

Retraction

Retracted: Research on the Communication Path of Public Opinion in University Ideological and Political Network for Big Data Analysis

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

- [1] S. Xu, J. Liu, K. Chen, and Y. Yang, "Research on the Communication Path of Public Opinion in University Ideological and Political Network for Big Data Analysis," *Journal of Sensors*, vol. 2022, Article ID 8354909, 9 pages, 2022.

Research Article

Research on the Communication Path of Public Opinion in University Ideological and Political Network for Big Data Analysis

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In recent years, with the rapid development of information technology, the Internet has gradually become an interactive platform for people to exchange ideas, collide emotions, spread information, and release emotions. The openness, anonymity, and inclusiveness of the Internet have reduced the obstacles of information dissemination and triggered the conflict of public opinion on the Internet. In addition, students actively express their opinions, attitudes, and feelings on important topics in life and study on the Internet, forming a certain scale of online opinions reflecting students' unique political attitudes, moral concepts, and values. Because college students are immature physically and mentally and the network environment is full of phenomena, it is easy to arouse their emotional resonance. Therefore, the free and diverse network environment presents new challenges and higher requirements of the times for the stable operation of college network public opinion guidance. Therefore, how to form systematic education in universities combined with ideological and political network public opinions under big data has become an important problem to be solved. Based on this paper presents the communication pattern of network public opinion and model it, namely, the random network public opinion transmission model. By comparing the scope and influence of the two transmission paths of network public opinion, the paper draws the conclusion and strengthens the teaching practice of ideological and political courses. Finally, it is pointed out that the research of the ideological and political network public opinion communication path is a complex digital communication system project, which requires the government, the media, and the schools together to give suggestions in the guidance of the network public opinion.

1. Introduction

There are many independent sources of datasets involving big data. This paper provides an overview of HACE theory and major data processing models, including models and security concepts for private data storage, and analyzes challenging problems [1]. It attempts to provide a broader definition of big data to capture its other unique and defining features. Through the definition of scholars, we propose the unification of big data, emphasizes the necessity of designing new tools for the prediction and analysis of structured big data, and designs a statistical method to infer the actual situation from sample data [2]. Advances in technology have led to the rapid development of big data in various fields, as well as the development of informal systems. This

paper provides the platform to provide readers with a picture, formulates their own plans, defines and analyze big data, introduces the Hadoop framework, and outlines the evaluation benchmarks and potential research directions for big data systems [3]. In universities, student financial aid can effectively promote student progress and improve ideological and political awareness. It serves students and can solve life problems faced by students [4]. The full text analyzes the multifaceted development of students and believes that school ideological and political education is an important component of adolescent growth, the basis for mutual trust between teachers and students, and an important prerequisite for students' personality development [5]. The full text expounds how the school in the new era strengthens and improves the ideological and political

education of students and clarifies the importance of cultural education in the ideological and political education of colleges and universities [6]. Combined with the needs of online public opinion research, here forward the automatic detection method of hot information in the hot information list by deleting stopped words and combining multiple keywords by using Chinese word segmentation and word frequency statistics [7]. The number of sudden network public opinion events has surged, leading to the extremely serious security monitoring and early warning situation of network public opinion. This paper studies the formation and influencing factors, establishes the differential equation model, and makes the corresponding measures to provide a reference for the government [8]. Public opinion is gradually forming, the traditional media also plays an important role in the network public opinion, and the public opinion and the traditional media complement each other. This paper analyzes the formation of the current traditional media public opinion [9]. Through the study of various aspects of the current emergency network public opinion, it is found that there are many problems and found the specific manifestations of the problems. The main manifestations are as follows: theory and practice need to be combined, insufficient quantitative analysis of the system and framework, lack of deep microanalysis, lack of social network structure and group behavior research, lack of visual presentation, and tracking technology application prospects are broad [10]. It uses the network data and the public opinion under the mobile environment, analyzes the communication path and the law that the news and the public opinion play an important role, analyzes the communication characteristics of the network public opinion on the network, and ensures the effectiveness of the communication [11]. It present a practical and robust method for estimating time delays between process measurements using crosscorrelation functions and to make a model of the causal propagation path is proposed [12]. This paper presents a new method to establish a spatial model using EKF to trace propagation paths. The DMC model describes distributed scattering in the channel, and as part of the underlying noise process, a new dynamic dimension estimator is proposed and supported by MIMO [13]. This paper presents a new model of microcellular communication in urban scenarios to form a rectangular grid of buildings and streets, and the authors use relevant concepts of the image to determine the location of the diffraction points [14]. Through the analysis and research of the value of public opinion, this paper lays a foundation for further exploring the research of various public opinions under the network data mode [15].

