



A Study on the Social Psychological Mechanisms of Popularizing the Socialist Core Value System from a Political Science Perspective

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SUMMARY: *The massification of socialist core value system is a process of social psychology enhancement, and mass media has a double impact on social psychology. In view of this, this paper explores the influence mechanism of mass media on social psychology in the process of massification of socialist core value system by using text mining method. Taking the relevant news reports of five mainstream media as the research samples, the TF-IDF algorithm, the LDA theme model and the sentiment analysis method are comprehensively applied to classify the reported themes and explore the dynamic evolution of the themes and the public sentiment. The study shows that the mainstream media focuses on the construction of macro-political themes such as the state, law, human rights and so on, while the disclosure of the case and the more caring and proximity of the audience are not as important as the former in the reporting of the incident. And there are obvious differences in the heat and emotional tendency of different themes as well as theme words in time. Therefore, based on the political science perspective, it is proposed to promote the popularization process of the socialist core value system by innovating the missionary path, promoting the universal popularization of the core theory, and emphasizing the participation of multiple subjects.*

KEYWORDS: *text mining; TF-IDF algorithm; LDA topic model; sentiment analysis; socialist core value system popularization; social psychology*

1 Introduction

The basic content of the socialist core value system includes the Marxist guiding ideology, the common ideal of socialism with Chinese characteristics, the national spirit with patriotism at its core and the spirit of the times with reform and innovation at its core, as well as the socialist concept of honor and shame. The socialist core value system is formed after a long period of enrichment and summarization, and it is the essential embodiment of socialist ideology, as well as a multi-level organic whole that is interrelated and coupled operation [1-3]. The popularization of the socialist core value system is conducive to the integration of political legitimacy resources and the exploration of the ruling party's governing law; it is conducive to the formation of socialist civic culture and thus the development of socialist political civilization [4-6]. Therefore, it is of great significance to consolidate and expand the socio-psychological foundation of the popularization of the socialist core value system.

It is an inevitable requirement to effectively promote the popularization of the socialist core value system by laying and expanding the social psychological foundation of the popularization of the socialist core value system with openness, seeking a greater psychological consensus and rational recognition from the public, so that the dominant socialist core value system can

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gradually become the value orientation and firm belief of the political practice of the social members [7-10]. Nowadays, China is in an important stage of social transformation, accompanied by rapid economic growth, increasing polarization of interests and rapid social changes, social disputes have emerged in large numbers, and social contradictions continue to intensify, highlighting the real needs of social value conflict and integration [11-14]. How to strengthen social management, defuse social conflicts and resolve social disputes as much as possible has become the government's top priority and a key factor in measuring the government's ability to govern.

Aiming at the issue of massification of socialist core value system, this paper firstly combed the relationship between socialist core value system, social psychology and mass media. On this basis, the news reports of five mainstream media from 2022-2023 are selected as sample data, and text mining methods such as TF-IDF algorithm, LDA topic model and sentiment analysis are combined to explore how mainstream media websites select and emphasize information in the construction of the topic framework of the report on violence against women, and realize the guidance and regulation of social psychology. Finally, based on the analysis results and related theories, a social psychological practice path to promote the popularization of the socialist core value system is designed from the reality and based on the political science perspective.

2 Social psychology in the process of popularizing the socialist core value system

2.1 Social psychology and socialist core value system

Social psychology is the reaction of people in social life which is generated spontaneously and influenced by each other, and it is the general feeling and understanding of social phenomena caused by the development and change of social economy, politics, culture and all aspects of the environment, and it is the low level of social consciousness which has not yet been sublimated rationally and is in a chaotic state.

Socialist core value system is the core content and the most essential requirement of socialist ideology, which is a high-level and high-level social consciousness, the result of people's rational thinking, and has the advanced character of keeping pace with the times. It maximally embodies the pluralistic demands of the socialist society, and is an organic whole of the worldview, outlook on life, values and morality to be set up by the general public, reflecting and representing their immediate interests and common wishes, with a profound social psychological foundation.

The construction of socialist core value system is closely related to the optimization of social psychology. First of all, the socialist core value system plays a leading and upgrading role in the social psychology, including the cognition and leading of thoughts, the cultivation of advanced social emotions, and the perfection of personality. Secondly, social psychology has a great influence on the construction of socialist core value system. Although folk life wishes and values are invisible concepts, once they become popular, they will form a psychological consensus or even a social trend, and become the inner cultural instructions of ordinary people, giving hints and dominating their actions. That is, social psychology has a strong role in inducing and guiding people's social behavior.

It can be seen that high-level social ideology contains and depends on low-level social psychology. On the one hand, it is necessary to give full play to the positive role of the core value system in leading and optimizing social psychology. On the other hand, the core value system must be built on the basis of social psychology that is harmonized with it.

2.2 Mass Media and the Popularization of the Socialist Core Value System

An important part of the popularization of the socialist core value system is the internalization of values, which is both a process of ideological transformation and a process of psychological transformation, requiring the enhancement of social psychology.

As a booster of modern social civilization, the mass media has a profound impact on social psychology and plays a very important role in the process of massification. Through the selection and dissemination of information and the guidance and monitoring of public opinion, it can play a leading, communicating, integrating, controlling and upgrading role on social psychology. At the same time, as a double-edged sword, it can disturb social psychology and negatively affect the socialist core value system. How to play the positive role of mass media is a realistic problem facing the popularization of socialist core value system.

For this reason, based on the perspective of political science, this paper applies the text mining method to explore the social psychological mechanism as well as the dynamic evolution in the process of socialist core value system popularization through the thematic analysis of social media public opinion.

3 Research methodology

3.1 Text mining

Text mining refers to the process of discovering and summarizing new knowledge from text. Text mining is the application and promotion of data mining methods on text data, which is a natural extension of data mining technology for semi-structured and unstructured text data. It is essentially a language processing technology, a powerful means of managing and organizing text data, which takes the text statement as the research object, and constructs computer-understandable conceptual and relational models by distinguishing and classifying the grammatical structure and characteristic elements that can be discerned in the article. The main analysis methods of text mining include temporal rule discovery, inference rule discovery, association rule discovery, high-frequency rule discovery, text preprocessing, text modeling and isolated point analysis.

3.2 Text pre-processing

The main tasks of text preprocessing include word segmentation, deactivation, lexical annotation, feature extraction and so on. Text preprocessing can filter irrelevant information according to mining objectives and data features, and extract key information from semi-structured or unstructured text data. Its regular operations are segmenting text data into words with practical meaning, labeling each word lexically and removing shallow ambiguities, as well as identifying longer proprietary words.

