western humanism, the concept of “public opinion” emerged, referring to the public’s social and political sentiments toward state authorities.

The mechanism by which public political preferences are formed is the focus of public opinion research. This includes research on the process by which news and political arguments spread among the public, on how the public evaluates information based on personal political values and predispositions, and on attitudes toward large-scale surveys and electoral voting, with particular emphasis on ethnic conflict, political tolerance, support for foreign wars, and voting in presidential elections. Public media’s coverage on public affairs, as a dynamic element, play a critical part in the shaping of public opinion [1-9].

Public opinion research now covers a broad variety of subjects, including international politics, public management, culture, and education. In China, research into hot topics of public opinion based on subjects, events, special public opinion ontology, and the Internet is advancing rapidly, making relevant research continuously embedded in the reality of social and economic development, objectively pushing public

opinion researchers to lean down and continue to explore real hot issues. This study employs Citespace 5.8.R3 to examine the hot spots and frontier subjects of public opinion research on examination in China from 2002 to 2021. It will provide a theoretical basis for the expansion of public opinion constructs and at the same time, a reference for the further development of public opinion research.

II. DATA COLLECTION

Citespace is a citation space visualization analysis software, combining the methods of diachronic citation analysis and structural co-citation analysis to construct a theoretical model that maps from “knowledge base” to “research frontier”, visualizing the evolution of the research field via time-sliced snapshots, and selecting citing and cited documents as the analysis objects to build the network model.

China National Knowledge Internet (CNKI) document database was used for analysis of the literature on public opinion research on examination in China. Since the structure of the database lacks cited literature, it is impossible to analyze the co-cited documents. This study mainly conducted keyword default cluster analysis and keyword automatic clustering analysis based on citing documents.

Keywords are the high-level summary and refinement of the content of the article, and high-frequency keywords can reflect the research hotspots of the discipline to a certain extent, and the changes of keywords can also reflect the development trend of the discipline, cluster analysis of keywords can reflect the topics and trends over time.

The keyword for retrieval is set to “(public opinion) * (examination)”, and the subject search is performed on CNKI, and the time node is set to “(2002-01-01, 2021-12-31)”, excluding newspapers, achievements and papers unrelated to the subject, and finally identified 166 papers.

Before keyword analysis, data processing and parameter settings were first performed in Citespace 5.8.R3:

- (1) Convert CNKI’s Refworks format to WoS format, import the data, and create a new project;
- (2) Set the time slicing to the period from 2002 to 2021, and years per slice to 1;
- (3) Set the node type to “key word”;
- (4) Select 50 levels of most cited or occurred items from each slice;
- (5) Select the Minimum Spanning Tree (MST) to prune the image;
- (6) Others use default settings

After the graph runs, set the threshold, font and node size in the control panel, and initially generate a visual graph, as seen in Fig 1.