2. Research on Public Opinion and Sentiment Communication

2.1. Communication Characteristics of Online Public Opinion in the Era of Big Data. With the rapid development of Internet technology, computers, watches, mobile phones, and other smart terminals have been integrated together, and people have entered the field of big data technology. The new media based on the Internet has become a new social

media method and an important window for the public to participate and express public opinion. The Internet is integrated into the basic elements of public opinion, such as rich information, many carriers, instant visibility, and instant distribution, and integrates the pan-media trend, display, and advanced inspection brought by the use of Internet technology, and the dissemination of network views is becoming more and more important. Because of the complexity, this goal of the network increases the difficulty of guiding public opinion. In general, the improvement of social network information in the era of big data reflects the following four characteristics. First, the network public opinion information processing is more independent. Second, the public vision of the public network end is more diversified. Third, the online public opinion dissemination is more accurate. Fourth, the network public opinion organization operates more effectively.

2.2. Characteristics of Online Public Opinion in Colleges and Universities. (1) Special subject is as follows: the main body of college network public opinion mainly includes two parts: one is the other which is college teachers and college students. With certain education, they have certain progress in knowledge reserve and way of thinking, and their knowledge, insight, and experience have certain frontier, which makes the college teachers have over the public opinion influence in each network platform. College students have a certain knowledge reserve, sense of responsibility, curiosity, and sense of participation, but lack of social practice, thought and psychology are immature, vulnerable to bad network thoughts and behavior, so as to become the makers and disseminator of bad ideas; (2) diversified content is as follows: college teachers and students are influenced by different family, majors, interests, study, work, and other backgrounds. They focus on different contents and fields, involving all aspects of life, which are more diverse. The content of public opinions created is also diversified. (3) The transfer speed is faster. With the development of the Internet, network platforms are also constantly innovating, which has the characteristics of fast update speed, large number of users, wide user age group, and low registration threshold. As a medium, its content is highly efficient. On the one hand, the network platform has many users and shares information among various platforms; on the other hand, the continuous development of Internet technology makes information storage more portable and spread faster.

2.3. Research on Online Public Opinion Communication Mode in Universities. The second mode of communication proposed by Lazarsfield (see Figure 1) emphasizes the role of ideological leaders in disseminating information. Similarly, it is the job of network leaders or network promoters to guide and broadcast public opinion on social media, and they play a key role in guiding the spiritual direction of public opinion.

Among these, A and B are communicators and recipients, and X is part of the social environment. This mode of communication regards the transmission process of information as a system. These three elements work together to

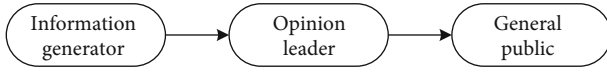


FIGURE 1: Secondary propagation pattern diagram.

emphasize the role of the social environment. In the context of online public opinion dissemination, it is not difficult to understand the relationship between topics and social objects. The role of social network analysis and social network perception is closely related to changes in social reality, and the dissemination of public opinion in network society must be analyzed on the basis of a changing process, as shown in Figure 2.

It is shown in Figure 3. In the Wesley-McLean model, A is the sender, B is the receiver, C is the “gatekeeper,” and F is the data feedback process. As can be seen, data reporting and gatekeepers are important in this model. Similarly, report opinions and portal methods are very fast in the network public opinion dissemination; from the initial stage of network public opinion to the binding and final elimination of public opinion, the interactive dissemination of network information and the guidance of the gatekeeper have played a role not to be underestimated. This model emphasizes the role of gatekeepers and feedback in the communication process. Before passing to the receiver, all types of information must be filtered by the gatekeeper. The feedback from the receiver is multifaceted and can be fed back to the gatekeeper, and the gatekeeper can then feed it back to passersby, that is, the sender, or it can be directly fed back to sender.

2.4. *The Relationship between Ideological and Political Affairs and Network Public Opinion.* Campus emergencies form a real worldview, ideas, and values. Ideological and political education refers to the process in which teachers and scholars internalize some ideas, values, and moral norms into their own ideological and moral norms through theoretical knowledge propaganda and practical research. Both indoctrination and nurturing the mind essentially involve spiritual guidance, and the two complement each other.

3. Research on the Path Algorithm of Network Public Opinion Communication

3.1. *Hypothesis of Network Public Opinion Communication Model.* Assuming that in the case of a public opinion event, the total number of college students is 1, the proportion of public opinion information is $x(t)$, the proportion of public opinion information at the same time is $y(t)$, the transmission rate of people who receive public opinion information to those who do not know public opinion information is u , and the degradation rate of participating in public opinion communication is v . To build a mathematical model, in which u and v are fixed values, they are all constant values when there is a relationship with t . The proportion of the number of people increasing within t time after the information is $ux(t)y(t)$, and the proportion of people withdrawing from public opinion is $vx(t)$. It can be concluded that the total number of public opinion information dissemination

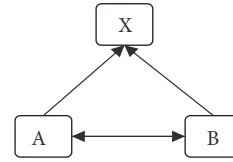


FIGURE 2: The Newcomb pattern diagram.

