

# ***Research on Behavior Characteristics of Psychological and Emotional Analysis Based on Big Data Classification Algorithm of Psychological Behavior***

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**Abstract:** With the rapid development of global economy, people's material conditions have also made great progress. However, the development of spiritual culture is relatively backward, and people's psychological problems are increasingly prominent. Therefore, spiritual and cultural construction has also become one of the important tasks of the development of modern society. The research on behavioral characteristics of psychological and emotional analysis based on big data classification algorithm of psychological behavior is one of the hot topics in current research. Its main research purpose is to classify different types of psychological behaviors by analyzing a large number of psychological behavior data, and further analyze the characteristics and laws of these different types of psychological behaviors. This paper takes the analysis of students' psychological behavior characteristics based on psychological behavior big data classification algorithm as the research topic, and analyzes the psychological behavior characteristics of students. The experimental results show that students' positive psychological and behavioral characteristics have increased by 13.84%, which indicates that targeted and effective intervention measures have been taken to improve students' mental health and happiness.

## **1. Introduction**

In today's society, the pressure of study and work is increasing, and young people are facing more and more psychological problems. Therefore, it is very important to pay attention to students' psychological and emotional needs and provide them with targeted psychological intervention. Psychological and behavioral interventions in schools have both educational and management functions. In addition to discovering the psychological state caused by problems and stress, it also includes discovering, treating and tracking mental illness. In this process, besides intervening in emergencies, it also includes early warning, after-event tracking and after-event tracking. At present, colleges and universities attach great importance to psychological and behavioral intervention, and have made great efforts in organizational system, planning and personnel training, and established a multi-level crisis early warning network, striving for early detection and early intervention. Although some achievements have been made, there are still some shortcomings, and the effect of psychological and behavioral intervention needs to be improved. With the rapid development of

social life, psychological behavior research becomes more and more important. Atasie N H analyzed the relationship between social media use and mental health problems in 262 adolescents. In his study, mobile usage, emotional investment on social media, sleep quality, self-esteem, and levels of stress, anxiety, and depression were measured [1]. Olabanji O evaluated different human psychological behaviors by receiving information from internal changes in brain states through EEG signals and time-frequency analysis. Based on some salient features of EEG signals, a detection method of human mental state was proposed [2]. From the perspective of mental health, Wang Y analyzed the psychological and behavioral problems of children with learning disabilities as follows: social skills, life adjustment, learning, deregulation, depression, suicide, etc., leading to the psychological and behavioral problems of children with learning disabilities including low self-concept, negative family influences, and social cognitive deficits [3]. Wang X examined the role of community environmental factors in psychobehavioral adaptation and proposed the impact of using adaptive psychobehavioral measures through a case study [4]. Ferrari J R proposed the attribution method of educational evaluation as a theory that reflects the viewpoint of human understanding, which has a great influence on the mind and body of students [5]. Although there are abundant research theories on psychological behavior, there are still psychological behaviors in students' life.

The campus is not just a place where students live, but also their primary learning environment. In today's rapidly developing society, filled with constant change and fierce competition, students often face various psychological conflicts and setbacks[6-7], including academic pressure, challenges in campus life, and social change. Therefore, this paper focuses on gaining an in-depth understanding and mastery of students' psychological problems, which is essential for improving their mental health and well-being. With the use of big data classification algorithms of psychological behavior, this research analyzes the behavioral and emotional characteristics of students to identify effective interventions that address their unique needs.

