A Study on the Characteristics of College Students' Negative Emotion and the Strategy of Dredging from the Perspective of Large Data

YONG LI, YUHUA HE, YU ZHENG and MUNI ZHUANG

ABSTRACT

The extreme social events caused by the negative emotions of college students have been widely concerned by the community and have become an important topic of concern to researchers. This article based on the "Baidu public opinion", "Ali public event analysis", "Sina public opinion" and other commercial large data platform, and then the basic characteristics of the audience and college students negative emotional timing changes were analyzed by using the machine learning and data mining tools, the reasons for the negative emotions of college students were analyzed by using the questionnaire. The research found that the negative emotions of college students are influenced by social public opinion, study pressure and employment pressure. On these grounds, we put forward the dredge strategy, what is used by "opinion leaders" to guide public opinion, improve the psychological ability and improve the physical and mental health of college students.

KEYWORDS
Large data, Negative emotions of college students, Feature perception, Dredge strategy.

INTRODUCTION

Research significance

The 39th China Internet Development Statistics Report shows that as of December 2016, the scale of China's Internet users reached 731 million, mobile phone users reached 695 million, the Internet usage rate of mobile phone was 95.1 percent, and the number of Chinese Internet users has reached an unprecedented height. At the same time, China is in a critical transition period, various social contradictions are prominent, people complain about some social problems at this stage. With the development of mobile Internet and social network, the negative emotions of Internet users can be expressed and spread in micro-news, BBS, micro blog, QQ, forum and
other social media, the network is full of various kinds of negative emotional information such as false information, vulgar language, complaints, etc.

As the main user of the network, college students are the people who are most affected by the negative emotions of the Internet, lack of rational judgment, and easy to be overactive. In recent years, some social problems caused by college students' extreme negative emotions are common, such as "Ma Jiajue incident" in 2004, "Fudan University poisoning incident" in 2013 etc. These are extreme vicious events which caused by college students' negative emotions. Therefore, it is very important to guide the healthy development of college students' negative emotions.

Fortunately, the development and extensive application of the "big data industry" provides a convenient tool for studying the negative emotions of college students. The large data analysis platform represented by "Baidu", "Tencent", "Ali" and "Sina" provide a powerful function of data collection, data storage and data analysis. From the perspective of big data, this paper studies the general characteristics and causes of college students' negative emotions, and exploring the effective guiding mechanism of college students' negative emotions, it not only broaden the breadth and depth of emotional research, but also help the schools and relevant departments to guide the negative emotions of college students effectively and build a harmonious campus. It has important theoretical research value and practical significance.

Research status at home and abroad

RESEARCH STATUS OF UNDERGRADUATES' NEGATIVE EMOTION

American psychologist William James and Danish physiologist Karl Lange argue that the physical changes caused by the excitement of external events are the direct cause of emotions [1]; Freud acknowledges that emotional activity is concerned with negative emotions caused by conflict [2]. Domestic experts Qiao Wanmin regard emotions are a reflection of whether people's needs are met or not [3]; Han Yanming consider that emotion is the result of the interaction between individual and the society [4]; Huang Xuwei deem that with the development of the brain, emotions will constantly differentiate and affect the college students' intellectual activities, intellectual development, mental health and personality shaping [5].

RESEARCH STATUS OF NETWORK NEGATIVE EMOTION

Foreign scholars believe that the media can cause changes in mood and behavior in the public. McCombs found that the mass media could influence the audience's perception awareness of certain issues experiments [6]. Many foreign psychologists and communication scientists have also studied the network public opinion [7]. On the domestic front, Wang Tianyi first studied the negative emotions in the network with the idea of "network grumbling". He points out that the network grievance is a bad social and psychological phenomenon based on the network, people express their dissatisfaction in the network [8]. Wang Tianyi pointed out that negative emotions reflect the conflict of interest and social contradictions; it reflected the dissatisfaction from all walks of life for the difference in personal income, status, honor and self-realization [9].
On the foreign side, Melvin Deferrer and Sandra Bauer-Rocky believe that the modern social masses mainly rely on the media to understand the various aspects of society, the media information function will enable the masses to produce a series of chain reaction from different levels [10]; American psychologist Bandura pointed out that terrorist event has a dynamic damage, this damage is unpredictable and uncontrollable, but people can predict whether the environment is safe [11]. Daniel Bar-Tal argues that the behavioral mechanisms of negative emotions can be discussed by establishing mathematical models or computer models [12]; Frank Schwartz used a multi-agent model to simulate the formation of negative emotions in the group [13].