3.2.1 Chinese Text Segmentation

Chinese word segmentation is the basic step of text preprocessing, and word segmentation technology is the core technology of NLP research. In Chinese, words take characters as the basic unit, from which words can be combined into words, from which words can be combined into sentences, and from which sentences can be combined into paragraphs, sections, chapters, and essays. Since there is no obvious distinguishing mark between words, it is necessary to automatically recognize the words in a sentence by computer, and add boundary markers between words to separate all the words, so the word-cutting processing step is Chinese word separation. Correct word separation results can greatly improve the machine's ability to

understand and recognize the information in the text data. On the contrary, an incorrect result will contain a lot of noise, which will have a negative impact on the subsequent processing.

3.2.2 De-duplication of words

In text mining, a word is said to be a deactivated word if it occurs more frequently in a document set, but has no practical significance or is no longer used in applied research in, for example, the field of information retrieval. Removing deactivated words reduces the feature dimension of the text and increases the accuracy of text mining. In addition, filtering operations can also be performed for certain non-deactivated words that are not used frequently in the document. Since such words generally have no value to the feature representation of the text, the processing of these words can usually be filtered according to the frequency of occurrence or the length of the words. Removing deactivated words is a crucial step in the text processing process, and the accuracy of deactivation filtering has a direct impact on the subsequent research content.

3.2.3 Lexical annotation

Lexical annotation is the process of determining the lexicality of each word in a given statement and labeling it. Lexical annotation is an essential step in sentiment analysis and text mining, and accurate lexical annotation will provide great convenience for subsequent analysis. In this paper, the lexical annotation of words is carried out by Jieba library, in which the lexical annotation of dictionaries in Jieba library adopts ICTCLAS tagging rules provided by the Chinese Academy of Sciences.

3.3 TF-IDF algorithm

The Word Frequency-Inverse Document Frequency (TF-IDF) algorithm is a statistical method used to measure the importance of a word to a certain document, and is often used in keyword extraction analysis.

The TF-IDF algorithm is composed of two parts: the TF algorithm and the IDF algorithm. The main idea of the TF algorithm is that if a word occurs more times, the more expressive the word is to the text. And the main idea of IDF algorithm is that if a word occurs in fewer texts, the stronger the distinguishing ability of the word to the text. TF algorithm only considers the frequency of the word's occurrence in a text without measuring the distinguishing ability of the word to the text. IDF algorithm, on the contrary, focuses on the distinguishing ability of the word without considering the frequency of the word's occurrence in a text. However, since a word can appear repeatedly in a text, it means that the word can well reflect the characteristics of the text, and it is obviously unreasonable to ignore this point. Therefore, scholars combined these two algorithms to form the TF-IDF algorithm, which evaluates the importance of words from two perspectives: word frequency and inverse document frequency.

In the calculation process, the formula of TF is:

$$tf_{ij} = \frac{n_{ij}}{\sum_k n_{kj}} \quad (1)$$

where n_{ij} represents the frequency of occurrence of the word i in the text j , but the word frequencies are usually normalized. Here the denominator is the total number of words in the text.

The formula for IDF is:

$$idf_i = \log \left(\frac{|D|}{1 + |D_i|} \right) \quad (2)$$

where $|D_i|$ denotes the number of texts in which the word i appears in the text set, and $|D|$ denotes the total number of texts in the text set.

TF-IDF algorithm is a combination of TF algorithm and IDF algorithm, its specific formula is:

$$tf \times idf(i, j) = tf_{ij} \times idf_i = \frac{n_{ij}}{\sum_k n_{kj}} \times \log \left(\frac{|D|}{1 + |D_i|} \right) \quad (3)$$

Using equation (3) to count the tf-idf value of each word, we can know which word has the largest tf-idf value, i.e., it is the most suitable keyword for this text. The tf-idf values can be sorted in descending order, and the corresponding first n words are taken as the keywords of the text.

3.4 Emotional disposition analysis

Sentiment tendency analysis is actually a quantitative processing of text sentiment based on the semantic and interdependent relationship of words. The basic operation process is as follows: first of all, a complete sentiment dictionary should be constructed, which can be divided into basic sentiment dictionary, degree adverb dictionary, negative word dictionary and so on according to its lexical and functional differences. According to the matching rules formulated in the emotion dictionary, the text data is subdivided, and the subdivided results are matched with the dictionary to locate the emotion words and the degree adverbs and negatives in the context, and the emotion score is calculated according to the selected emotion score calculation rules, and the emotion score of the whole comment data is summarized to get the overall emotion value, thus determining its emotional tendency. It can be seen that the classification effect based on emotion dictionary basically depends on the construction of the emotion dictionary, the more comprehensive the dictionary content is, the more scientific the determination of emotion value is, and the closer the classification result is to the real one.

3.5 LDA Subject Modeling

LDA topic modeling is an unsupervised learning method which is widely used in natural language processing. The training process requires only a document set and a pre-specified number of topics, and the training corpus is used to generate a probability matrix of document topics and topic words. Document topic is not unique, it can contain multiple topics. Words, topics, and documents are the three-layer structure of the LDA topic model, respectively. The relationship between them is that a single document can be represented as a polynomial distribution of topics, and each topic in turn is represented as a polynomial distribution of words.

In order to identify the topic information hidden in documents and to simplify the complexity of the research problem, the bag-of-words-based LDA model treats a single document as a word frequency vector so that the order of words in the semantics can be disregarded and the unknown topics are used to build a bridge between documents and words.

The LDA topic model is shown in Figure 1. If the comment set of the sample under study has M comment documents, the number of identified topics is K , the total number of words in the documents is N , and the topic that generates the word W in the documents is Z . The process can be summarized as based on the “document-topic” probability distribution model to

select a topic, and then based on the “topic-word” probability distribution model according to the selected topic to extract a word under the topic, and the cycle repeats to form the final document. According to the LDA model, the probability of occurrence of a word in a document is:

$$P(\text{Word} | \text{Document}) = P(\text{Word} | \text{Theme})P(\text{Topics} | \text{Documents}) \quad (4)$$

Assuming that the prior distributions of all documents with their potential topics and the topic words contained in each topic are Dirichlet distributions, let the topic distribution of a document d with a parameter α be:

$$\theta_d = \text{Dirichlet}(\alpha) \quad (5)$$

For any parameter β theme k , the distribution of the subject terms is:

$$\varphi_k = \text{Dirichlet}(\beta) \quad (6)$$

For the n th word in any document d , the subject number is:

$$z_{dn} = \text{multi}(\theta_d) \quad (7)$$

For the topic number the probability distribution of the corresponding word is:

$$w_{dn} = \text{multi}(z_{dn}) \quad (8)$$

The above model obtains M document topics with Dirichlet distribution, and the corresponding data have multinomial distribution with M topic numbers, so that $(\alpha \rightarrow \theta \rightarrow Z)$ obtains the Dirichlet-multi covariate, and based on the Bayesian network, it is possible to generate a Dirichlet-multi distribution based on the Dirichlet-based document topic distribution can be generated based on Bayesian network, which can reflect the basic idea of LDA model.