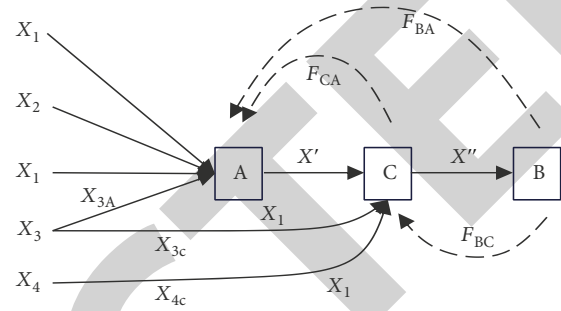


FIGURE 3: Wesley-McLean pattern diagram.

is $x(0) + ux(t)y(t) - vx(t)$; so, the increase rate of public opinion communication is the formula (1):

$$ux(t)y(t) - vx(t). \tag{1}$$

It can be concluded that the increase rate for the public opinion participants is the formula (2):

$$px(t) = (ux(t)y(t) - vx(t)). \tag{2}$$

3.2. *Model Definition.* When $t = 0$, set $t = 0$ at initial $x(0) = x_0$, since formulae (3)–(4) are as follows:

$$p(x(t)) = \frac{d_x}{d_t} = ux(1 - x) - vx, \tag{3}$$

$$\begin{cases} \frac{d_x}{d_t} = ux(1 - x) - vx, \\ x(0) = x_0. \end{cases} \tag{4}$$

Solve the above equation: $x(t) = \text{ans}$, because there is $(u - v)$ in the denominator, you need to discuss whether $(u - v)$ is equal or not. When $u \neq v$ has a formula (5),

$$x(t) = \left[\frac{u}{u - v} + \left(\frac{1}{x_0} - \frac{u}{u - v} \right) e^{-(u-v)t} \right]^{-1}. \tag{5}$$

When z has the formula (6),

$$x(t) = \frac{1}{x_0} + ut. \tag{6}$$

Organize available formula (7)

$$x(t) = \begin{cases} \frac{u}{u-v} e^{u-1}, u \neq v \\ \left[\frac{1}{x_0} + ut \right]^{-1} \end{cases} \quad (7)$$

From this formula, it will discuss the random network public opinion transmission model. Its defined as follows: each node in the N nodes of the network can have three states: unknown state (I), gradual state (S), and idle state (R). A node that has not received the information in any network and is ready to receive it is in an unknown state. The node that has received the information and is ready to propagate it is in a progressive state. The information is received, but the nodes that are no longer interested in forwarding the message for other reasons (e. g., full storage and low power) are idle. Their densities are expressed as follows: $i(t)$, $s(t)$, and $r(t)$, respectively. It is defined as shown in formulas (8)–(10):

$$i(t) = \frac{N_i(t)}{N}, \quad (8)$$

$$s(t) = \frac{N_s(t)}{N}, \quad (9)$$

$$r(t) = \frac{N_r(t)}{N}, \quad (10)$$

where $N_i(t)$, $N_s(t)$, and $N_r(t)$ are the number of nodes in unknown time y , gradual, and idle, respectively. Furthermore, the state of each node is one of I , S , and R . Thus, one of the normalization conditions of the equation is shown in formula (11):

$$i(t) + s(t) + r(t) = 1. \quad (11)$$

All three density changes satisfy formulas (12)–(14):

$$\frac{d_i}{d_t} = -\alpha k_t s_t, \quad (12)$$

$$\frac{d_s}{d_t} = \alpha k(t) i - \beta k_i s(s+r), \quad (13)$$

$$\frac{d_r}{d_t} = \beta k_i s(s+r). \quad (14)$$

Now, assume a node moves at speed r within radius p and can detect other nodes in that range with total a nodes at N , so it can represent how many nodes a node can exchange during the move. Existing formulas (15)–(17) are as follows:

$$\rho = \frac{N}{A}, \quad (15)$$

$$S = 2r \cdot vt + \pi r^2, \quad (16)$$

$$k = S \cdot \rho, \quad (17)$$

where ρ represents the density of nodes within a region, S represents the area covered by the node moving from a to b at speed v in time, and $S \cdot \rho$ represents the number of communicable nodes k in time t . At different times, k' ($0 < k' \leq k$) has different values, and hence the formula (18) is as follows:

$$k' = K(t) = [k \times P(t)], \quad (18)$$

where $P(t)$ is a probability density function, the value of $P(t)$, and the time correlation, and $[k \times P(t)]$ represents the integer part of m . In mathematics, the probability density function of a continuous random variable is the output value that describes this variable, and if there is a relationship between the two, the cumulative distribution function is the integral value of this probability density function. Replacing $K(t)$ differential equations with expressions (15)–(18) into formulas (19)–(21),

$$\frac{d_i}{d_t} = -\alpha [[2r \cdot vt + \pi r^2] \times P(t)] i(t) s(t), \quad (19)$$

$$\frac{d_s}{d_t} = (\alpha - \beta) \left[2r \cdot vt + \pi r^2 \cdot \frac{N}{A} \right] \times P(t), \quad (20)$$

$$\frac{d_r}{d_t} = \beta \left[\left[2r \cdot vt + \pi r^2 \cdot \frac{N}{A} \right] \times P_t \right] (s+r), \quad (21)$$

where α is the propagation is rate, and β is the ratio of the propagating state nodes.