On the domestic front, Lv Zhixiong thinks that the formation of negative public opinion has the characteristics of instantaneous explosion and variability, and he proposed that the evaluation standard of social common recognition should be established and the diversion of public opinion should be carried out, and enhance the positive affinity of public opinion with the method of equal dialogue [14]. Li Congdong put forward some suggestions on the negative emotional treatment, and believes that the negative emotions of the group are the key factor of the occurrence of the group events [15] Wang Qingsong puts forward the method of coping with the network public opinion from the aspects of government regulation, network security construction, information propaganda etc. [16] From the prospect of sociology, psychology, communication, Li Yongjian explored the important role of mass media as a social crisis regulator to arouse the public strong and self-confidence [17]. Hu Qian insists that in the network of social negative emotions, the media should standardized self-management, innovate the way of guidance, improve the monitoring and early warning mechanism and establish multi-dimensional guidance system [18]. Xue Sufen, Lu Hao proposed to improve the system generation mechanism, strengthen the construction of anti-corruption, build social regulation network and attach importance to the online media’s guiding function [19]. Xu Ying found the spread of network fragmented content will promote the intensification of social sentiment, and many-to-many transmission will lead to the spread of negative emotions, while the new media and the traditional media are complementary which could promote the reverse emotional guidance [20];

Liu Xingfang, Liu Xiubing discussed the causes, characteristics and prevention and control measures of social emotional network intensification [21]. Li Congdong, Hong Yuxiang found that negative emotions of the group is the leading factor in the events of rural groups events, and the social network characteristics such as opinion leaders and cadres have significant effect on spread of the negative emotions in rural group.

LARGE DATA COLLECTION AND PROCESSING

Data collection

This article selected Baidu big data “Baidu public opinion”, Ali cloud "public event analysis" and Sina big data "Sina public opinion" and other commercial large data mining platform as a data acquisition tool, these data derived from the Internet search engine, WeChat, BBS Microblogging, QQ, forums, news, blog, electricity
business transactions and so on, data acquisition fields as shown in Table 1, Excel storage of the original data interface as shown in Figure 1.

**Data preprocessing**

The data acquisition platform was used to collect 12,177,752 articles that related to "college" events (college-related public opinion and audience are college students and) in January 1, 2016 to December 31, 2016. After the pretreatment, 9167202 of valid microblog data were finally collected.

<table>
<thead>
<tr>
<th>Collection field subsection</th>
<th>Collect field</th>
<th>Application</th>
<th>Value type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Release user characteristics</td>
<td>User name</td>
<td>Social network analysis</td>
<td>String</td>
</tr>
<tr>
<td></td>
<td>User name UID</td>
<td>Social network analysis</td>
<td>String</td>
</tr>
<tr>
<td></td>
<td>Whether the user is certified</td>
<td>Social network analysis</td>
<td>Bool</td>
</tr>
<tr>
<td></td>
<td>User home page</td>
<td>other</td>
<td>String</td>
</tr>
<tr>
<td></td>
<td>Number of user fans</td>
<td>Analysis of influencing factors of communication</td>
<td>Double</td>
</tr>
<tr>
<td></td>
<td>Number of users concerned</td>
<td>Analysis of influencing factors of communication</td>
<td>Double</td>
</tr>
<tr>
<td></td>
<td>Number of users</td>
<td>Analysis of influencing factors of communication</td>
<td>Double</td>
</tr>
<tr>
<td>Information Release content</td>
<td>release time</td>
<td>Time series analysis</td>
<td>Date Time</td>
</tr>
<tr>
<td></td>
<td>Release method</td>
<td>other</td>
<td>String</td>
</tr>
<tr>
<td></td>
<td>Publish content</td>
<td>Emotional analysis</td>
<td>String</td>
</tr>
<tr>
<td></td>
<td>Publish the URL</td>
<td>other</td>
<td>String</td>
</tr>
<tr>
<td></td>
<td>Microblogging praise number</td>
<td>Analysis of influencing factors of communication</td>
<td>Double</td>
</tr>
<tr>
<td></td>
<td>Microblogging forwarding number</td>
<td>Analysis of influencing factors of communication</td>
<td>Double</td>
</tr>
<tr>
<td></td>
<td>Microblogging comments</td>
<td>Analysis of influencing factors of communication</td>
<td>Double</td>
</tr>
</tbody>
</table>

![Figure 1](image.png)

Figure 1. Microblogging data storage interface.
Text mining

Text mining, as one of the research field of natural language processing, is a process of dealing with semi-structured or unstructured natural language texts and using certain techniques to discover and extract specific information.