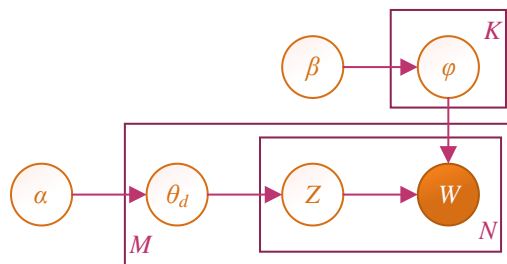


Figure 1: LDA topic model

4 Analysis of psychosocial mechanisms based on text mining models

In this chapter, the news samples of 8164 reports on violence against women were collected and processed, and subjected to LDA thematic analysis, in order to explore the relevant mechanisms of the news media in promoting the popularization of the socialist core value system and leading the evolution of social psychology.

4.1 Data acquisition and pre-processing

4.1.1 Data acquisition

In this paper, five authoritative and representative Chinese mainstream media websites, namely, CCTV.com, People's Daily Online, Xinhua.com, and Zhongxin.com, were selected to examine how mainstream media websites select and emphasize information in the construction of the topic framework for reporting on violence against women, “Chinese.com”, five authoritative and representative key mainstream media websites in China, to examine how mainstream media websites select and emphasize information in the construction of the topic framework for reporting on violence against women.

Since this paper mainly focuses on content analysis of news texts, data such as images, videos and related links are excluded from the preliminary crawled data. For the large amount of blank data and non-news text initially crawled from a single website, this paper carries out manual retrieval, excludes the news with invalid links and missing web content, and manually adds the news that is not retrieved by the collector. After obtaining complete data, the news is then de-emphasized according to the article title, and roughly browses the content length and text information of each news article, and conducts secondary screening for garbled content contained in the body text and news with low relevance.

4.1.2 Data pre-processing

The time period for text selection is 2022-2023, and the total number of news articles on “violence against women” after screening is 8,164, with the proportion of news on each website as shown in Table 1.

Table 1: Comparison of the number of news reports on violence against women

Website	CNTV	People's Daily Online	Xinhua News Agency	China News Service	Chinese Daily	Sum
Quantity	984	2434	927	2439	1380	8164
Proportion	12.05%	29.81%	11.36%	29.88%	16.90%	100%

Based on this foundation, this paper processes the text with de-duplicated words and applies the Jieba Chinese word segmentation tool, combined with the TF-IDF algorithm, to realize the steps of word segmentation, lexical annotation and keyword extraction on the text.

4.2 Word frequency analysis

This paper filters the text of news reports on “violence against women”, leaving only three lexemes: nouns, proper nouns, and nouns and verbs, and analyzes the statistics and analysis of high-frequency words. The word frequency statistics of the top 20 keywords in the text are shown in Table 2.

It can be observed that the word with the highest frequency ranking is "law", indicating that "law" is a core element in the framework of reporting on "violence against women" incidents constructed by key mainstream media websites in China. The second and third ranked keywords are "female" and "minor" respectively. As the main subjects of "violence against women", "women" and "minors" reflect the group of "the weak" in the social framework and also embody the gender consciousness of society. The keywords ranked fourth, fifth, sixth and seventh, namely "society", "development", "system" and "people", are similar in frequency to those ranked eighth, ninth and tenth, namely "cases", "problems" and "crimes", and are in a sequential relationship. It can be seen that the macro-level framework and the meso-level framework

present a relationship of equal emphasis and inclusion. Looking at the entire word frequency analysis table, the higher the frequency of the keyword, the more it tends to be constructed at the macro level. As the level gradually decreases, the keywords presented tend to be at the micro level.

Table 2: The frequency statistics of the top 20 keywords

Rank	Word	Frequency	Rank	Word	Frequency
1	Law	34527	11	Country	14527
2	Female	29573	12	Service	14318
3	Juveniles	26384	13	Education	14025
4	Society	20375	14	Procuratorial organ	11906
5	Development	19647	15	Rule of law	10987
6	System	19492	16	Human rights	10475
7	People	18653	17	Family	10314
8	Case	16672	18	Parents	10149
9	Problem	15831	19	Report	10128
10	Crime	14864	20	Regulations	10034

4.3 Thematic category construction based on LDA modeling

4.3.1 Determining the optimal number of topics

In this paper, perplexity is used as an evaluation index, and the number of topics corresponding to the smallest perplexity is selected as the number of topic categories into which the research text is finally divided. Calculate the Perplexity of a given set of documents and draw a line graph between the number of topics and the perplexity as shown in Figure 2.

It can be seen that as the number of topics K increases, the perplexity gradually decreases. According to the elbow method, it can be found that there is a significant inflection point of the fold line when K is about 14. When K belongs to $(1, 14)$, the curve drops sharply. When K is greater than 16, the curve basically stabilizes. And when K belongs to $(14, 15)$, there is a small increase in training distress. Therefore, the inflection point 14 is the optimal value of K . Therefore, the number of LDA topics generated in the selected corpus set of this paper is selected as 14.

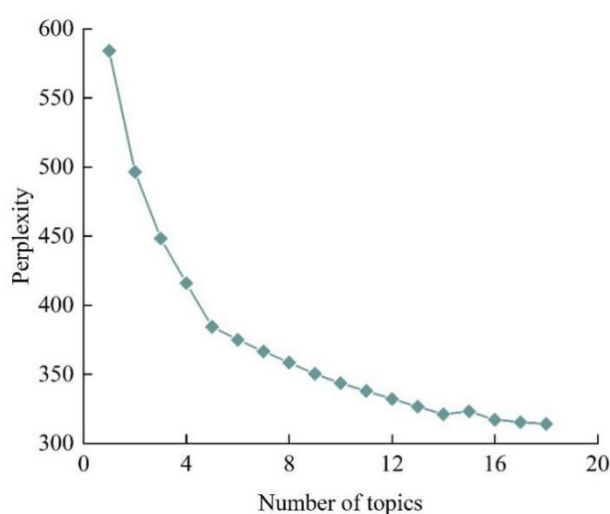


Figure 2: Theme - confusion line chart

After completing topic extraction, in order to further verify whether the current topic count meets the expectation, this paper introduces a visual model to intuitively present the results of LDA topic extraction. The topic count visualization map is shown in Fig. 3.

It can be seen that the straight lines PC1 and PC2 divide the image into four regions, and the circles 1-14 represent 14 topics, respectively; the farther the view distance represents the lower the correlation between two topics, and the more ideal the topic division results. In the figure, except for themes 1, 3, and 5, which are closer to each other in terms of visual distance, the distribution of the rest of the themes is relatively decentralized. After carefully analyzing the characteristic words contained in themes 1, 3 and 5, it was determined that the common point of these three thematic frameworks focuses on the construction and development of the institutional system as well as the policy regulations and rules, but the main focuses have different biases. The number of themes selected, 14, is therefore in line with the expected division of the text into thematic frameworks.