3.3. The Algorithm Expression and Model Construction of the Propagation Path Model. We regard the process of public opinion dissemination in the network as a dynamic process of a complex network; so, every entity involved in the dissemination of public opinion in the network is its node. In this respect, assuming that n different data coexist in the network, nodes in the network can be easily classified into ($n + 1$) classes, a set of strongly connected nodes (S) and n set of master nodes i contaminated with u data. All the public opinion information of the network can reach the highly connected nodes and other main nodes, and this o -kind of information spreads to other nodes at the propagation rate of $a_1, a_2, a_3 \dots a_n$. When the master node accepts and accepts the new information, it becomes a new information dissemination channel. Based on the interaction between the subjects, the following mathematical equations can be generated for the subject interaction model spreading public opinion in the network, as shown in formula (22).

$$\begin{cases} \frac{ds(t)}{dt} = -[a_1 I_1(t) + a_2 I_2 + \dots + a_n I_n], \\ \frac{dI_1(t)}{dt} = a_1 I_1 S - a_2 I_1 + a_1 I_1. \end{cases} \quad (22)$$

The algorithm rule stipulates the propagation rate $a_1, a_2, a_3 \dots a_n \in [0, 1]$. We regard the sum of the data in the network public opinion field as “1,” so that the opinions of the

public opinion subject meet the normalization conditions; as can be seen from the system of equations, the larger l , the more complex the solution of the equation. Here, simplify the model, let n to analyze the transmission of information from the established network interaction model to the dissemination of public opinion and get the formula (23)

$$\begin{cases} \frac{ds(t)}{dt} = -[a_1I_1(t) + a_2I_2 + \dots + a_nI_n], \\ \frac{dI_1}{dt} = a_1I_1S(t) - a_2I_2(t)I_1(t) + a_1I_1, \\ \frac{dI_3(t)}{dt} = a_3I_3(t)S(t) - a_1I_1(t)I_3(t) + a_3I_3(t)I_2(t). \end{cases} \quad (23)$$

Meet the algorithm rules: $S(t) = 1 - I_1(t) - I_2(t) - I_3(t)$, and then the solution equation can introduce the formula (24):

$$\begin{cases} \frac{dI_1(t)}{dt} = a_1I_1 - a_2I_2, \\ \frac{dI_2(t)}{dt} = a_3I_3 - a_1I_2. \end{cases} \quad (24)$$

Once the information in the network public opinion field is fully disseminated and interactive, we believe that the network public opinion communication system is stable, and the strong connection node group is zero. Meet the formula (26)

$$-a_2I_2(t)I_1(t) + a_1 = a_3I_3(t) + a_2I_2(t)I_1(t), \quad (25)$$

$$a_3 + a_2 = -a_1I_1(t)I_3(t) + a_3I_3(t)I_2(t). \quad (26)$$

There is a formula (27).

$$\frac{a_1}{I_2(t)} = \frac{a_3}{I_1(t)} = \frac{a_2}{I_3(t)}. \quad (27)$$

From this, the stable solutions $I_1(t)$, $I_2(t)$, and $I_3(t)$ can be shown in formula (28)

$$\begin{cases} I_1(t) = \frac{a_3}{a_1 + a_2 + a_3}, \\ I_2(t) = \frac{a_1}{a_1 + a_2 + a_3}, \\ I_3(t) = \frac{a_2}{a_1 + a_2 + a_3}. \end{cases} \quad (28)$$

It can be concluded that when the diffusion rate of the three data is the same, each object receives equal data value, the distribution of network public opinion is stable, and the fluctuation range of public opinion is essentially the same; when the diffusion rate of the three different data is different, each subject has its own role.

4. Empirical Research on the Transmission Path of Online Public Opinion in Universities

4.1. Research on Online Public Opinion Data in Universities

4.1.1. Data Selection Problem. On the data selection of higher education online public opinion survey, the following questions need to be clarified: first, higher education online public opinion survey and its path is an important topic. According to statistics, a few years ago, there were more than 3,000 institutions of higher learning in China, with about 38 million students. Therefore, in order to accurately understand the context of public opinion in the ideological and political network of colleges and universities, and to formulate possible signals, it is impossible to carry out hundreds of thousands or even tens of thousands of investigations or field visits to different schools. Second, now that individuals and enterprises have the ability to collect and analyze data on a large scale, the research method of "sample = population" is no longer out of reach. Based on this, in order to make the research in this paper more global, it is decided to directly select the national data needed for this research from the database for analysis, comparison, and summary, so as to better understand the current ideological and political public opinion network in universities, and then promote the transfer of relevant exploration paths.

4.1.2. Quantitative Analysis of the Data. In 2017, Chinese Internet users spent 28 hours online a week, up 0.6 hours from 2016. According to the Tracking up Survey on Employment, Life, and Values of Chinese College Students and Graduates, the average Internet time of college students was more than five hours a day in 2016, far exceeding the average Internet time of Chinese Internet users. Students also often participate in online activities, such as China 2018 (see Table 1).