All of data in this research are from microblog, forum and news and other text information, the length of these texts are generally short, if take each information as a text fragment, the whole information is actually a collection of massive short texts, and the emotional information needed in this paper is included in these microblog short texts. Therefore, it is necessary to extract emotional information from short texts with the method of text mining techniques.

Emotional vocabulary

This paper takes the knowledge vocabulary of How Net, the NTUSD emotional vocabulary of Taiwan University, the information dictionary of DUTIR of Dalian University of Technology and the emotional vocabulary of Tsinghua University's natural language processing and social humanities computing laboratory as the target vocabulary source. How Net contains 4528 positive emotional words, 4320 negative emotional words; NTUSD contains 1511 positive emotional words, 4597 negative emotional words; NTUSD words contain 13460 positive emotional words and 13783 negative emotional words; Tsinghua University vocabulary contains 5567 positive emotions, 4469 negative emotional words. Finally, merged these words to get a new emotional vocabulary, and then a total of 18,971 negative emotional words were obtained.

In this paper, the college students is the object of study, the characters of college students will influence the language expression of college students, such as some specific terms, popular language, etc., therefore it is necessary to expand the emotional words based on the characteristics of college students in the original emotional words.

In this paper, the main process of emotion word expansion based on the text of the students to be analyzed is as follows: (1) Treats the analysis text for word processing; (2) Filters out the words that are specially expressed according to the specific event scenario of the text to be analyzed; (3) Delete repositions and auxiliary words; (4) Extract new emotional words for emotional markers and add to the emotional table.

<table>
<thead>
<tr>
<th>Target vocabulary source</th>
<th>Positive vocabulary</th>
<th>Negative vocabulary</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge network How Net</td>
<td>4528</td>
<td>4320</td>
<td>88</td>
</tr>
<tr>
<td>Taiwan University NTUSD</td>
<td>1511</td>
<td>4597</td>
<td>61</td>
</tr>
<tr>
<td>The Chinese Emotion Vocabulary Ontology Library of Dalian University of Technology</td>
<td>13460</td>
<td>13783</td>
<td>27</td>
</tr>
<tr>
<td>Tsinghua University Chinese praise derogatory dictionary</td>
<td>5567</td>
<td>4469</td>
<td>10</td>
</tr>
<tr>
<td>After finishing the summary</td>
<td>17525</td>
<td>18971</td>
<td>35</td>
</tr>
</tbody>
</table>

TABLE 2. TARGET VOCABULARY SOURCE EMOTIONAL WORD NUMBER TABLE.
Single text emotional value calculation

A single text emotional calculation rules are as follows: (1) First calculate the emotional polarity of each clause in the text, \( F(S_i) = \sum F(W_i) \) where \( \sum F(W_i) \) is the sum of the polar intensities of all the emotional words in the sentence. (2) And then consider the sentence feature to calculate the sentence emotional values, \( F'(S_i) \) the calculation method shown in Table 3. (3) Finally calculate the emotional value \( F(S) = \sum F(S_i) \) of the text \( S_i \), the emotional value of the text is equal to the sum of the emotional values of each clause.

Analysis of the emotional characteristics of the audience

This paper used a total of 22767 words (single words not included) after 9167202 text is divided into words, 8442 emotional words was extracted, and the frequency of emotional words are not same, from 1 to 5721 times. Let the frequency of emotional word \( W_i \) is word \( r \), \( n \) is the number of emotional words \( r \). The distribution of the frequency of the emotional words in the text related to university is shown in Figure 2, the abscissa represents \( \log(r) \) and the ordinate represents \( \log(n) \). The results show that the distribution of emotional words in social events related to colleges and universities is consistent with the distribution of Zipf. Most of emotional words only appeared several times, and only a small number of emotional words appeared frequently. This chart can show that in the social events related to "college", most of people’s emotions are concentrated on a small part of emotional words; it is easy to cause emotional transmission and intensification.