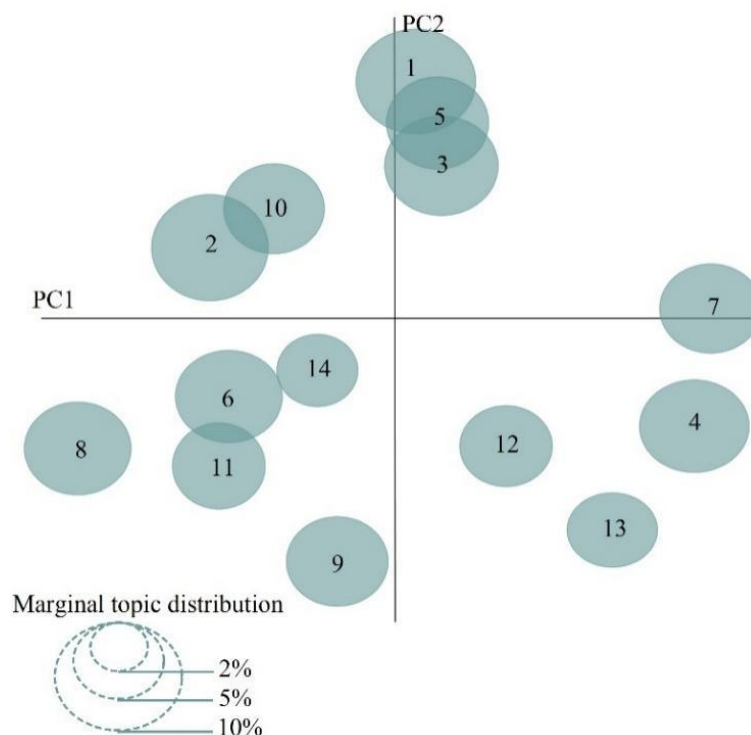


Figure 3: View distance diagram of the number of topics

4.3.2 Thematic Category Construction

After determining the optimal number of topics is 14, the first 15 feature words in each topic are selected for statistical purposes, so that the final “topic-keyword list” can be obtained as shown in Table 3.

Table 3: Topic - keyword table (n=14)

Theme	Key words
Topic1	National, Human rights, International, World, History, Indigenous people, Global, War, Cooperation, Labor, Development, Democratic Economy, Peace, People
Topic2	Network, Platform, Video, Company, Industry, Culture, Information, Fans, Internet, Live streaming, Dissemination, Event, Program, Viewer, Artist
Topic3	Student, School, Education, Regulations, Teacher, Management, Training, Institutions, Campus, Rule of law, Parent, System, Ministry of education, Activity, Administration department
Topic4	Crime, Case, Public security organs, Suspect, Action, Police, Ministry of public security, Police officer, Trafficking in women, Children, Drugs, Special project, Masses, Fraud, Rectification
Topic5	Domestic violence, Court, Regulations, Personal safety protection order, Law, Evidence, Case, Victim, Civil code, In accordance with the law, Both parties, The party concerned, Spirit, Defendant, Situation
Topic6	Pandemic, Asian, Prison, Website, Human rights, Violence, Incidents, Immigrant, Politics, Public, Surveys, White people, Government, Country, Reports
Topic7	Women, Children, Development, Family, Services, Construction, Education, Assessment, Outline, Policy, Capacity, Career, Planning, Mechanism.
Topic8	Development, People, Construction, Rule of law, State, Era, System, Socialism, Masses, Politics, Grassroots, Economy, Conference, Reform, Leader
Topic9	Procuratorial organ, Prosecution, Crime, Case, Supervision, Handling, Procuratorate, Case handling, Public welfare, Judiciary, Litigation, Prosecutor of the Supreme People's Procuratorate, In accordance with the law, Assistance, Rule of law
Topic10	Female, Women, Sexual harassment, Women's rights and interests, Law, Rights and interests, Regulations, Draft, Revised draft, Childbirth, Labor, Enterprises, Committee members, State, Female employees
Topic11	Human rights, Development, System, Rights, Service, Disabled person, Construction, Country, Rescue, People, Basic, Culture, In accordance with the law, Education, Life
Topic12	Child, Parents, Life, Family, Mother, Father, Psychology, Education, Girl, Daughter, Hospital, Son, Teacher, Sex education, Relationship
Topic13	Justice, Cases, Courts, Trial, Service, In accordance with the law, Litigation, Crime, The masses, Construction, Rule of law, Dispute, Development, The people, Judge
Topic14	Minors, Reports, Sexual assault, Children, Guardianship, Guardians, Guidance, Systems, Education, Departments, Parents, Networks, Families, Protection laws, Cases

After obtaining the classification of the reporting theme categories of violence against women from Table 3, the category names of the 14 excavated themes were defined to complete the construction of the theme categories. The selection of the name is defined based on the intent of the feature words in the thesopus. For instance, the main keywords included in Topic1 are "international", "world", "global", "human", "peace", "development", "convention", "sanctions", etc. Therefore, the label of Topic1 is defined as "global governance". The tag content of each topic is shown in Table 4.

Table 4: 14 topic tags

Theme	Name	Theme	Name
Topic1	Global governance	Topic8	National development
Topic2	Online entertainment and culture	Topic9	Procuratorial work
Topic3	Campus education	Topic10	Workplace safety
Topic4	Police case handling	Topic11	Human rights protection
Topic5	Violent crime	Topic12	Health education
Topic6	International issues	Topic13	Judicial trial
Topic7	Women and children's affairs	Topic14	Protection of minors

4.4 Thematic analysis of event coverage

In this paper, topics 1-14 are named in the order automatically generated in the viewgraph, and the ordering of the viewgraph is automatically generated by the number of articles contained in each topic from high to low, and the weight of each topic in the document is calculated. The viewmap topic weights are shown in Table 5.

It can be seen that the number of articles related to national, international, legal, human rights and other related topics have the highest weight in the reports on “violence against women”, accounting for 36.06% in total. This was followed by topics related to the protection of women's and children's rights and interests and the development of their careers, with a total weight of 15.56%. The themes with the lowest weights were “campus management” and “workplace safety”, representing the campus environment for students and the workplace for working women, with weights of only 4.83% and 4.29% respectively.

Table 5: Topic weights of view distance map

Rank	Theme	Tag	Weight /%
1	Topic8	National development	9.66
2	Topic13	Judicial trial	9.55
3	Topic11	Human rights protection	8.80
4	Topic6	International issues	8.05
5	Topic7	Women and children's affairs	7.83
6	Topic14	Protection of minors	7.73
7	Topic1	Global governance	7.51
8	Topic9	Procuratorial work	7.51
9	Topic5	Violent crime	7.19
10	Topic4	Police case handling	5.90
11	Topic2	Online entertainment and culture	5.79
12	Topic12	Health education	5.36
13	Topic3	Campus education	4.83
14	Topic10	Workplace safety	4.29

In the following section, Theme 1 and Theme 2 will be analyzed in-depth, using the example of the visualization in conjunction with the viewgraph.