## **2. Factors Leading to Uncoordinated Stress among Students**

Stress is an unspecific emotional and physical response caused by a stimulus, resulting in physical and mental tension. If all needs and desires can be solved naturally, people can feel at ease and contented, but this is not the case in reality. Everyone has to face various external or individual interference and resistance, which creates a kind of psychological tension. Once an individual perceives misfortune, a strong negative emotion develops, which motivates a person to do something illegal. In negative emotions, pain can turn directly into anger, which can lead to serious crime and violence. In daily activities, tension is a single factor. Harmonious tension is very different from pure tension, including at least two or more factors. When there is more from those sources of stress, one gets closer to the stress limit. The campus is a critical period for physical and mental development, and during this process, one often feels a great deal of mental tension. Through the investigation of relevant scholars, it can be concluded that study, social interaction, emotion, economy, future, etc. are the factors that cause students' psychological stress. Some students have poor psychological stress and adaptability. When encountering negative events, they inevitably produce some excessive performance. Tension is more severe, frustrating, and threatening than cognitive dissonance. Students with such a mentality may think that the best way is to commit suicide, which is very dangerous. The factors that lead to stress dissonance are shown in Figure 1.

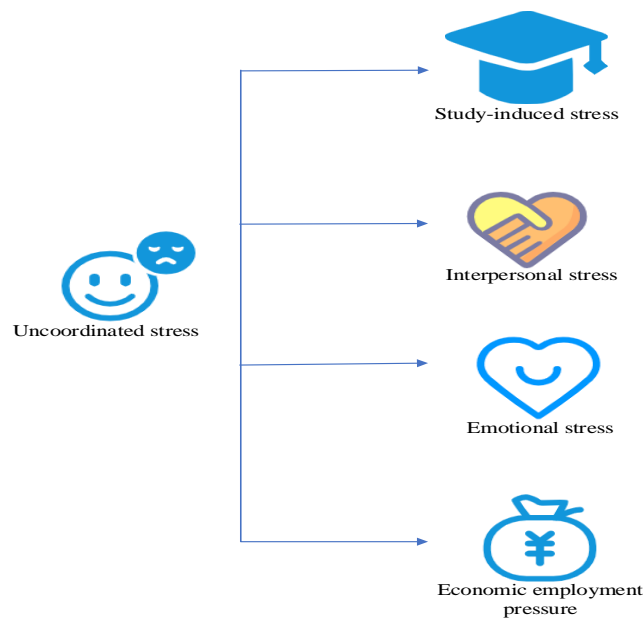


Figure 1: Factors leading to incongruity in student stress

### 3. Actions for Mental Health Conditions

#### (1) Characteristics of students' psychological behavior

In teaching, in-depth discussion of the characteristics of students' psychological behavior has become an important subject, and many scholars have carried out research on it. The characteristics of students' psychological behavior are shown in Figure 2.

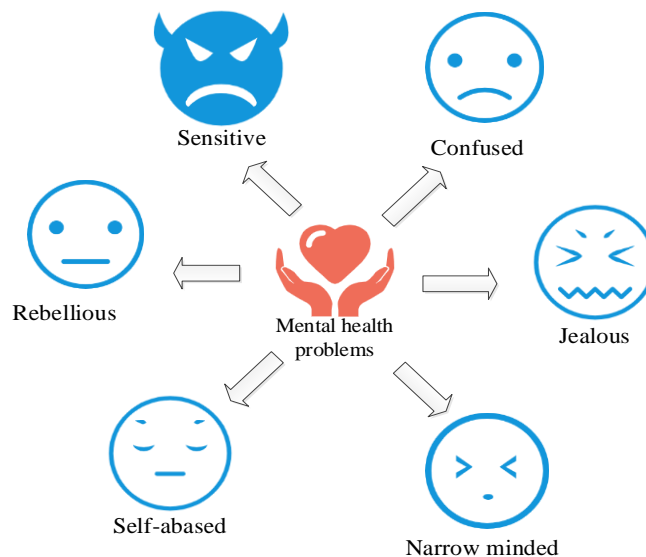


Figure 2: Main manifestations of students' mental health problems

**Narrow minded:** It refers to the inability to tolerate others, to be considerate of others, to complain about trivial matters, and to entangle over trivial matters.

**Jealous:** When others are better than themselves, they show unnatural, uncomfortable or even hostile expressions, and even use blows, slanders and other means to express jealousy.

**Sensitive:** It refers to being tense, suspicious, and often seeing other people's casual words and irrelevant behaviors as contempt and ridicule for oneself, resulting in emotional change.