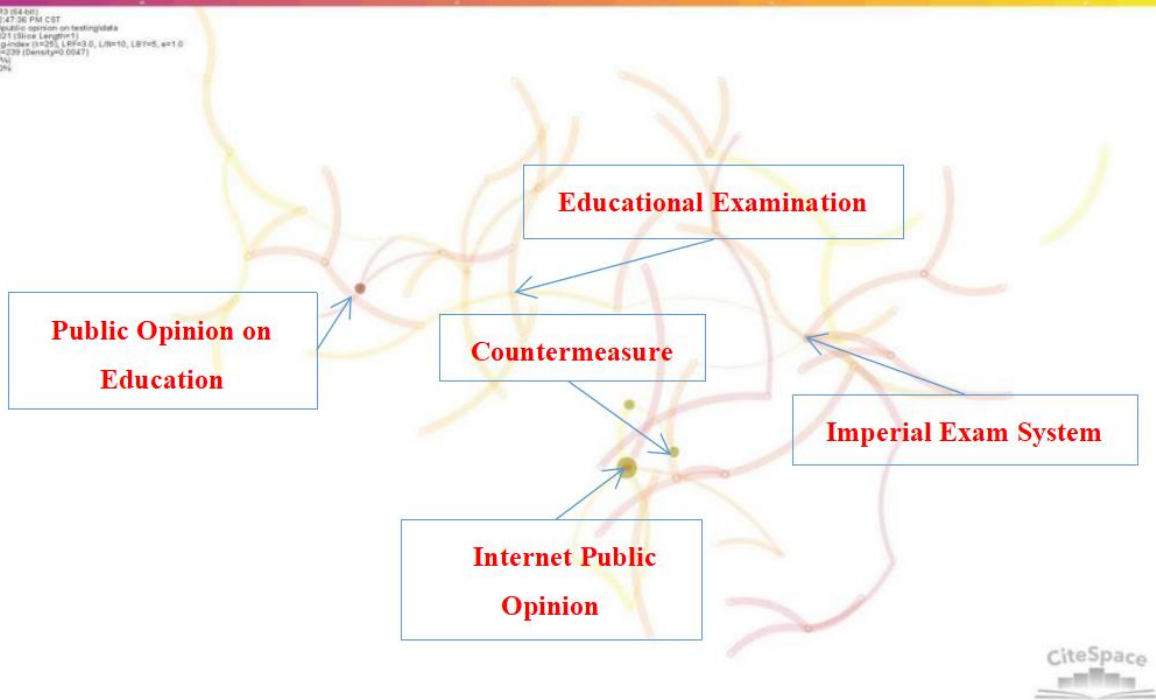


Fig 1: visual graph of public opinion on examination in China (2002-2021)

The graph is made up of nodes and connections between them. The results show that there are a total of 319 hybrid network nodes and 239 connections, each circle represents a keyword node, and the more frequent the occurrence, the larger the node. The color and thickness of the inner circle of the node indicate the frequency of occurrence in different time periods. The lines connecting the nodes denote the co-occurrence of the keywords, the thickness indicates the degree of co-occurrence, and the color corresponds to the time of the first co-occurrence. The change of color from cool to warm tones indicates the change of time from early to recent [10].

III. DATA ANALYSIS

3.1 Keyword Default Cluster Analysis

Nodes in the default view represent objects. The knowledge clusters, the connections between the clusters, and the changes over time can be displayed through the node size, the thickness and color of the connection lines. However, subject to the aesthetic requirements and capacity limitations of the graphics, the author combines the view with the exported keyword summary table in practice, to provide a more comprehensive understanding of the research topics and hot issues.

The author use Citespace's exploration function to determine the frequency of keyword occurrence. The top 50 high-frequency keywords can be exported, as seen in TABLE I.

TABLE I. THE TOP 50 HIGH-FREQUENCY KEYWORD LIST

NO.	COUNT	CENTRALITY	YEAR	KEYWORDS
1	13	0.02	2009	Internet public opinion
2	6	0.04	2007	countermeasure
3	5	0.02	2010	public opinion
4	4	0.01	2009	web crawler
5	4	0.01	2010	coping strategy
6	4	0	2008	social opinion
7	4	0.01	2015	entrance exam
8	3	0.01	2010	<i>Guidance</i>
9	3	0.03	2012	crisis management
10	3	0.03	2011	security
11	3	0	2021	public opinion management
12	3	0	2021	public opinion monitoring
13	3	0.01	2015	public opinion on education
14	3	0.01	2017	educational examination
15	3	0.03	2012	higher education self-study examination
16	3	0	2020	sentiment analysis
17	2	0	2008	Imperial Competitive Examination
18	2	0	2008	credibility
19	2	0	2016	Department of Justice
20	2	0	2013	compulsory education
21	2	0.02	2010	factor
22	2	0	2007	strategy

23	2	0	2014	students taking national college entrance exams in places where their parents work and live
24	2	0	2016	judicial examination
25	2	0	2007	curriculum reform
26	2	0.01	2007	well-rounded education
27	2	0.01	2017	management
28	2	0	2007	problem
29	2	0	2017	new media
30	2	0	2016	cheat on an exam
31	2	0	2009	university
32	2	0	2004	Imperial exam system
33	2	0	2014	exam
34	2	0	2011	personnel examination
35	2	0.03	2018	educational enrollment
36	2	0	2013	scientific character
37	2	0.01	2012	online media
38	2	0	2019	public opinion of university
39	2	0	2014	policy
40	2	0	2010	public opinion analysis
41	2	0	2013	conflict of interest
42	2	0	2014	subject item
43	2	0	2015	educational policy
44	2	0.01	2020	public opinion crisis
45	2	0	2017	public opinion response