The visualization of Theme 1 is shown in Figure 4, which shows the frequencies of the 20 most relevant terms of the theme. It can be seen that Theme 1, “National Development”, mainly involves the reform and development of the national system, the construction of the legal system, socialist modernization, government leadership, high-quality development of the political economy, grass-roots people and democratic values, and leadership in the field of

ideology and spirituality in the new era, and other ambitious propositions and visionary goals. As the issue of “violence against women” has gradually gained attention in China, China's legislative and judicial departments, administrative organs, and women's federation organizations have followed the State's lead in improving relevant laws and regulations and supervising the implementation of those laws and regulations. Violence against women has been firmly resisted, severely combated and incorporated into national development plans, and gender equality has been made a goal of social development, so that women's rights and interests are effectively protected.

Combined with the distance map in Figure 3, it can be seen that although the weights of the 14 topics are more evenly distributed, the weight of the “national development” topic reaches 9.66%, which is the topic that occupies the largest proportion of space among the topic categories, indicating that the news coverage of the topic of “violence against women” is more important than that of “violence against women”. This shows that in the theme construction of news reports on the topic of “violence against women”, the central media websites mostly start from the macro level, focusing on the consistency with the government, maintaining their authoritative stance as the central media in upholding the mainstream values, and actively promoting the popularization of the socialist core value system.

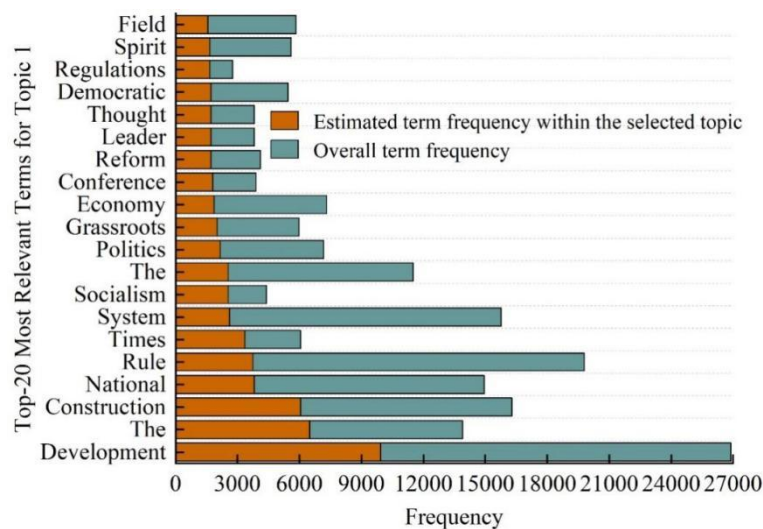


Figure 4: Visualization effect of Topic 1

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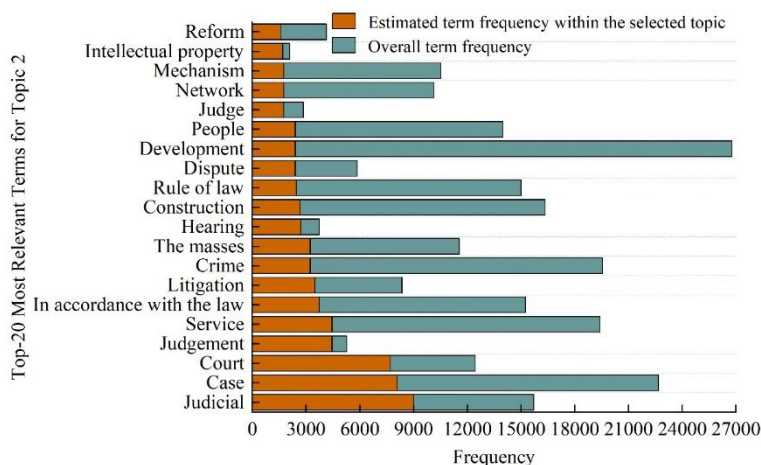


Figure 5: Visualization effect of Topic2

4.5 Dynamic Evolutionary Analysis of Themes in Multiple Perspectives

On the basis of the construction of the theme categories, the 14 themes were further categorized according to their content characteristics and divided into five categories based on their connotations, namely, governance and safeguards, education and prevention, law enforcement and justice, industry and environment, and crime and problems. The connotations of the themes and the corresponding theme types are shown in table 6.

Table 6: The connotation of the theme and the corresponding theme types

Number	Theme connotation	Theme Type
Topic1	Global governance	Governance and Assurance
Topic2	Online entertainment and culture	Industry and Environment
Topic3	Campus education	Education and Prevention
Topic4	Police case handling	Law Enforcement and Justice
Topic5	Violent crime	Crime and Problems
Topic6	International issues	Crime and Problems
Topic7	Women and children's affairs	Industry and Environment
Topic8	National development	Governance and Assurance
Topic9	Procuratorial work	Governance and Assurance
Topic10	Workplace safety	Industry and Environment
Topic11	Human rights protection	Governance and Assurance
Topic12	Health education	Education and Prevention
Topic13	Judicial trial	Law Enforcement and Justice
Topic14	Protection of minors	Education and Prevention

4.5.1 Dynamic Evolutionary Analysis of Thematic Hotness

This study plots the time variation of the heat of various topics of “violence against women” reports by topic type from 2022 to 2023, and the heat of the topics discussed is calculated based on the probability distribution of each topic of the appeal message by time. In this paper, the formula for calculating the heat of topics is as follows:

$$H_{it_0} = \frac{\sum_{t_0} \phi(r_{it_0})}{n_{t_0}} \quad (9)$$

where H_{it_0} denotes the heat of the topic type t_0 at the t_i moment. r_{it_0} denotes the probability of reporting r on topic t_0 at moment t_i . ϕ is the threshold function. Considering that in practice, mainstream media may involve multiple topics in news reports, directly selecting the maximum probability topic is not suitable for the scenario of this study. Therefore, all themes that are larger than the probability threshold are considered to be the themes to which the report belongs. n is the scale factor, which indicates the number of subcategories of themes contained in the theme type t_0 .

The five categories of theme heat over time are shown in Figure 6.

(1) Governance and Safeguards. At the beginning of 2022-2023, this type of news coverage exploded. With the frequent occurrence of crimes of violence against women, the media focused on crimes of violence against women, and reports on combating crimes of violence against women increased rapidly, becoming the theme with the highest heat. This reflects the fact that at the initial stage, the management of crimes of violence against women was the focus of social attention. As crime governance gradually became normalized and proceduralized, the heat of the governance and safeguards theme declined, reaching a relatively low point in early June. As violent crimes against women eased, media focus gradually shifted to the protection of women's rights and interests, especially from August to November, when rumors of revisions to laws related to the protection of women's rights and interests were rumored and formally carried out, and the fervor of governance and protection rose again. Thereafter, media attention gradually returned to the norm, with a subsequent sharp decline in related reports.