<table>
<thead>
<tr>
<th>Sentence pattern</th>
<th>( F'(S_i) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhetorical question</td>
<td>( F(S_i) \times (-0.6) + (-0.05) )</td>
</tr>
<tr>
<td>Interrogative sentences</td>
<td>( F(S_i) \times (-0.2) + (-0.05) )</td>
</tr>
<tr>
<td>Exclamation sentence</td>
<td>( F(S_i) \times (1.5) )</td>
</tr>
<tr>
<td>Hypothetical sentence</td>
<td>( F(S_i) \times (-0.2) )</td>
</tr>
</tbody>
</table>

Figure 2. On the "college" related event text in the emotional word frequency distribution.
After statistic the frequency of emotional words, process it with the method of Tagxedo visualization tool, and visualized all of high-frequency emotional words (frequency 200 or more) as shown in Figure 3, it can be seen that most of negative emotions in campus are feel very "boring" and "sad". From which you can see a lot of implied information, such as "get out", "slut", "nerves", "crazy", etc.

Figure 4 shows the "university" related events in the audience characteristics, including industry distribution, interest structure, gender structure, age distribution and geographical distribution

**DATA ANALYSIS**

The emotional intensity expressed by the negative emotions of college students is graded, and the negative intensity is divided into three levels: general, moderate and high, with 10 units as a gradient. Respectively, count the changing situation of the amount of negative emotions of microblog with time. Get college students’ negative emotional intensity changes with the month as shown in Figure 5. It can be
found: (1) College students have the lowest negative emotions during winter vacation (February), accounting for only 8 percent of all emotions, the lowest for the year; (2) College students have the strongest negative emotions during the summer vacation (July - August), the proportion fluctuated in the 16%, and negative emotions reached its peak in August. (3) College students have more stable negative emotions during the non-holiday period (March to June, September to January), in the range of 0.1 to 0.14 changes; (4) The "general" negative emotions accounted for the dominant position in each month, have reached more than half of the negative emotions per month, which followed by "moderate" negative emotions, "height" negative emotions is the lowest.

Compared the negative emotions between the college students and the society, as shown in Figure 6, it can be found that negative emotions of college students are lower than the negative emotions of society throughout the year, during the winter and summer holidays (February, July to August), college students leave their school and step into society. The negative emotions of college students become the main part of social negative emotions, which resulting in negative emotions of college students close to social negative emotions; during the Spring Festival in February, college students spend holidays with their families, the community is also full of peace and quiet, at this point the ratio of campus negative emotions and social negative emotions are the lowest in the whole year; In July and August, college students were leaving school and step into society to participate in practice, affected by social factors, the characteristics of impulsive, sensitive, emotional fluctuations and other characteristics are more obvious, which leading to the negative emotions of college students increased dramatically in July and August.

Figure 5. Annual analyses of negative emotions of college students.

Figure 6. College students negative emotions and social negative emotional changes.
Figure 7. Weekly sequence analyses of college students' negative emotions.

In order to further analyze the characteristics of college students' negative emotions, this paper collected the negative emotions of college students during school, and deleted the winter holiday data and summer holidays data in 2016 and 2017, and 6768215 text data was obtained.

In the case of "week" as the statistical unit, the changes of negative emotions were obtained as shown in Fig.7, it can be found that college negative emotions change cyclically in a week: (1) Wednesday's negative sentiment was the lowest in the week, while Friday’s negative emotions reached its peak of the week, especially the "high" negative emotions; the change was more pronounced. (2) After the Friday’s negative emotional peak, Saturday and Sunday negative emotions gradually decreased; (3) In both tables, the strength of the "general" negative emotions accounted for the dominant position, reaching more than half of the daily negative emotions, followed by "moderate" negative numbers, and the "highly" microblogging has the least number.

CAUSAL ANALYSIS

Questionnaire design and distribution

In order to understand the causes of college students’ negative emotions more objectively, this paper uses questionnaire to investigate the causes of college students' negative emotions. A total of 1,000 questionnaires were distributed to students in three weeks, 834 questionnaires were collected, and the whole process was as follows: (1) the questionnaire was divided into two parts. The first part is personal information, including the gender, grade, etc. The second part investigated the generated time of negative emotions of college students, the causes of college students' negative emotions and the ability of self-regulation, the results will serve as an important basis for understanding the negative emotions of college students. (2) With the method of random sampling to get the first-hand information, the questionnaire adopts the way that recycling the questionnaire after filling on the spot or on line.

