




Analysis of Education Model for University Students' Psychological Fitness Using Machine Learning Under the Environment of Virtual Reality

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Abstract. University students represent the overall spiritual outlook of the country in the future, and their psychological fitness level will affect the quality of national construction talents training. Therefore, it is very necessary and urgent to strengthen and attach importance to university students' psychological fitness education. Based on this, this paper analyzes and discusses university students' psychological fitness problems based on ML (Machine learning), and constructs an analysis model of university students' psychological fitness based on ML. In this paper, FCA (Fuzzy clustering algorithm) is applied to the analysis of university students' psychological fitness. Through FCA, the laws and characteristics of university students' psychological fitness are explored, and the potential relationships among various factors affecting psychological fitness are excavated. At the same time, based on the modeling and analysis of university students' psychological fitness, this paper puts forward some ideas and suggestions on the sub-education model of university students' psychological fitness in the new period. Test results show that the accuracy of this algorithm is as high as 94.87%, and MAE (Mean absolute error) is only 1.25. This shows that the algorithm in this paper has certain reliability, and it can accurately analyze university students' psychological fitness problems. The classroom teaching method of psychological fitness constructed in this paper can promote the cultivation of students' positive mental quality and the improvement of their psychological fitness level.

Key words: Machine learning; Psychological fitness; Education model, Virtual Reality

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1 INTRODUCTION

At present, the psychological problems of university students are increasingly prominent, and the psychological fitness problems of university students are widely concerned. At present, freshmen's psychological screening is an important part of university students' psychological fitness education. It is found that there are blind spots in psychological fitness education in universities: some students have the potential to develop positive psychological symptoms, or even occasional psychological

crisis (suicide, mental illness and other major psychological problems) [19],[17]. How to find the factors that affect university students' psychological fitness problems and solve them in time has become a new research hotspot. For students, mastering a psychological concept does not mean that they can solve all kinds of psychological problems in real life. Therefore, the course of university students' psychological fitness education is to enable students to learn to use psychological theories and methods to analyze and solve practical problems in their personal growth and development, with the purpose of practical application [6]. In order to strengthen the effect of psychological fitness classroom teaching, many teachers have adopted a diversified instructional mode that integrates discussion and analysis, role-playing and behavior training. The diversified instructional mode enriches the forms of classroom teaching and promotes the internalization of knowledge, but it also brings new problems to the teaching of psychological fitness education.

Virtual Reality (VR)-enhanced educational model aimed at addressing the psychological fitness issues faced by university students Psychological fitness is one of the important indexes to evaluate students' overall quality [18]. At present, strengthening and improving university students' psychological fitness education has become an important topic in Chinese psychological research. Exploring the psychological fitness of university students is the objective requirement of implementing psychological fitness education in universities, and it is also the realistic need to promote the all-round growth of university students' quality. Psychological fitness education course is an important way to adjust university students' mental state and improve their psychological fitness quality [3]. However, the traditional instructional mode of university students' psychological fitness education has some problems, such as the pressure of teachers' classroom management, the difference of students' classroom participation and the difficulty of internalization after class. Therefore, we need to explore a curriculum instructional mode that is more suitable for students' needs and integrates knowledge experience and interaction [14]. As a teacher of college psychological fitness education course, we should integrate and analyze the influencing factors of classroom effect; On this basis, the optimization measures with strong timeliness are selected, and the curriculum activities with high novelty are designed for the students, so as to arouse the students' participation interest and make them feel the benefits of learning the curriculum content of psychological fitness education, thus improving their psychological fitness level. Therefore, this paper analyzes and discusses the psychological fitness problems of university students, and puts forward some ideas and suggestions on the educational model.

When students' psychological situation is initially abnormal or negative, it is very important to conduct necessary counseling. How to find out the students with abnormal psychology when the external characters of early students are not obvious has become the most important problem [9]. At the same time, it is of great significance to predict the psychological fitness level of university students with negative mental symptoms, accurately identify those people with potential mental problems whose mental symptoms change from negative to positive, and find out and intervene in time [10]. With the increasing concern of the state and society for psychological fitness problems, researchers are increasingly integrating modern scientific and technological methods into the research of psychological fitness problems [21]. At the same time, ML, as the core of artificial intelligence, has shown its unique advantages in many fields, and it is the general trend to apply ML to the field of psychological fitness. Based on this, this paper analyzes and discusses university students' psychological fitness problems based on ML, and constructs an analysis model of university students' psychological fitness based on ML. At the same time, a new model of psychological fitness education is put forward. Its main work and innovations are as follows:

(1) Combining with the emerging ML technology, this paper constructs an analysis model of university students' psychological fitness based on ML; At the same time, a new model of psychological fitness education is put forward to provide theoretical and technical support for university students' psychological fitness education.