46	1	0	2013	publicness
47	1	0	2014	social understanding
48	1	0	2017	system
49	1	0	2019	big data
50	1	0	2021	public institution

Combining the information in the visual chart and the summary table of high-frequency keywords, it can be seen that in the past two decades, the most significant hot topics of the public opinion on examination can be generally classified into the following aspects:

Public opinion research, including keywords “Internet public opinion”, “public opinion”, “social opinion”, “public opinion management”, “public opinion monitoring”, “public opinion on education”, “public opinion analysis”, “public opinion crisis”, “public opinion response”, etc.;

Research on public opinion guidance, including keywords “countermeasure”, “coping strategy”, “strategy”, etc.

Media research, including keywords “new media”, “online media”, etc.

Examination research, including the keywords “entrance exam”, “educational examination”, “higher education self-study examination”, “exam”, “personnel examination”, “Imperial Competitive Examination”, “students taking national college entrance exams in places where their parents work and live”, “judicial examination”, etc.;

Education policy research, including the key words “Guidance”, “well-rounded education”, “imperial exam system”, “educational enrollment”, “policy”, “compulsory education”, “curriculum reform”, “educational policy”, “system”, etc.;

(6) Research on public opinion of universities, including keywords “university”, “public opinion of university”, etc.

3.2 keyword Automatic Clustering Analysis

The topic overview of public opinion research on examination over the last two decades is clearly demonstrated by keyword default cluster analysis, but the research topic and evolution of the given issue are not discernible. This study, therefore, undertakes further keyword automatic clustering analysis, in conjunction with Citespace’s cluster explorer function and citing literature analysis, to deeply explore the composition of research topics. Furthermore, the study use Citespace’s keyword timeline function to

generate visual charts that illustrate the topic's development over time.

The underlying principle of clustering is to arrange closely related subject terms into groups with relatively independent concepts, so that the similarity of attributes within the group is greatest and the similarity between the groups is least.

Keyword automatic clustering is achieved on the basis of spectral clustering algorithm. Compared with the typical k-means approach, the spectral clustering algorithm has an advantage when it comes to grouping co-citation networks based on the connection relation [10]. Citespace will automatically generate a weighted value in front of the subject term in the operation. The greater the weighted value, the more significant the subject term is and the greater the degree of representation of the associated clusters. The clustering label terms are extracted from the cited papers' "title entry", "index entry", or "abstract entry". The extraction method is based on three sorting algorithms: latent semantic indexing (LSI), log-likelihood rate (LLR), and mutual information (MI), which may be performed through the Citespace software interface's automatic label control.

Citespace automatically filters clusters with a size of less than 10 when performing automatic keyword clustering analysis. In order to display the complete automatic keyword clustering results, the author disabled the "show the largest connected component only", and on this basis, additional screening is performed.

Through the analysis of the default clustering of keywords in the previous section, combined with the six dimensions of hot topics obtained from the analysis, the author finally determined the first eight keywords automatically clustered as research content under this topic. The "show the largest K clusters" function generates a visualization, as seen in Fig 2.



Fig 2: the visual graph of the Largest K Clusters

As mentioned above, the extraction method of clustered label words is based on three algorithms. It is generally believed that the words extracted by the LSI algorithm emphasize the mainstream of research, the words extracted by the LLR algorithm have a certain representativeness of the cluster, and the words extracted by the LSI and MI algorithms emphasize the research characteristics. The common information extracted from the combination of the three can be regarded as the best interpretation and definition of clustering. Based on this, the author further shows the overall research theme through the three algorithms of clustering labels and other attributes of clustering. See TABLE II below.