(2) Education and Prevention. Except for the early period of 2022-2023, when it was lower than governance and safeguards, it was hotter than the other four topics, reflecting the high level of mainstream media attention to education and prevention issues. The heat of school education and health education coverage increased rapidly in the early period, when the media directed viewers' attention to female education in relation to crimes of violence against women, in order to prevent the recurrence of such crimes. Over time, the combat effect of violent crimes against females gradually improved, and the focus of media coverage on education and prevention shifted to the issue of underage protection, and reached a peak in late October, followed by a declining trend. At the cutoff point of this study's data cycle, the heat of reporting on education and prevention was still significantly higher than that of other types of claims.

(3) Law Enforcement and Justice. In the early part of 2022-2023, there was a slight and relatively concentrated rise in coverage of this category, but the rise was not significant, and its heat slowed down as the country's crime governance and human rights safeguards measures were advanced. The heat of the theme of law enforcement and justice rose sharply again in the second half of August 2022, when it became one of the hottest themes, involving such concerns as police casework and judicial hearings. With the transparency of law enforcement and judicial work across the country, legal rights are fully guaranteed, and the heat of the theme of law enforcement and justice gradually decreases.

(4) Industry and Environment. The heat of industry and environment reports also showed a

steady increase over time and peaked in October. 2022 Reports on industry and environment appeared at the beginning of the year, mainly related to content centered on the online entertainment atmosphere and workplace safety. With the development and deepening of the national net-cleaning campaign, malicious remarks against women on the Internet and inappropriate content in movies and TV programs that allegedly discriminate against women frequently appear in news reports, reflecting women's demand for a better social environment. early to mid-October reports on the industry and the environment reach a significant peak, with a large number of reports on rectifying the Internet cultural environment, protecting women's workplace safety, and developing women's and children's careers, with a steady increase over time and reaching a peak in October. A large number of reports appeared on rectifying the Internet culture environment, safeguarding women's safety in the workplace, and developing women's and children's careers, reflecting the society's urgent hope for improving the industry and social environment. With the further advancement of the net action, the hotness of the industry and environment theme decreased significantly in November.

(5) Crime and Problems. The hotspots mainly occurred in the second half of 2022, which is significantly different from the changes in the themes of “Law Enforcement and Justice” and “Governance and Safeguard”. 2022 At the beginning of the year, the reports on crime and issues in various reports were less enthusiastic, with fewer reports in mainstream media, and only reports on violence against women. In the beginning of the year, there was a low level of coverage of crime and issues in all types of reports, with fewer reports in mainstream media, which only reported on specific crime incidents of violence against women, mostly lacking specific characteristics, trends, and analysis of causes. With the easing of the crime problem, mainstream media reports on the characteristics and causes of this type of crime problem increased significantly after July, and the heat of the topic gradually increased. At the same time, with the frequent occurrence of violent crimes against women overseas, the hotspot of media attention began to shift to international issues and reached its highest point at the end of October. During this period, media reports on crime and issues mainly included human trafficking and wartime sexual violence, etc. In November, the effectiveness of the governance of violent crimes against women gradually became apparent, and the heat of the crime and issues theme then dropped significantly.

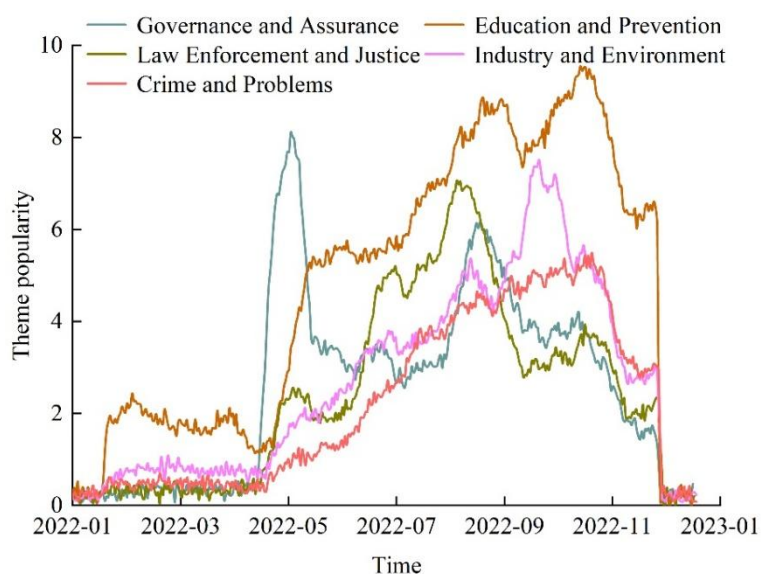


Figure 6: The changes in the popularity of the five types of themes over time

4.5.2 Thematic Sentiment Dynamics Evolution Analysis

Emotions are an important factor in social psychology. In the context of violence against women, the public is very prone to generate undesirable emotions, and if these undesirable emotions are allowed to pervade the space of public opinion, it will lead to the filling of the entire space of public opinion with undesirable emotions, resulting in the aggravation of the incident and triggering of a vicious incident. Therefore, to do a good job in the dynamic evolution of the public's emotions towards different topics under different periods is a key topic in public opinion research, which helps the mainstream media to provide social psychological guidance and promote the process of popularization of the socialist core value system. Therefore, based on the construction mechanism of social psychology, this paper divides the life cycle of theme evolution into three stages: fragmented response, institutionalized design, and technology-enabled global governance, and obtains the results of the analysis of the public's emotional satisfaction of the public comments under the different news report themes in the three stages, as shown in Figs. 7~9.

Through the observation of theme satisfaction in the fragmented response stage, it is found that the public's emotions towards various themes in this period are dominated by negative emotions, and the emotions of each theme show different degrees of fluctuation in this period, which indicates that the public is easily affected by various types of information in this stage, and reports negative emotions towards the development of the event. In the early stage, the public's emotions are more negative because the events have a large impact and a certain degree of uncertainty, causing people to feel shock, anxiety and fear and other negative emotions.