(2) In this paper, FCA is applied to the analysis of university students' psychological fitness. Through FCA, the law and characteristics of university students' psychological fitness are explored, and the potential relationships among various factors affecting psychological fitness are excavated. At the same time, the information entropy and information gain rate of information data set are analyzed and calculated. While analyzing and processing related data to the greatest extent, the backward pruning theory is used to remove unnecessary root nodes, thus avoiding over-fitting.

2 RELATED WORK

In recent years, with the rapid changes of social pace and people's life rhythm, university students are faced with many psychological problems and troubles. At present, all universities will collect the data of university students' psychological fitness with the help of professional software related to psychology, so as to establish individual "psychological archives" of students. At the same time, many scholars have studied it.

Kim et al. established a psychological fitness assessment index system for university students, and determined the weight value of the psychological fitness assessment index of university students through the analytic hierarchy process [12]. Cooper et al pointed out that the strengthening of psychological fitness education in universities and the improvement of university students' psychological quality are not only of great significance to their overall development in terms of physical and psychological fitness, moral, intellectual, physical and aesthetics during their study in school, but also to their personal lifelong development and The improvement of the overall quality of the new generation of the country has a profound impact [8]. Zhao et al. pointed out that at present, psychological fitness education counseling institutions and related working mechanisms in universities have been gradually established and improved, and psychological fitness counseling teachers have been equipped. importance in [22]. Shan et al. analyzed the occurrence and causes of university students' psychological crisis; and based on the dynamic management model of university students' psychological crisis, they formulated a scientific and time-effective psychological dynamic management mechanism [16]. It provides a reliable guarantee on "hardware" for realizing the informationization and networking of psychological dynamics. Knowles divides the psychological status of multiple students into healthy and sub-healthy states, and analyzes the questionnaire data through support vector machine algorithm to quickly identify healthy and sub-healthy states [13]. Allen focuses on combining the limitations of traditional psychological tools and the advantages of ML to illustrate the application of ML in the field of psychological fitness [2]. Haq et al. proposed a psychological fitness factor analysis algorithm based on big data matching to meet the needs of data collection and analysis of psychological fitness problems of university students [11]. Pedersen pointed out that cluster mining on the psychological fitness database, to find out different student groups and their respective characteristics, and conduct research on student psychology, in order to actively guide students to have a healthy mentality to study and live, and have a very strong mentality. great significance [15]. Wang et al. used the fuzzy comprehensive algorithm to realize the psychological fitness assessment of university students through the principle of maximum membership [20],[4].

Although many scholars have made relevant researches on university students' psychological fitness problems, the accuracy of diagnosis and the effectiveness of intervention have always been a major challenge in the field of psychological fitness, which is largely due to the lack of scientific prediction tools. This paper analyzes and discusses the psychological fitness problems of university students based on ML, and constructs an analysis model of university students' psychological fitness based on ML. At the same time, a new model of psychological fitness education is put forward in order to provide theoretical and technical support for university students' psychological fitness education.

3 METHODOLOGY

3.1 Related Theoretical and Technical Basis

ML can be realized by processing different types of data. At present, the available data types of ML are: (1) Text data. (2) Survey data. (3) Brain image data. (4) Behavioral and physiological data. Nowadays, ML algorithm has been applied to solve various fields of social problems. Commonly used algorithms in trend prediction include neural network, support vector machine, chaos theory, combination prediction method and so on. In psychological data analysis, ML feature extraction algorithm has played a certain role, but for complex external environmental factors, how to determine the main factors still has some shortcomings [5]. Traditional eye movement data processing algorithms can't get satisfactory detection results because of excessive settings. Using ML can get good combination of features from eye movement data, and the effect is even better than expert judgment. This paper innovatively proposes to combine ML algorithm with students' psychological state screening, divide samples into training set and testing set based on ML, and construct a classification model. Finally, we can quickly screen students with sub-psychological fitness, and provide necessary psychological counseling for abnormal students, so as to minimize the possibility of adverse consequences due to psychological fitness. According to the data characteristics of individuals, after the classifier training, the individual prediction can be classified into a certain category, such as the positive group or negative group of psychological symptoms in this study. The ultimate goal of this paper is to establish a model with high accuracy and high efficiency to predict the psychological fitness changes of university students with negative psychological symptoms. In order to analyze all kinds of factors affecting university students' psychological fitness, this paper proposes a health factor analysis algorithm based on ML, which can effectively explore and analyze the factors affecting university students' psychological fitness and provide support for psychological fitness intervention. Using heuristic clustering method to cluster massive network data, randomly selecting an index as the starting point of clustering, expanding the clustering index by self-adaptive method, and setting a fixed threshold; And cluster that texts with the similarity of the acquire texts higher than the threshold into one class, and use the obtained clustering result as an assessment index.