TABLE II. THE RESEARCH THEME THROUGH THE THREE ALGORITHMS OF CLUSTERING LABELS

CLUSTER ID	SIZE	MEAN (Year)	TOP TERMS (LSI)	TOP TERMS (LLR)	TOP TERMS (MI)
0	29	2016	Internet public opinion	Entrance exam	risk prevention and control system
1	17	2010	educational assessment	social opinion	educational assessment

2	16	2009	social transformation	exam-oriented education	exam-oriented education
3	15	2011	curriculum reform	curriculum reform	curriculum reform
4	15	2015	educational enrollment	educational enrollment	public opinion crisis
5	14	2013	public opinion on education	public opinion on education	Internet public opinion monitoring
6	11	2014	integrity education	candidates for College Entrance Examination	examination anxiety
7	7	2018	education examination	public opinion response	emergency

At the same time, Citespace also has a time line visualization analysis function, which can display the co-occurrence relationship of keywords in a chronological mode, thereby revealing the development and changes of research topics, as shown in the Fig 3.

From the starting point and ending point of the keywords in the figure, we can see the development and changes of the research hotspots of public opinion on examination in the past two decades:

The early stage of education credibility research (2002-2015), including the key words “the imperial examination system”, “the imperial competitive examination”, “credibility”, “crisis of trust”, etc.;

(2) The middle-term research on public opinion on education along with the development of Internet public opinion research (2009-2018), it includes the keywords “Internet public opinion”, “online media”, “education policy”, “public opinion analysis”, “public opinion on education”, “education industry”, “Guidance”, “educational evaluation”, etc.;

(3) The current educational examination research stage (2010-2021), including keywords “coping strategy”, “exam”, “educational examination”, etc.



Fig 3: time line visual graph

Note: The keywords corresponding to the numbers in the chart are as follows: 1- the imperial examination system; 2- the imperial competitive examination; 3- credibility; 4- social opinion; 5- unity of opposites; 6- well-rounded education; 7- countermeasure; 8- web crawler; 9- Internet public opinion; 10- strategy; 11- curriculum reform; 12- online media; 13- Educational policy; 14- Entrance exam; 15- educational assessment; 16- crisis of trust; 17- public opinion survey; 18- public opinion management; 19- public opinion monitoring; 20- higher education self-study examination; 21- public opinion analysis; 22- Guidance; 23- public opinion; 24- coping strategy; 25- public opinion on education; 26- exam; 27- new media; 28- public opinion crisis; 29- educational enrollment; 30- education examination; 31- public opinion response; 32-emergency.

IV. DISCUSSION

Combining keyword default cluster analysis and keyword automatic cluster analysis, and referring to the time line of keyword development and change, this study summarizes the research topics of public opinion on examination from three aspects: 1) educational public opinion and media development; 2) public opinion on “exam-oriented education”; and 3) public opinion research on other types of exams.

4.1 Educational Public Opinion and Media Development

In recent years, with the enhancement of Internet interactivity and the vigorous development of self-media, online public opinion research has gradually become the mainstream of public opinion research. Educational network public opinion, from the ontological point of view, is the public’s cognition, attitude

and emotion towards education policy based on Internet technology and cyberspace such as news portals, online posts, online forums, blogs, Weibo, and WeChat. From the keyword cluster analysis and the visual diagram of topic hotspot changes, it can be seen that the keywords involved in education network public opinion include online public opinion, entrance examination, risk prevention and control system, education enrollment, public opinion crisis, public opinion on education, online public opinion monitoring, college entrance examination students, education examinations, public opinion response, emergencies, etc., the topics include public opinion on education and education policy, college network public opinion, new media college entrance public opinion on examination research, etc.

4.1.1 Public opinion on education and education policy

Public opinion on education affects the educational policy process, and the main mechanism is that public opinion can affect the public's perception and understanding of policy. In terms of theoretical research, Zhang & Zhang proposed that the analysis of educational policy process must emphasize the value of educational information, and the most basic source of these educational information is educational public opinion [11]; Jiang discussed the research orientation of educational public opinion analysis, research content, research methods and basic paths [12]; Guo analyzed the negative impact of public opinion on education reform [13]; Wu analyzed three problems in China's education reform in terms of public opinion, that is, excessive emphasis on "unified thinking", blindly advocating "positive propaganda" and relying solely on "mainstream media" [14]; Shi & Lin believed that due to the widespread distrust and loss of confidence in education planning, the credibility of education policies declined [15]; in response to public opinion on education, some scholars have also discussed the public opinion response mechanism based on the elements of public opinion such as the media, netizens, and the government [16-18]. In terms of empirical research, it focuses on the free education policy for normal students [19], the issue of compulsory education for migrant population [20], the public opinion on ethnic education policy [21], and the language public opinion and language education management [22], and other fields, has also led to the discussion of scholars.