**Confused:** Middle school students have many dreams and hope to make them come true. They try and get frustrated if they don't get or are not fully rewarded.

**Self-abased:** It refers to lack of self-confidence in oneself, believing that one is inferior to others in both academic and life, with the feeling that one is inferior to others. Such inferiority can seriously hurt oneself.

**Rebellious:** Middle school students are in a transitional stage, with a growing sense of autonomy and a desire to be free from the protection of adults.

## (2) Parents' practices in the face of children's mental health problems

When children have mental health conditions, parents should give more help, as shown in Figure 3.

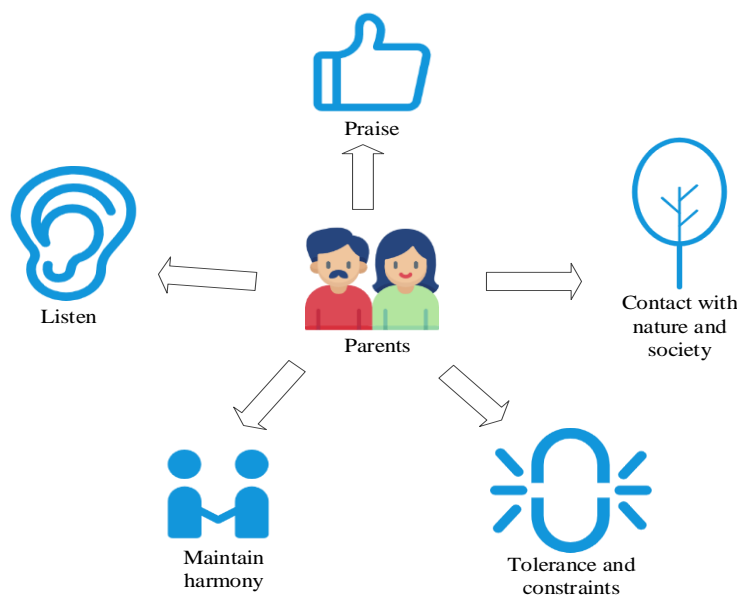


Figure 3: Parents' practices in the face of children's mental health problems

**Maintaining a harmonious relationship between husband and wife:** A good marital relationship enables children to better understand their parents' strengths and to feel stable and confident at home. The good relationship between parents and children also have a positive impact on the children's interpersonal relationships, especially in the future development, which is conducive to improving the children's happiness index.

**Listening to children:** The family should be a place for children to speak their hearts. Parents often chat with their children and leave more opportunities for children to speak, so that children can open up their hearts and express themselves to the fullest without making too much judgment. In particular, fathers should have a useful exchange of ideas with their children, and cannot be absent from their children's growth because of their busy schedules. When a child speaks, it is the most beautiful and warmest when a parent listens.

**Important tolerance and restraint:** The family is the object of the child's talk. Parents should talk to the children frequently, and let them have more time to talk, so that the children can let go of himself and express himself freely. In particular, fathers should communicate effectively with their children, and do not let work affect their children's healthy and psychological development.

**Stronger self-awareness of teenagers:** Parents praise their children just for getting good grades,

and then children think that a student with good scores is a good student. Excellent academic performance is not determined by their own efforts, which is why they are more likely to feel uneasy. When parents can see their children's efforts, praising everything they do can give them more motivation.

Getting closer to nature and socializing more: After class, the children need to do outdoor activities. During the holidays, the children can feel free in the blue sky and grass, and have close contact with nature.

### (3) Teachers' practices in the face of students' mental health problems

Teaching and educating people is the teacher's responsibility, and the connotation of educating people includes morality and spirituality. When faced with students' mental health problems, the teacher's practice is shown in Figure 4.