According to the table above, nearly half of people often use the Internet for information, and more than half use it for social activities. This is basically consistent with the penetration rate of Internet applications among college students as shown in the 2015 Youth Internet Behavior Research Report (see Table 2).

Table 2 shows that the Internet has become the most important source of information for students today, and students have also become important publishers of Internet information. According to the China Application Behavior Research Report of the China Internet Network Information Center, TikTok, live streaming, and Sina Weibo have become Internet applications for users to search and exchange information (Figure 4). Although most students remain sane and cautious about WeChat, many students are not aware of the complexity of the network environment and the inaccuracy of the network information.

Social contradictions are the root cause of public opinion events. How students view social contradictions determines the sensitivity, seriousness, scope, and speed of ideological and political network public opinion in colleges and universities. Students are too sensitive to social conflicts in China.

TABLE 1: Frequency of online activity among college students.

Types of activities	Never	Once in a while	Sometimes	Often
When browsing the news, understand the social developments and get the information	4.7	26.5	23.9	44.9
Keep in touch with your friends or meet new friends through the Internet	4.7	18.8	21.3	55.3
Publish your opinions and comments on some events through the Internet	21.7	39.9	23.8	14.6
Take the network as a diary, record their own mood	31.3	39.3	19.2	10.3
Play through the Internet	4.4	23.2	31.8	40.6
Learn professional or business knowledge through the Internet	4.1	25.7	40.4	29.8
Through the network to facilitate daily life, such as online shopping and online ticket booking	7.8	24.7	32.9	34.6

TABLE 2: The penetration rate of various Internet applications among college students.

Apply	Proportion
Netnews	21%
Microblog	30%
Network music	17%
Shopping online	28%
Internet finance	2%
E-mail	2%

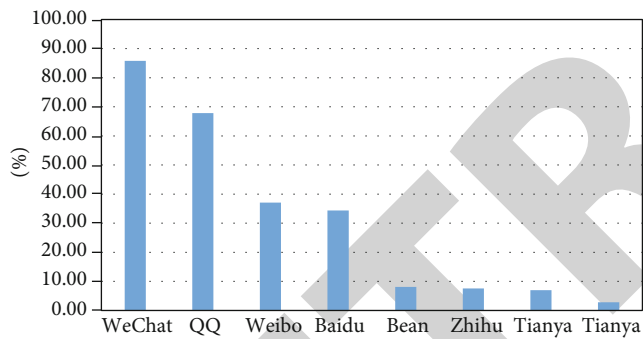


FIGURE 4: Utilization rate of major Internet applications in 2016.

More than half of the students think that the contradiction between rich and poor in China is “very serious.” In fact, the contradiction of rich and poor is relatively low. Public opinion pressure is ranked in the 6 types of contradictory gathering points as shown in Figure 5.

The ordinate in Figure 5 represents the proportion of the public opinion pressure understood by college students among the six types of conflict aggregation points in China. The level of the ordinate can indicate the degree of college students’ perception of social conflicts. Based on the above information, the following conclusions are preliminarily drawn: first, young college students play an important role in the dominant position of the network in China, and students live in universities; so, the two are closely related. Second, the Internet has become the main way of communication for young college students. In colleges and universities, young students publish information on the Internet to express their wishes and feelings, and young students have become the recipients and publishers of Internet information. Therefore, guiding the network public opinion

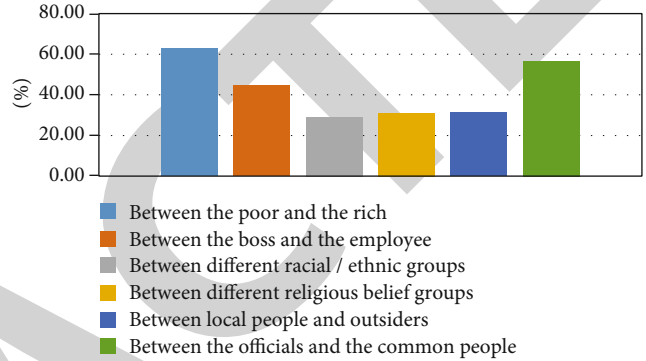


FIGURE 5: College students’ perception of social contradictions.

in colleges and universities helps young college students to remain focused and alert to the complex network and not be misled by intentional groups. Third, the traditional network community has become the center of the network public opinion, and the leading public opinion research in universities must examine the law of network information communication, network cluster, and network communication in the new era. Fourth, due to the relative lack of ideological and political education, young college students tend to trust the network and network information, and the identification ability is weak. It is necessary to change the traditional ideological and political ideas, modes, and methods of the characteristics of young students. Fifth, social conflict is the cause of network public opinion events, and network new media has become the main cause of public opinion events. It is of great significance to study the relationship between social conflict and online public opinion; poor young students have high risk of social conflict and low loyalty to government image. Therefore, it is necessary for the university network to clarify the direction and follow the principles.