Data preprocessing

The 834 questionnaires were sorted out, and finally received 794 valid questionnaires after removing the invalid questionnaires including incomplete information. The personal information of college students in the questionnaire was
collated and the personal information characteristics of college students was analyzed as follows: (1) According to the gender structure of the respondents, there were 406 women and 388 men. (2) From the grade structure of the surveyed subjects, there were 256 freshmen, 196 sophomores, 177 junior and 165 senior.

Survey results and analysis

According to a survey of college students' negative emotional self-regulation ability, only 18 percent students have good self-regulating ability, 36.14 percent students’ self-regulating ability is general, and 45.41 percent students’ self-regulating ability is very poor. It can be found that only very few students have good self-regulating ability for negative emotion most of the students cannot control their negative emotion very well; they are easily affected by external factors, and indulge in their negative emotion for a long time.

The results of the survey on the causes of negative emotions of college students' show that the negative emotions of college students are mainly due to learning pressure, employment pressure and interpersonal relationships, as shown in Fig.9.

Figure 8. Students' ability to regulate negative emotions.

Figure 9. Influencing factors of college students' negative emotions during school.
The causes of college students’ negative emotions when not in school are different from those in school, the factors that affect the negative emotions of college students in the holidays are mainly public opinion, interpersonal relationship and employment pressure. As shown in Fig. 10.

Compare the effect factors of college students’ negative emotions when students were in school and were not in school, as shown in Fig. 9. The negative emotions of college students during in school are caused by learning pressure and employment pressure, social opinion has the least impact on negative emotions; and in the holidays, the community public opinion has become the main negative factors that affect the college students’ negative emotions.

At the same time, you can more intuitively see the changes of the impact proportion of same impact factors during holiday and school. February, July, and August are winter and summer holidays, college students’ negative emotions vary greatly affected by public opinion. In February, the whole society is filled with happy and joyful atmosphere because of Spring Festival atmosphere, thus the negative emotions of society is very low. In July and August, there were many negative events occurred, such as Sade into Korea, North Korea to study the atomic
bomb, the South China Sea dispute incident, etc. The negative emotions of the whole society are relatively high, so college students’ negative emotions are high in July and August.

In addition, we also conducted a questionnaire survey of college students’ self-regulation for negative emotions. According to the study found that a lot of people relieve their negative emotions through outdoor sports, leisure travel, reading books. As shown in Figure 12.

**Analysis of statistical results**

(1) College students have poor self-regulation ability of negative emotions

In Figure 10, it is easy to find that few college students can adjust their negative emotions very well; most college students are not able to cope with negative emotions. College students are easily affected by external factors, and trapped in it; it is also difficult to get out of negative emotions.

(2) The influencing factors of negative emotions in college students at different times

In the Figure 9, we can it is seen that learning pressure and employment pressure are the main factors that affect college students' negative emotions during in school are mainly learning pressure and employment pressure, and the influence of social opinion have little influence on negative emotions is relatively small. In Figure 10, it was found that during the holidays, the public opinion has become the most important factor that influence college students' negative emotions. But learning pressure, employment pressure, and social public opinion will always changes once the student steps into society. Since the holidays is correspond to July, August and February in second section, it is possible to show that the reason of the changes in July, August and February is that college students are influenced by public opinion during holidays. In February, the whole society is filled with happy and joyful atmosphere because of Spring Festival atmosphere, thus the negative emotions of society is very low. Therefore, college students' negative emotions, which affected by the public opinion is relatively low. In July and August, there were many negative events occurred, such as Sade into Korea, North Korea to study the atomic bomb, the South China Sea dispute incident etc. The negative emotions of the whole society are relatively high, so college students’ negative emotions are relatively high in July and August.

**GROOMING MECHANISM**

To play the role of "opinion leaders" to guide the healthy development of public opinion

Communication theory consider that information and public opinion is spread to the general audience by the "opinion leader", college students as one of the main crowd in Internet users, students opinion leaders play an important role. Therefore, it is very important to correctly guide the public opinion team in colleges and universities.

First, colleges and universities should take party members and cadres, student cadres and class cadres as developed object of "opinion leaders", or choose the
"opinion leaders" with the method of vote from college students. Through the theme activities, party training, group training to cultivate the "opinion leaders" correct outlook on life and world view, give full play to the leading role in demonstration and guiding positive energy;

Second, play the main function of new media on guiding campus public opinion, more and more colleges and universities to establish a WeChat public accounts and microblog platform, campus "opinion leaders" can use these platforms to declare rational and dialectical opinion about some hot events and sensitive topics, and guide the healthy development of public opinion.