4.1.2 University network public opinion

Public opinion dissemination is closely related to the development of communication media. Since the beginning of this century, the Internet has entered the stage of web 2.0, and online interactive communities such as online forums, news threads, and BBS have enhanced the interaction between information dissemination and audiences. Especially after 2010, blogs, Weibo, WeChat and other emerging media has made online public opinion research occupy a dominant position; on the other hand, the 45th China Statistical Report on Internet Development shows that among the 904 million netizens in China, students account for the largest proportion, reaching 26.9%, and the living habit of contemporary college students makes the student group very vulnerable to the influence of network public opinion. Therefore, university network public opinion research has increasingly become the mainstream of educational public opinion research. According to the characteristics of university network public opinion, Ren & Liu expounded five characteristics of college network public opinion, namely freedom and control, interaction and immediacy,

richness and diversity, concealment and explicitness, and emotion [23]. Wang & Guo pointed out that due to the lack of supervision and control of college students' WeChat platform public opinion, online public opinion showed more obvious characteristics of violence and vulgarity [24]. In response to the guidance of Internet public opinion in colleges and universities, Liu & Liu summarized the main contents of the research on Internet public opinion carried out by Chinese academic circles from the perspective of ideological and political education [25]; Zhang took the naming event of "Jeanswest Building" in Tsinghua University as a case, and analyzed the impact of educational public opinion spread by new media on the credibility of universities [26]; Chen & Li conducted a research on the public opinion coping ability of college counselors [27]; Gao, Zhu & Qiao conducted a research on college network public opinion guidance in an all-media environment [28].

4.1.3 New media public opinion research on college entrance examination

As a national and high-level examination, the college entrance examination has always been the focus of society. The media, as an important medium for the dissemination of public opinion, affects the public's perception and guides the public's thinking and judgment. In the early research, scholars generally paid attention to the public opinion environment of the college entrance examination created by the news media [29-31], the public opinion support and supervision of the college entrance examination [32-34], and other topics. In recent years, with the development of Internet technology, scholars have discussed the hot topics and public opinion characteristics of the college entrance examination from multiple perspectives through the collection and analysis of online news [11,35-36], analyzed the policy transmission process of the reform of the college entrance examination system [37] and the policy linkage effect [38], explained the focus of the media agenda setting of the new college entrance examination reform [39], discussed how social media expands the connotation and significance of the public sphere through "visibility" [40], analyzes the "public opinion storm" of the college entrance examination composition hyped by the self-media [41], and analyzes the "post-truth" era brought about by the development of new media technology [42].

4.2 Public Opinion on "Exam-Oriented Education"

The public opinion on exam-oriented education stems from the debate on the public welfare of education and industrialization or marketization. Relevant research, from the standpoint of research ontology, is primarily focused on the viewpoint collision and value criticism on the basic education stage in China, the one-sided and elimination education, with the goal of increasing the rate of admission to higher education, carrying out education and teaching activities centered on "taking the test", and using test scores as a means to select a minority from the majority [43-44]. It can be seen from the timeline visualization of changes in research topics and public opinion hotspots extracted from keyword cluster analysis that the public opinion on "exam-oriented education" mainly includes several aspects, such as education evaluation, social public opinion, examination-oriented education, curriculum reform, education enrollment, college entrance examination, public credibility, and trust crisis. Most of them focus on China's college entrance examination, involving the formation conditions and social background of

“examination-oriented education”, the relationship between the college entrance examination, examination-oriented education and quality education, the historical logic of the college entrance examination subject setting and reflections brought about by the abolition of the imperial examination system, and the reform of the college entrance examination for examination education inhibition, etc.