4.2. Comparison of Public Opinion Communication Modes. When public disputes cannot be solved or controlled, it will directly lead to the outbreak of public opinion, and when public opinion breaks out, there are generally two modes of communication, specifically as follows:

First, the communication mode of network media: in today’s economic and social environment, network media is the best way of communication, and the personality characteristics of modern young students give us the unique gender characteristics of network public opinion in universities.

When network public opinion or university network public opinion is formed, there are two trends: one direction is that network public opinion or university network public opinion affects the network community or the whole online community of college students. Publishers express their attitudes, opinions, comments, and feelings on the influence of public opinion on network media, further expand online public opinion, respond to public opinion events affecting public opinion, solve, promote, or amplify social conflicts; another development is that the outbreak of public opinion directly causes relevant ministries or education systems and universities to guide them, and its influence also determines the resolution, mitigation, improvement, and outbreak of contradictions. In this process, there are two more points that need to be solved. First, the emergence of new online media like Douyin and live broadcasting will gradually replace most traditional online communities. Another is college students, which can affect the whole network community, which also means that the public opinion of colleges and universities can affect the public opinion of the whole network. Second, the traditional media communication mode: the information of public opinion events is transmitted through secondary communication channels such as newspapers, television, and radio and directly causes public opinion by means of conflict resolution, mitigation, intensification, and outbreak. Public opinion information about the incident is spread to secondary media such as newspapers, television, and radio, which will directly trigger public opinion. However, compared with network public opinion, public opinion lacks channels and ways to spread to the media, which is difficult to express accurately, and the scale is obviously insufficient.

The Internet has become the main position for the outbreak of public opinion events. Taking public opinion on educational public opinion as an example, in the first exposure media of hot educational public opinion events in 2014-2016, new media and traditional media account as shown in Figure 6. It can be seen from the table that the proportion of new media is more than twice that of traditional media, which makes it necessary for universities to carry out online public opinion guidance. The dissemination method of online media has become the fastest way of disseminating online public opinion in today's economic and social environment. From 2014 to 2016, new online media has gradually replaced traditional media in the dissemination of public opinion, but traditional media is also essential less.

4.3. Public Opinion Case Data Analysis. According to the Annual Report on Chinese Education Public Opinion in 2016 (Figures 7 and 8), there were 381 educational public opinion events in 2014-2016, with a relatively low proportion in 2014. In 2015, it accounted for 29.7% annually, with a high growth rate and a growth rate of 18.5%. From 2015 to 2016, the education public opinion was basically stable, but the number of cases remained high at 35.2%. Among them, the share of public opinion in higher education was 38.1%, 50.0%, and 45.1%, respectively, ranking first in each education stage. Therefore, the necessity to control the path

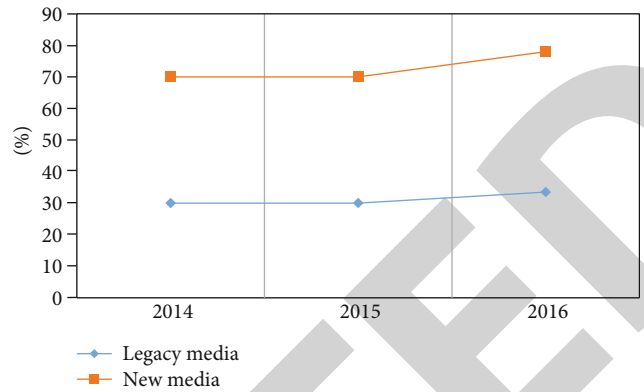


FIGURE 6: Comparison of the first exposure media types in the hot events of education public opinion in 2014-2016.

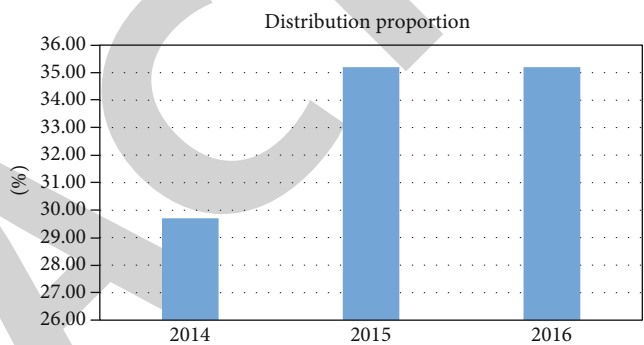


FIGURE 7: Annual distribution of hot events of education public opinion in 2014-2016.