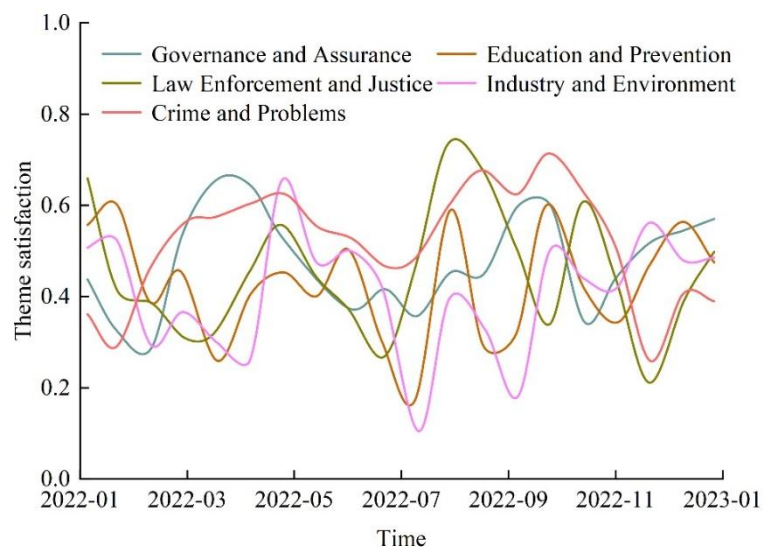


Figure 7: Topic satisfaction in the fragmented response stage

The observation of theme satisfaction in the institutionalization design stage shows that the sentiment trends of the themes under this stage are high, with the two categories of “Law Enforcement and Justice” and “Crime and Problems” still showing negative sentiment in this stage. Themes 4 in the categories of “Law Enforcement and Justice” and “Crime and Problems” are still dominated by negative emotions at this stage, while the themes of “Governance and Protection”, “Education and Prevention” and “Industry and Environment” show positive emotions. This suggests that during this period, the public showed a positive attitude towards the good progress of the incident and the results obtained from the effective measures taken by the government, and their psychological feelings gradually converged towards the socialist core value system.

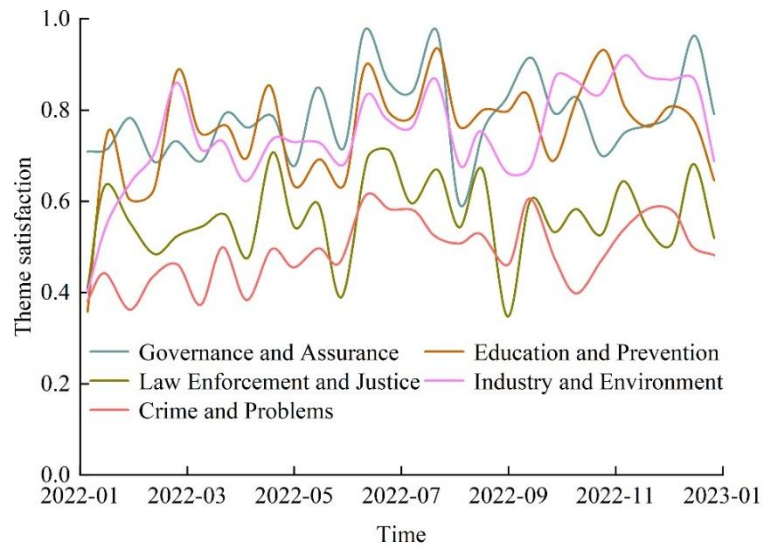


Figure 8: The theme satisfaction in the institutionalized design stage

By observing the sentiment trends of different topics under the stage of technology-enabled global governance, it is found that during this period, except for the topic of “Crime and Problems”, the sentiment trends of the rest of the topics are relatively stable without much fluctuation, while the sentiment values of the “Industry and Environment” category are mostly below 0.5 throughout the period, indicating that negative sentiment dominates. Meanwhile, the sentiment value of the “Industry and Environment” category in the whole period is mostly below 0.5, indicating that negative sentiment dominates. The “Law Enforcement and Judicial” category was in a positive situation at the beginning, but after entering June, the sentiment of the theme shifted to a negative one. Themes in the categories “Education and prevention”, “Governance and safeguards” and “Crime and problems”, on the other hand, remained positive throughout the fluctuating period. This suggests that measures have been taken to control the situation and ease public sentiment, and that the media have begun to focus on the use of digital technology to achieve international collaborative reporting on violence against women.

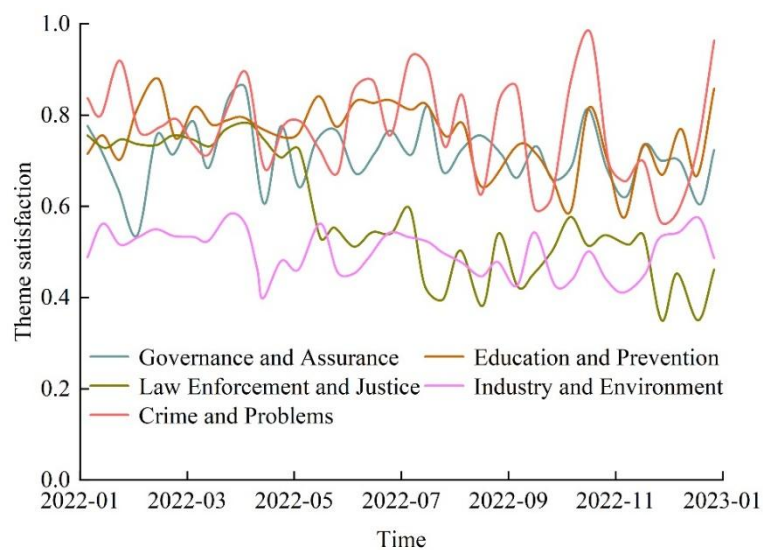


Figure 9: Theme satisfaction in the stage of global co-governance

4.5.3 Evolutionary Analysis of Subject Matter in the Perspective of Semantic Features

The dynamic evolution process of topic words under semantic features is a kind of evolutionary metric based on topics on the temporal and semantic dimensions, which can discover the evolutionary relationship between different topics, as well as the similarities and differences between topics, and can provide guidance for exploring the topic evolution of reports. In this paper, based on the word frequency statistical analysis of the corpus in different periods, we obtain the dictionary of high-frequency words, and at the same time compare the dictionary of theme words, and screen out the Top10 theme words with the highest frequency and according to the practical significance as shown in Table 7.

It can be seen that the words law, women and minors are high-frequency subject words in the whole period, which indicates that the media reports have some similarity in different stages. From the axial observation, it can be seen that the high-frequency words differed in each period, and in the fragmented response stage, the high-frequency words still focused on factors such as the impact caused by the occurrence of the incident in question. In the stage of institutionalized design, due to the effective implementation of crime remediation, the hotspots of public discussion are the judicial progress of the case and the design of the relevant system. At the stage of technology-enabled global governance, it can be seen that the effectiveness of domestic efforts is effectively contrasted with that of foreign countries, and the public focuses on the situation abroad at this time.