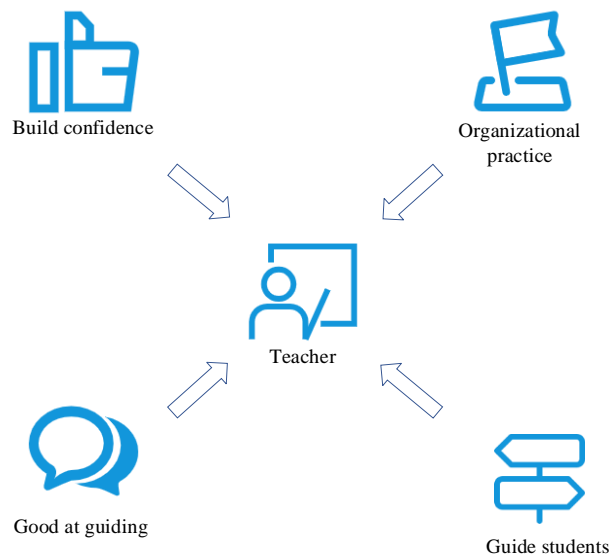


Figure 4: Teachers' practices in the face of students' mental health problems

Cleverly giving hints to help building confidence: Teachers need to discover the strengths and brilliance of students in a timely manner. They can use different methods such as a sincere smile, caring eyes, words of encouragement, and seemingly casual compliments to make students recognize their own strengths and talents, overcome inferiority, and build confidence.

Guiding students to have a clear understanding of themselves: Teachers should guide students to evaluate themselves scientifically and in two parts, so that students realize that they have both enviable advantages and shortcomings that need to be corrected, and they must learn to accept themselves.

Being good at guiding and cultivating feelings: Teachers guide students to correctly understand various psychological states. On the basis of correctness, negativity, optimism, pessimism, self-esteem and vanity, pride and conceit, etc., teachers need to guide students to release, adjust and sublimate their emotions reasonably, and reduce psychological pressure and tension.

Organizing practice and developing willpower: Schools can organize various forms of practical activities, so that students can get exercise in various activities, and actively overcome various problems in the learning process, carrying out self-discipline, self-regulation, and self-education, thereby cultivating self-improvement, perseverance mental quality. Therefore, the children can learn through activities and gradually improve their mentality in practice.

#### 4. Characteristics of Students' Psychological Behavior Based on the Classification Algorithm of Psychological Behavior Big Data

With the intensification of social competition and the accelerated pace of life, college students are facing more and more pressures in terms of study, life, emotion, and employment. The mental health of college students is not only a factor that affects their own development, but also an important factor that affects the whole society and scientific researchers. Based on the analysis of the characteristics of students' psychological behavior on the basis of the classification algorithm of psychological behavior big data, taking college students as the research carrier, the analysis was made from five aspects: factors affecting mental health, understanding of the importance of mental health education courses, target objects of mental health education courses, opening forms of mental health education courses, and positive mental health changes.

##### (1) Factors affecting mental health

The factors that affect the mental health of college students mainly include social factors, school factors, family factors and personal factors. Based on the psychological behavior big data classification algorithm, the factors affecting psychology were investigated, and the results are shown in Figure 5.