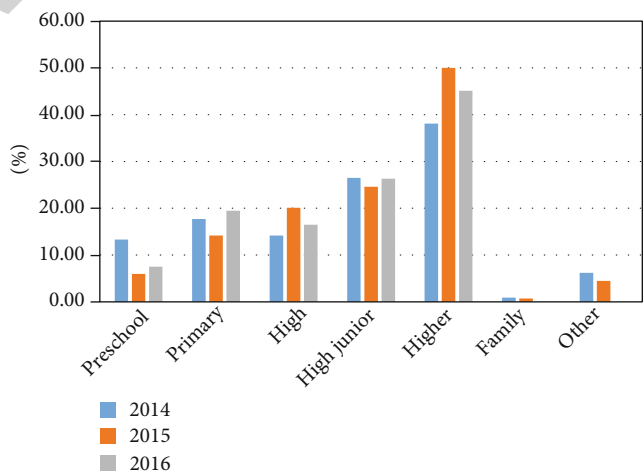


FIGURE 8: Annual distribution of hot public opinion events in different education stages from 2014 to 2016.

of propaganda and ideological and political public opinion in universities is obvious.

Through in-depth study of the hot topics of educational public opinion in 2014-2016, as shown in Figures 9 and 10, the annual average proportion of cases involving students, teachers, and schools in 29.4%, 22.0%, 21.4%, and 23.1%, respectively, the proportion of public opinion published

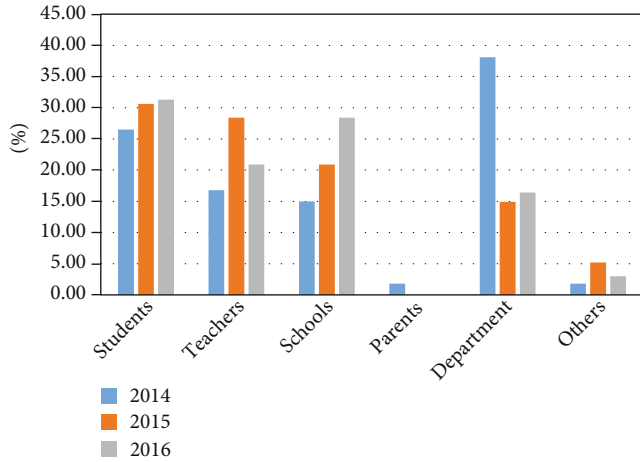


FIGURE 9: Distribution of subjects involved in hot events of educational public opinion from 2014 to 2016.

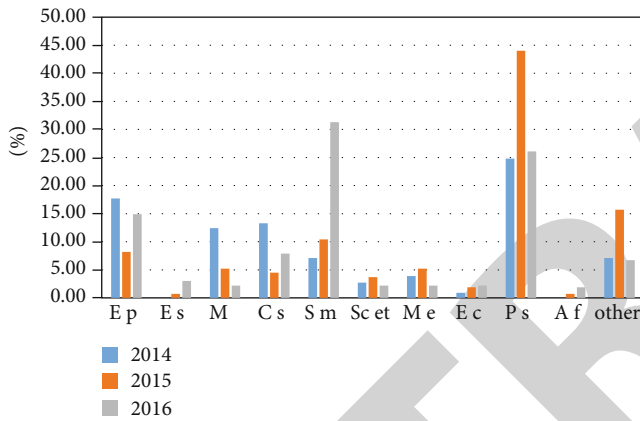


FIGURE 10: Content distribution of hot events in education public opinion from 2014 to 2016.

through words and deeds is 31.9%, 54.4%, and 57.4%, among which the proportion of students and schools has increased steadily in the past three years. Thus, it can be seen that the higher education management and ideological and moral education are relatively insufficient, the online public opinion consultation and management of such education and moral education is not enough, and the effect is not obvious.

Conduct actual statistics on the relationship between public opinion tendency and time of public opinion events and get the investigation data (see Table 3).

In Table 3, the exposure time of the case is earlier than when it happened, and the public opinion tends to be more positive. It can also be found that the negative public opinion within half a day after the incident is the peak period, and 12 hours later is the best time for the network public opinion guidance. After that, various public opinion trends gradually weaken with the passage of time. The tendency of public opinion refers to the position, point of view, interest, etc. of the public opinion disseminator towards objective facts, which are reflected either explicitly or implicitly in the media that shows completely different tendencies. Tendency also refers to the reporting opinions and basic opinions

TABLE 3: Distribution of public opinion tendency in the proportion of events from occurrence to exposure time from 2014 to 2016.

Event occurrence to the exposure time difference	Public opinion tendency		
	Front	Neutral	Downside
Exposure occurred earlier than Occurrence and exposure	24.2	17.4	1.5
Within half a day	14.9	22.4	27
Half a day-1 day	9.3	12.8	12.9
2-3 days	2.6	3.7	9.9
4-6 days	2	2.2	5.1
7-15 days	2	4.4	3
15-30 days	1.1	1.2	2.7
January-March	1.1	0.9	3.2
March-June	0.7	0.3	1.9
More than half a year	0.7	0.3	6.7
Amount to	100	100	100

formed by newspapers and other news media in a period of time. In Table 3, according to the size of the survey data, it can be judged whether the public opinion tendency is positive or negative or moderate sex.