Table 7: Frequency statistics of subject words

The fragmented response stage	Frequency	Institutionalized design stage	Frequency	The stage of global governance	Frequency
Development	10538	Law	13914	Law	16170
Case	7623	System	13562	Female	13649
Problem	7231	Female	10464	Society	13531
Crime	5786	Service	10207	Country	11038
Law	4443	Education	9936	People	9264
Human rights	4084	Juveniles	9482	Juveniles	7287
Society	3862	People	8514	Human rights	7154
Juveniles	3684	Procuratorial organ	7865	Regulations	6415
Domestic violence	3148	Rule of law	5483	International	5126
Female	2960	Family	4367	Rule of law	4542

5 The psychosocial path to the popularization of the socialist core value system

Based on the above analysis, this paper argues that in order to promote the popularization of the socialist core value system, it is necessary to strengthen the construction of the social psychological foundation, smooth the chain of acceptance of “knowing-receiving-transforming”, and clarify the basic elements and ways of realizing those elements that expand and consolidate the social psychological foundation. In this process, we should make reasonable use of the guiding role of the news media, so that the socialist core value system can be truly understood, recognized, identified, internalized and put into practice by members of the society, and the political sentiment can be enhanced and become the value guidance for their future actions, so as to promote the construction of socialism with Chinese characteristics in a cohesive and united manner. Based on this, this paper proposes the following specific practical paths.

(1) Innovate and emphasize the effective coverage of preaching paths to improve the awareness of political goals among members of the society.

“Understanding and cognition” of the socialist core value system is the key to expanding the social and psychological foundation of the popularization of the socialist core value system. It is necessary to constantly innovate the forms of propaganda and education, and improve the effectiveness of education and guidance, so as to effectively cover all members of the society with the theory of the socialist core value system, and to grasp the initiative, dominant power, and discourse power in the field of ideology. We can start from family enlightenment, school education and media promotion to emphasize the starting point of acceptance of the socialist core value system and lay the foundation for understanding and recognition.

Family education is at the forefront of the popularization of the socialist core value system. Parent-child interaction should be used to cultivate children's sense of democracy, innovation and good character; experiential education should be used to cultivate children's sense of family and nationhood and filial piety; and home-school cooperation should be used to cultivate children's sense of citizenship and scientific literacy. Cultivate civic awareness and scientific literacy among children and youth through “experiential education”.

Schools are the main position for the popularization of the socialist core value system. Education and guidance should be carried out in accordance with the principle of “grasping the main line, grasping the penetration and grasping the key points”. First of all, school education has its own scientific laws of operation. The socialist core value system must be introduced into textbooks, classrooms and students' minds in a gradual and orderly manner. Education and teaching should be organized in accordance with the hierarchy of “learning to be a human being, being a good human being, and being a person with ideals”. Secondly, ideological and political education in schools should also be effective in the pursuit of science. It is necessary to better integrate the socialist core value system into school teaching and improve the effectiveness of education on the socialist core value system by means of teaching for fun, combining needs and subject participation.

The mass media is the main channel for the popularization of the socialist core value system. It is necessary to increase the publicity and popularization of the socialist core value system with the help of all kinds of media, to realize the “media linkage and promotion, seamless coverage of publicity and education” of the teaching operation tension, to create a good social atmosphere and public opinion orientation, and to effectively carry out the leadership of the socialist core value system on the social trend of thought.

(2) Innovate core theories and emphasize universal popularity to cultivate the political emotional identity of social members.

Whether a theory can be recognized and accepted by members of the society is premised on whether the theory can be understood by the general public. Vigorously promoting theoretical innovation, actively innovating and popularizing the theory in terms of content, form and carrier is the key and prerequisite for expanding the social and psychological basis for the popularization of the socialist core value system.

Popularization is to use the perspective of popular life and familiar language to facilitate the general public of all strata to “learn, remember, pass on and use” the profound connotation of the socialist core value system, to find the resonance point of the social psychology, to make the theory more close to the times, close to life, close to the needs, and to adapt to the cognitive level, comprehension and acceptance ability of the masses, and to continuously improve the theoretical learning and popularization of the socialist core value system. It will make the theory more relevant to the times, to life and to needs, and adapt to the cognitive level, comprehension and acceptance ability of the people, so as to continuously improve the effectiveness of theory learning, dissemination and internalization.

The socialist core value system is universally applicable and popular, and what we should pay attention to is the accuracy, feasibility and target proximity of the content. Therefore, firstly, the content should be close to the times, close to life, close to the needs, concise, in keeping with the times, and easy for people at all levels to understand. Secondly, the form should be enjoyable, driven by internal demand, teaching and acceptance of cohesion, flexible care. To respect the subject of education in the level of thinking, willingness to accept and acceptance of the differences in the ability to accept, with the public like and acceptable form, to stimulate the public happy to participate in it, to realize the benign interaction between the teaching and acceptance of the two sides of the public's self-education, and to expand the theory of the self-radiation force and centripetal force.

(3) Innovate social management and emphasize the participation of the main body to cultivate the practice of political ideals among the members of the society.

The popularization of the socialist core value system is a practical process. It requires the conscious participation of social members on the basis of cognition and recognition, subjective creation, and active practice. It is necessary to attract the active participation of members of society by giving full play to the advantages of non-profit organizations, actively cultivate civic culture, and promote the subjective practice of social construction and social management undertakings by members of society, so that members of society can better understand and recognize the connotations of the political ideals and goals in practice, enhance their sense of political identity, maximize the formation of social ideological consensus, and lead the construction of a harmonious society with the socialist core value system.

6 Conclusion

In this paper, TF-IDF algorithm, LDA topic model and text mining methods such as sentiment analysis are comprehensively applied to investigate the regulation mechanism of mainstream media websites on social psychology, so as to put forward the practical path to promote the process of massification of socialist core value system.

In the selected news report samples, the top 10 keywords in terms of word frequency are: law, women, minors, society, development, system, people, case, problem, crime, of which the higher the frequency the more the keywords tend to be constructed at the macro level, and the level gradually decreases, presenting the more the keywords tend to be at the micro level. The study obtained a total of 14 themes, of which the number of articles related to national, international, legal, human rights and other related themes had the highest weight in the coverage of “violence against women”, accounting for 36.06%. The protection of women's and children's rights and interests and the development of their careers came next, with a total weight of 15.56%. The themes of “campus management” and “workplace safety” had the lowest weights, with only 4.83% and 4.29% respectively.

Further categorized by content features, the 14 themes are divided into five categories: governance and security, education and prevention, law enforcement and justice, industry and environment, and crime and problems. The heat of themes in different categories has obvious differences in time, and such differences are related to the development of events. At the same time, this paper divides the theme evolution life cycle into three stages: fragmented response, institutionalized design, and technology-enabled global governance, and there are significant differences in the sentiment tendency and theme word frequency of the five categories of themes under the three stages.

In addition, based on the social psychological acceptance chain of “knowing-receiving-transforming”, this paper puts forward the practical paths of innovating preaching paths, promoting the popularization of core theories, and emphasizing the participation of multiple

subjects for the popularization of socialist core value system.

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