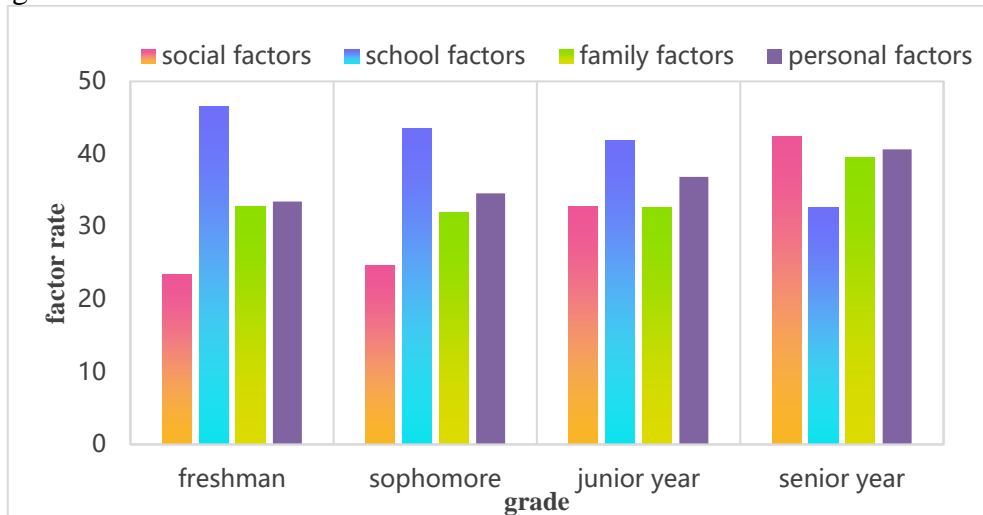


Figure 5: Factors affecting mental health

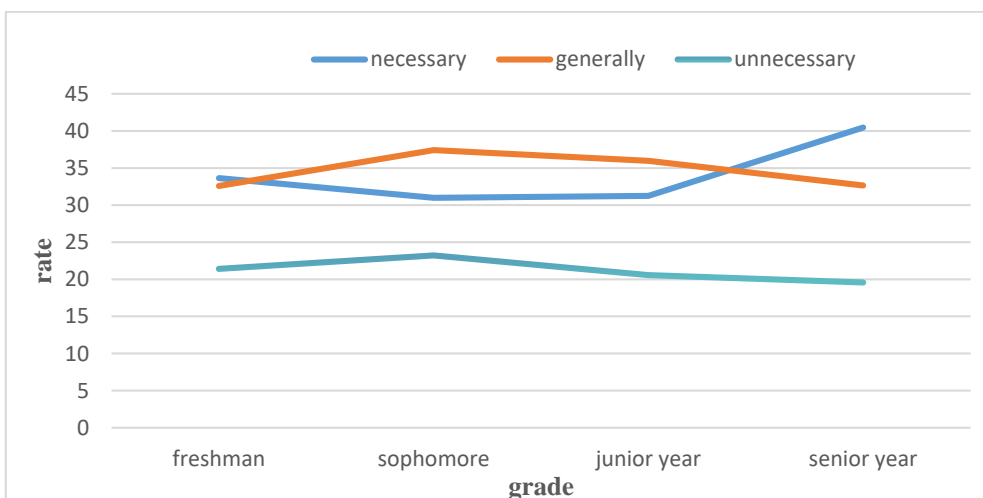


Figure 6: Recognition of the importance of mental health education courses

It can be seen from the bar chart in Figure 5 that in different grades, the factors affecting students' mental health were different. From freshman year to senior year, school influence factors gradually decreased, and personal influence factors continued to increase. The factors affecting mental health in freshman and sophomore stages were mainly school factors. Freshmen who had just entered the university were unfamiliar with the university environment and learning, and the school had a great influence on students' psychology. In the sophomore stage, the school's influencing factors were relatively reduced, and the personal factors were gradually increasing. Social factors, family factors, and personal factors tended to increase in the fourth stage.

#### (2) Recognition of the importance of mental health education courses

According to the understanding of the importance of students' mental health education courses, it was divided into three levels: very necessary, general, and not necessary. The specific results are shown in Figure 6.

It can be seen from the line graph in Figure 6 that, on the whole, college students were basically aware of the importance of mental health education courses. Among them, freshmen and seniors believed that it was necessary to set up mental health education courses. Students in the sophomore and junior stages had a general attitude towards mental health education courses, and a relatively small proportion of them held the attitude that it was unnecessary to set up courses.

#### (3) Target audience of mental health education courses

Taking the mental health education course as the research topic, the survey is conducted on all students, students with psychological problems, and students with mental illness. The results are shown in Figure 7.