4.2.1 Exam-oriented education, college entrance examination and quality education

Since the late 1980s, especially since the early 1990s, Chinese society has launched a movement against “examination-oriented education”, especially after the national leaders called for improving the quality of the Chinese nation, the society has criticized “examination-oriented education”. It is undeniable that the direct cause of exam-oriented education is “one-sided pursuit of the admission rate”, which is the result of primary and secondary schools’ last resort in order to increase the admission rate of examinations (especially the college entrance examination). Scholars believe that the education system centered on the college entrance examination cannot make breakthroughs in the cultivation of top-notch innovative talents, and there is an urgent need for a systematic reform of the college entrance examination and the education system restricted by it. However, in the past two decades, scholars have gradually realized that the college entrance examination is not only an educational examination system, but also has both political and social functions behind it, and interpreted the relationship between the college entrance examination, examination-oriented education and quality education, and re-recognized the value of “examination-oriented education” and the college entrance examination for Chinese talent training.

Zheng traced the ins and outs of the problem of “one-sided pursuit of higher education rate” and pointed out that the college entrance examination is only the superficial reason or “fuse” that led to “one-sided pursuit of higher education rate” and test-oriented education, while the real deep-seated reason is the limited opportunities for higher education [45]. Contrary to the strong pressure of social competition, what the “one-sided pursuit of enrollment rate” pursues is actually scarce social resources, and competition in the college entrance examination or examination-oriented education is only an appearance or result of social competition. The mechanism of examination-oriented education has a system of social conditions that support it. For example, the pressure of social upward mobility is very high, and the opportunities for promotion provided by the society are very small. As long as the society still provides high socioeconomic status for highly educated people, the social mechanism and social conditions of “exam-oriented education” cannot be eliminated; on the other hand, the phenomenon of examination-oriented education is the result of the imbalance of education supply and demand (demand is far greater than the competition caused by supply), as long as the imbalance of education supply and demand still exists, the test-oriented education will continue to exist.

In response to the problem of the transition from “exam-oriented education” to quality education raised by some scholars, Wang emphasized the two sides of “exam-oriented education”, of which the positive side is more suitable for the current development stage of Chinese society [46]; Qian analyzed the modern social background of the score-based evaluation mechanism and the scientific ideas and methods of disciplinary education, emphasizes the correlation between quality education and exam-oriented education,

and further proposes that the effectiveness of quality education itself also needs to rely on the evaluation of the scoring system, and in essence, the problem of exam-oriented education cannot be avoided [47]. Song demonstrated the rationality of “exam-oriented education” from the perspective of moral quality, and proposed the positive role of the college entrance examination in cultivating students’ moral quality, improving their cultural quality, learning ability, and psychological quality [48].

4.2.2 Public opinion on college entrance examination reform and institutional fairness

Faced with the public opinion brought about by “exam-oriented education”, on the one hand, scholars have re-understood the relationship between “exam-oriented education”, college entrance examination and quality education from a rational perspective, and on the other hand, they are also actively exploring the issue of college entrance examination reform and institutional fairness.

On the necessity of the reform of the college entrance examination, some scholars traced the shortcomings of the ancient Chinese imperial examination system to the current college entrance examination system, reflected on the limited content of the college entrance examination, as well as the excessive academic burden and ineffective learning caused by the examination, and put forward the conclusion that the reform of the college entrance examination is imperative [49-51]; in terms of the strategy of the reform of the college entrance examination, Yuan reviewed the course of the reform of the college entrance examination and examined the effect of the new college entrance examination reform, summarized the experience of the new college entrance examination reform, analyzed the challenges and reasons of the new college entrance examination reform, and studied the improvement strategies of the new college entrance examination reform [52]; Ke explained the fact that the status of scientific disciplines declined after the reform of the new college entrance examination, and refuted the fact that some scholars ignored the important role played by Chinese physics in the critical period of the new round of scientific and technological revolution and industrial transformation [53-54]. The main advantages and disadvantages of the reform alternatives are analyzed, and three key issues that must be grasped to solve this problem in the current college entrance examination system are proposed; In terms of empirical research, scholars have also conducted systematic research based on the practice of college entrance examination reform in various provinces and cities [55-59].