4.4. Experimental Results. In the current era of big data, the main channel of public opinion communication on the ideological and political network in colleges and universities is network new media, which has a wide range and great influence. The dissemination of public opinion event information to the whole network community produces public opinion, and the dissemination to colleges and universities leads to network public opinion in colleges and universities. When there is network public opinion or network public opinion formation, network public opinion expands the university ideological teaching space, enriches the ideological teaching content, strengthens the ideological course public opinion teaching practice, and promotes positive mainstream theme and mainstream values but also have false, deception, violence, pornography, and even anti-Marx and anti-socialist speech, which lead to students' values and values confusion and distortion. Therefore, ideological and political course teachers should enrich the content of traditional political courses, conform to The Times, improve the concept of time and educational resources, strengthen online mental health education and media learning, provide ideological solutions, and improve the teaching materials of ideological and political learning.

5. Conclusion

College students are an important part of netizens. For students, the Internet is not only a source of information services but also a platform for information exchange. Through network public opinion research, especially college students' public opinion research, we can better understand students' ideological dynamics and internal needs, To provide students with targeted education, services, and guidance, to

encourage students' education, service, and guidance work, to ensure the all-round development of students, and to play a vital role in promoting student growth and higher education success. Based on the research on the communication path of network public opinion in universities, it believes that it is an inevitable trend to spread network public opinion through new media. On the one hand, ideological and political teachers should constantly cultivate their own network media literacy; on the other hand, they should change their concept of education and training, deepen the reform of education and training, pay special attention to, and strengthen public opinion education and guidance, so that students can carry out self-monitoring, self-education, and self-regulation in e-learning and life. Colleges and universities can no longer use traditional interception and interception methods to deal with the current rapidly changing public opinion situation. Therefore, they must change their dominant concepts, turn passive responses into active attacks, and fight alone. The whole army resisted. This effectively guides the ideological and political public opinion network in colleges and universities. This is important. Due to the lack of research materials and my own research capabilities, there may be many gaps that need to be filled.

Data Availability

The experimental data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declared that they have no conflicts of interest regarding this work.

References

- [1] W. Xindong, W. Gong-Qing, and Z. Xingquan, "Data mining with big data," *IEEE Transactions on Knowledge and Data Engineering*, vol. 26, no. 1, pp. 97–107, 2014.
- [2] A. Gandomi and M. Haider, "Beyond the hype: big data concepts, methods, and analytics," *International Journal of Information Management*, vol. 35, no. 2, pp. 137–144, 2015.
- [3] H. Han, Y. Wen, and T. S. Chua, "Toward scalable systems for big data analytics: a technology tutorial," *IEEE Access*, vol. 2, no. 2, pp. 652–687, 2017.
- [4] H. M. Zuo and Y. H. Yang, "Ideological and political education in colleges and universities," *Journal of Qinghai Nationalities University (Education Science Edition)*, vol. 3, no. 11, pp. 134–275, 2010.
- [5] L. Lan and X. Hao, "Research on Ideological Education from the Perspective of Trust Support," *International Journal of Intelligent Information and Management Science*, vol. 7, no. 3, 2018.
- [6] X. L. Yang and W. Z. Gao, "Systematic interpretation of culturing people in ideological and political work in colleges and universities," *Journal of Systems Science*, vol. 27, no. 3, pp. 65–108, 2019.
- [7] K. Zheng, X. M. Shu, and H. Y. Yuan, "Hot spot information auto-detection method of network public opinion," *Computer Engineering*, vol. 36, no. 3, pp. 44–68, 2010.
- [8] Y. Lan, "Research on the evolution model of network public opinion of sudden events," *Journal of Intelligence*, vol. 23, no. 8, pp. 356–492, 2011.
- [9] L. J. Jiang, "How network public opinion formation and its effect," *Journal of Bjing Institute of Technology*, vol. 12, pp. 23–87, 2006, 7.
- [10] L. Gang and C. Jinghao, "A review of network public opinion for unexpected emergency," *Documentation, Information & Knowledge*, vol. 2, pp. 111–119, 2014.
- [11] M. Bauer and N. F. Thornhill, "A practical method for identifying the propagation path of plant-wide disturbances," *Journal of Process Control*, vol. 18, no. 7–8, pp. 707–719, 2008.
- [12] J. Salmi, A. Richter, and V. Koivunen, "Detection and tracking of MIMO propagation path parameters using state-space approach," *IEEE Transactions on Signal Processing*, vol. 57, no. 4, pp. 1538–1550, 2009.
- [13] S. Y. Tan and H. S. Tan, "A theory for propagation path-loss characteristics in a city-street grid," *IEEE Trans on Emc*, vol. 37, no. 3, pp. 333–342, 1995.
- [14] X. Wang, Y. Xing, and Z. Dan, "The study of network public opinion dissemination with social network analysis under the mobile A case of "haze" in Sina micro-blog," *Library and Information Service*, vol. 4, no. 6, pp. 431–558, 2015.
- [15] J. Du, Y. H. Du, and X. Zhao, "The research of network cluster behavior mode in online public opinion," *Applied Mechanics & Materials*, vol. 411–414, no. 11, pp. 244–250, 2013.