Thirdly, colleges and universities should strengthen their attention on "opinion leaders", criticize those radical and one-sided remarks from some "opinion leaders", and encourage some excellent “opinion leaders”, and introduce outstanding "opinion leaders” who welcomed by most of college students regularly.

**Strengthen college students’ psychological education; improve the emotional adjustment of college students**

College students are easily affected by the network rumors or negative emotions in network because they lack the ability to judge the authenticity of public opinion and their emotional adjustment ability is relatively poor. Therefore, combined with the questionnaire survey, several guidance mechanisms were proposed according to the basic situation of college students:

First, universities should establish a system of psychological health education service. Taking the School of Economics and Management as an example, the school is regularly holding mental health lectures and various activities. Under our recommendation, the school integrates mental health education into students’ activities. A psychological growth counseling office was built to investigate and archive files of mental health issues. The office can counsel and offer treatment to the students who have mental problems individually by the time the problems were noticed.

Second, improve college counselor teachers’ ability of the mental health education. And organizes teachers to participate in collective training every year, which let teachers learn how to find students' psychological problems in time when communicate with students, and prevent the occurrence of extreme vicious events by relieve their negative emotions effectively;

Third, establish a harmonious campus environment, harmonious and beautiful campus environment play a positive role on psychology of students, which could create a good mental health atmosphere for college students to improve their ability to relieve negative emotions.

**Carry out healthy and beneficial leisure activities to improve the physical and mental health of college students**

With the improvement of material living standards and the modernization of learning methods, college students have more leisure time to pursue diversified lifestyles.

First, carry out extracurricular leisure activities actively; improve the physical education system, increase the special sports activities that can let students benefit
for whole life, such as billiards, tai chi, off-road, aerobics and other special sports activities.

Second, strengthen the students' basic knowledge of sports theory and training of professional skills; improve the school's sports activities supporting facilities.

Third, organize theme outdoor activities regularly through the student community and other organizations, such as "back to Yan' an heavy long road", "Shao shan Red Tour", "Barry Yixing" Activities, which can let students have deep understanding the hard work of the revolutionary era; Secondly, invite industry experts and outstanding scholars to universities to carry out cultural activities like academic salons and reading exchanges. It can be seen that positive extracurricular activities can cultivate the students' positive outlook on modern leisure, which can effectively alleviate the negative effects of negative emotions to college students to a certain extent.

SUMMARY

In this paper, through the "Baidu public opinion", "Ali public event analysis", "Sina public opinion" and other commercial large data platform, public opinion data related to college students in forums, web pages, search, microblogging, We Chat and other public platform were collected. First of all, the basic characteristics of the audience ware analyzed with the method of machine learning and data mining tools, and start the timing analysis according to the month, we can found that the negative emotions of college students fluctuated throughout the year, it was relatively stable when in school and significantly lower than social negative emotions, negative emotions close to the social negative emotions and showing the "social person" characteristics during winter and summer holidays.

For the negative emotions during in school, take time series analysis according to the changes of week, found that negative emotions decline slowly from Sunday to Wednesday, while Thursday and Friday gradually increased and reached its peak on Friday, the rest in weekend had relieved the negative emotions effectively. Secondly, the reasons of the negative emotions of college students was analyzed by using the questionnaire, found that the negative emotions of college students during in school are mainly come from the stress of learning, and they pay little attention to public opinion, therefore the negative emotions during in school are less than negative emotions in society.

The negative emotions during the winter and summer holidays are mainly from the public opinion, which is close to the "social person", thus showing the characteristics of "social person". The reason for the high fluctuation of negative emotions of college students is due to college students lack the ability of psychological self-regulation. Finally, we put forward measures to alleviate the negative emotions of college students according to the characteristics of college students' negative emotions and the characteristics of their influencing factors, measures to alleviate the negative emotions of college students were developed.

In this paper, large data analysis tools are used to collect, store and calculate data, integrated data mining and text analysis, statistical analysis and causal analysis, the conclusions have a high credibility and availability. However, we cannot consider the spread effect of negative emotions, the negative emotions between audience and the control of extreme negative emotions and other issues
were not considered when analysis the negative emotions of college students, it will be discussed in future research.

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