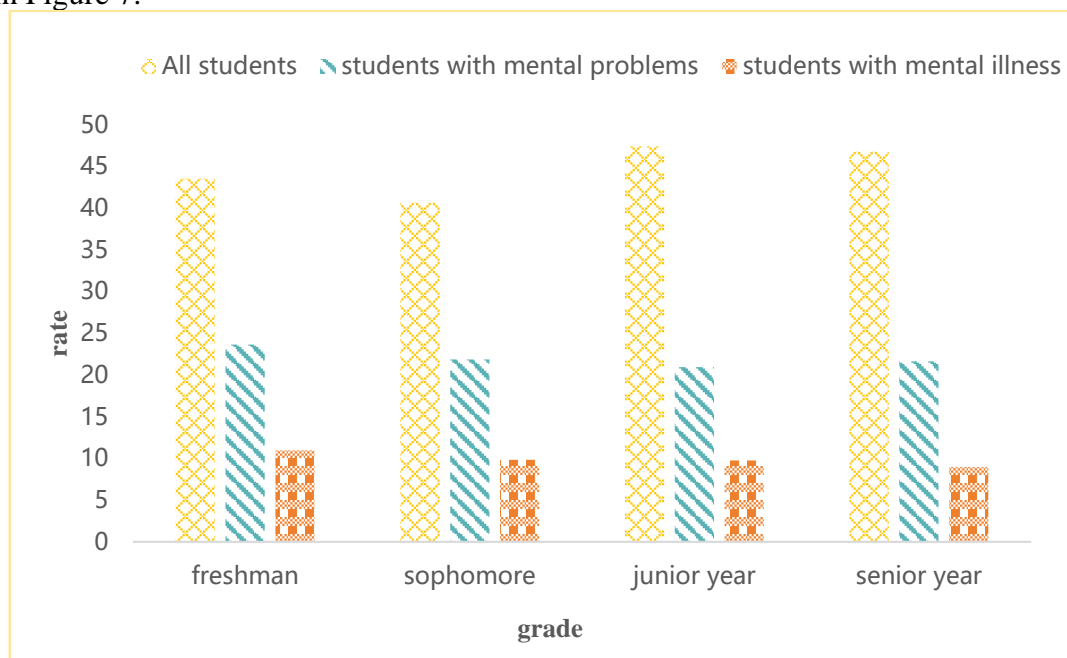


Figure 7: Mental health education courses target audience

As can be seen from Figure 7, college students generally agreed that the teaching goal of mental health courses should be all students. The students from freshman to senior year thought that the course object should be all students, with a large proportion. The proportion of the students with the thought that the course object should be students with psychological problems was smaller, and the proportion of the students with the thought that the course object should be students with mental illness was the least.

#### (4) Forms of mental health education courses

Mental health problems have become increasingly prominent, and the government has paid more and more attention to students' mental health, which has opened a series of mental health courses. Taking the form of college students' hope of opening mental health education courses as the research direction, from the three aspects of public elective courses, limited elective courses and public compulsory courses, the results are shown in Figure 8.