On the other hand, the debate on education fairness triggered by the reform of the college entrance examination has also been the mainstream of research in this field in the past two decades. The topics involve the policy to enable students taking national college entrance exams in places where their parents work and live [38,60-62], test-cheating’ s inclusion in the Criminal Law [63-65], the preferential policy that awards bonus points in the college entrance examination [66-68], etc. The fundamental reason is that fairness is the existence of the college entrance examination system [69], so whenever the college entrance examination reform involves fairness, it will arouse the deep concern of the society, and among the many social concerns, the first is the social public opinion caused by the adjustment of the independent enrollment policy of the college entrance examination, and the main focus is on the goal orientation of independent enrollment in colleges and universities for “selecting the best” [70-74]. Scholars believe that

various colleges and universities have turned self-enrollment into a brand battle of “famous universities”, and they have even taken many unethical measures in order to compete for high-quality students. It affects the teaching order of high school and increases the burden on students; at the same time, self-enrollment policy affects the teaching order of high school and increases the burden on students; similar to the college entrance examination, the selection of written tests and the intensive multi-school joint entrance examination are purely for enrollment and “reform for reform”; the high-intensity and difficult test content makes people feel that the “joint entrance examination” has become “another form of college entrance examination”; independent enrollment in colleges and universities has become the privilege of very few people, and has nothing to do with 99.9% of the candidates in the country.

In the face of disputes, researchers and college admissions departments have launched a debate on the positioning of independent admissions around “selecting the best” or “selecting the special” [75-78], indeed, in order to break through the “score-only” admissions policy, the majority of the admissions policy is in favor or positive, but those in favor are also concerned, believing that this move may be a serious impact on the fair selection of talents [79].

4.3 Public Opinion Research on Other Types of Exams

The Examination Center of the Ministry of Education of China compiled a book, called History of Chinese Examinations in 2003. The eighth volume of the book detailed the development of Chinese examinations after the founding of the People's Republic of China, and divided Chinese examinations into five categories, namely primary and secondary education examinations, general higher education examination, adult education examination, civil service and professional qualification examination, level and grade examination. In addition to the previously discussed college entrance examination (which belongs to the national secondary education examination), in recent years, the public opinion of the academic test for the junior high school students, the postgraduate admissions examination, the higher education self-study examination and the civil service examination have also received widespread attention from scholars. Liu conducted a public opinion study on the “cancellation of the academic test for the junior high school students”, and analyzed the public opinion differences, public opinion conflicts and public opinion guidance of the event[80]; Hao, Wang & Chen took the postgraduate admissions exam as an example to explore the BERT-BiLSTM model and public opinion monitoring methods [81]; Xu and Ma discussed the importance of creating a favorable public opinion environment for the healthy development of higher education self-study examinations [82-83]; Xu and Wang took the 2010 Guangxi civil service exam leak incident as an example, discussed the influence of “secondary communication” and the development direction of China’s online media public opinion supervision [84-85].

In terms of public opinion research on language testing, Zhang commented on the public opinion on the Chinese language proficiency test promulgated and implemented by the State Language Commission and the Ministry of Education in 2011, and put forward countermeasures and suggestions [86]; Yang analyzed the interaction mechanism between online public opinion and policy by taking the online public opinion of the incident of “English withdrawal from the college entrance examination” as an example [87];

Yan took the hot topics related to English teaching and exams on the Weibo platform and mass messages as the research objects, using big data mining and content analysis as research tools and methods, analyzed the trend of public opinion, and summarized the public's attitudes, opinions and views on this topic [88].

V. CONCLUSION

Public opinion is widely disseminated via the media, and the Internet's rapid growth has resulted in an explosion of social public opinion on educational events on the web, with studies of online public opinion on tests becoming prevalent. Over the last 20 years, the research on public opinion environment, features, conflicts and guidance of college entrance examination have been at the forefront of public opinion research in China, and show new characteristics under the network environment of new media. The research results, on the one hand, reflect the examination as a social problem, with its complexity and multi-dimensions, providing a deeper understanding of the social function of tests. On the other hand, the research provides an important reference for promoting the scientific and democratic nature of China's examination policy-making and promoting the reform and development of China's examination system.

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