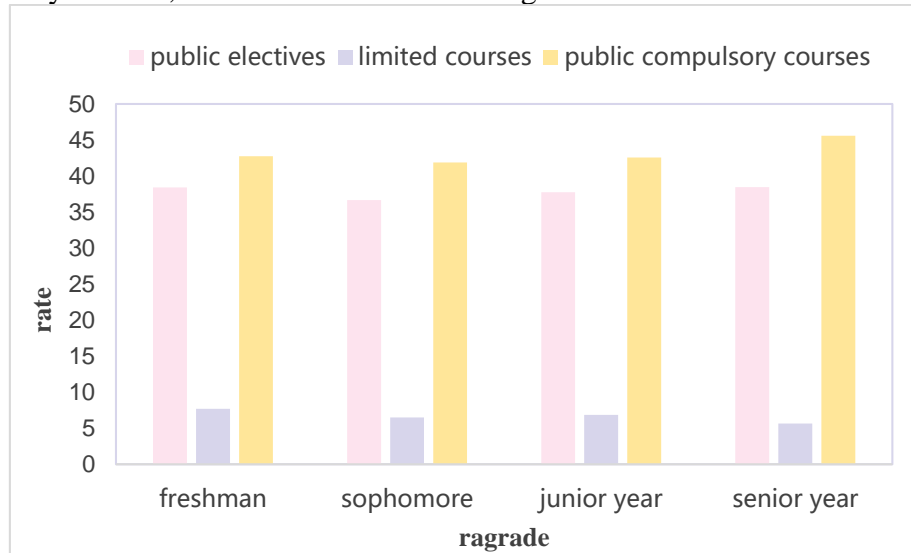


Figure 8: Mental health education course offering form

In Figure 8, more than half of the students wanted mental health courses to be compulsory. According to statistics, most students wanted college students' mental health education courses to be offered in the form of public compulsory or public electives. Among them, the proportion of students who wanted to offer restricted elective courses was the least.

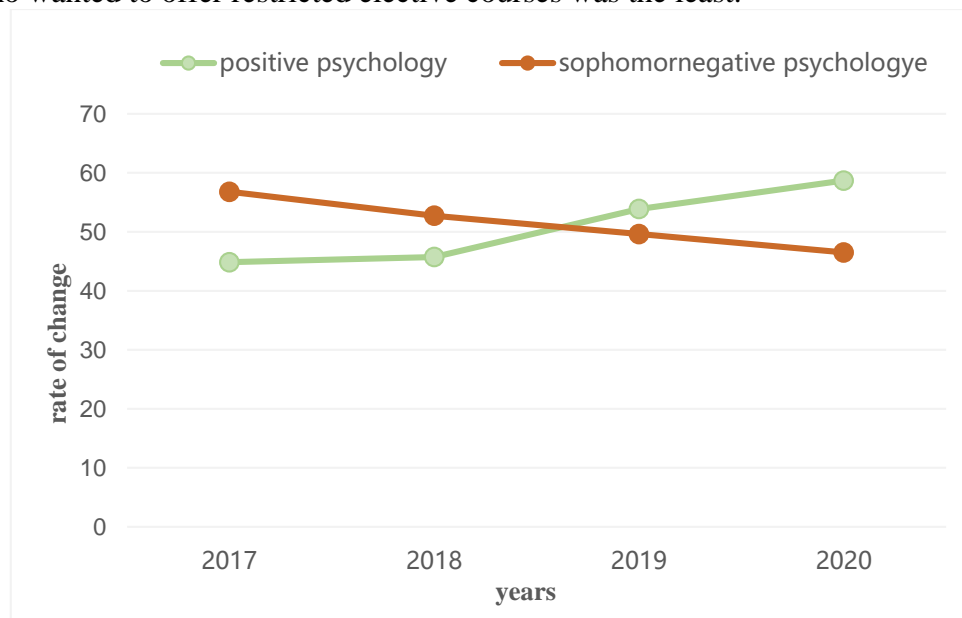


Figure 9: Student mental health changes

#### (5) Changes in students' mental health

In recent years, the society has paid more and more attention to students' mental health problems. A series of courses have been opened and various measures have been taken, and the psychological



conditions of students have also changed. The results are shown in Figure 9.

As can be seen from Figure 9, from 2017 to 2020, the positive mental health of students has been continuously improved, and the negative mental state has gradually decreased. The positive psychological status was 44.85% in 2017 and 58.69% in 2020, and the positive psychological status increased by 13.84%.

## 5. Conclusions

In psychology research, analyzing the behavioral characteristics of psychological and emotional development is a current hot topic. Students' mental health is a crucial area of focus in psychological research. However, traditional approaches to solving psychological problems often overlook various psychological and behavioral factors closely related to the development of mental health. Analyzing students' mental health from the perspective of psychological behavior is a relatively new perspective that shows great potential. This paper uses the big data classification algorithm of psychological behavior to analyze the influence of various factors on students' psychology, taking into account the characteristics of their psychological behavior. The study then identifies effective ways to strengthen students' psychological construction, actively stimulate their psychological growth, and promote their mental health and well-being. Overall, researching the behavioral and emotional characteristics of psychology based on the big data classification algorithm of psychological behavior holds practical significance for promoting the spiritual and cultural construction of modern society, as well as improving the mental health and happiness of teenagers.

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