3.2 Analysis Model of University Students' Psychological Fitness Under The Environment of Virtual Reality

The model performance of traditional statistical methods can't be changed, and it can only be changed by manipulating data. ML can flexibly optimize and adjust the parameters of the algorithm to obtain the optimal model, that is, the performance of ML model can be manipulated or changed when the data remains unchanged [1]. The purpose of feature selection in this paper is to eliminate redundant features. Among the data features of many predisposing factors to predict university students' psychological problems, the important features with significant relative weights are selected, which not only ensures the performance of the model, but also gives consideration to the simplicity of the model. Data acquisition is mainly the extraction of big data information, which is based on the principle of information diversity and accuracy to provide data support for the algorithm. The ability to handle different field types means that the algorithm can handle not only numerical data, but also other non-numerical data such as binary type, ordinal type, enumeration type, etc. In the process of cluster analysis, data collection is the first step. Then, through data preprocessing, invalid data will be cleaned up, and a database of university students' psychological fitness will be set up, and data tables will be established. Attribute classification is to preprocess the data collected in the first step, classify and normalize the attributes, and generate attribute sets. The features in the database often have redundancy, repeatability and noise. The establishment of the model needs feature selection first, that is, the features in the database are screened, and the

important features for the model are extracted to form the optimal feature subset. Figure 1 shows the flow chart of cluster analysis of university students' psychological fitness data.

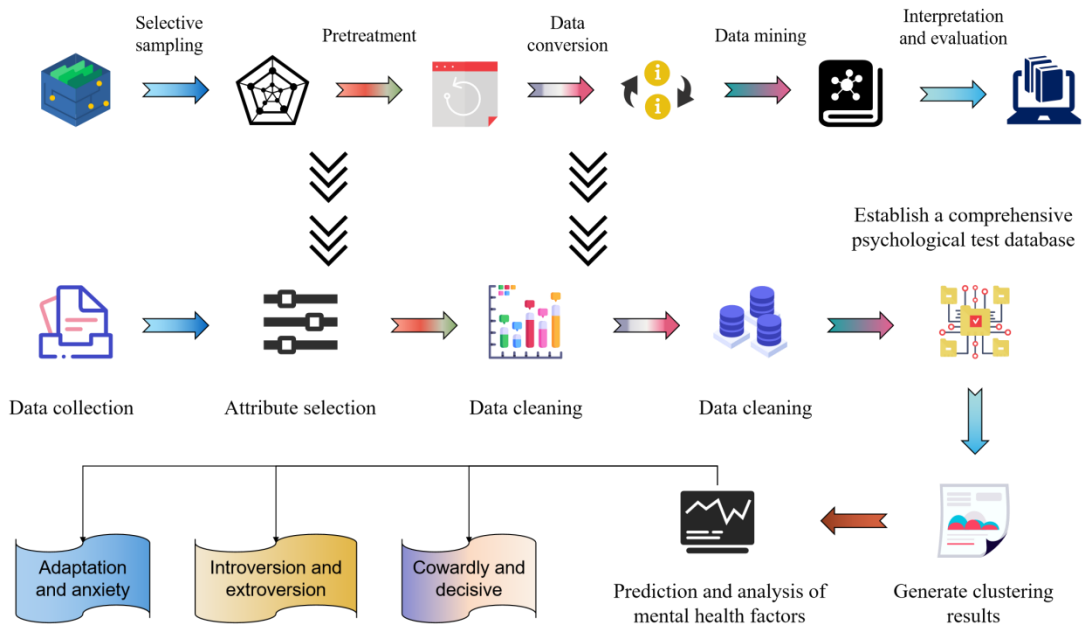


Figure 1: Flow chart of cluster analysis of university students' psychological fitness data.

In the process of pre-clustering and clustering, log-likelihood distance and Euclidean distance are used to measure the distance to judge the similarity between the two classes. Log-likelihood distance is a distance based on probability, which can handle both continuous variables and counting data. Euclidean metric is the linear distance between the two types, which is adopted when all variables are continuous variables. Finally, the importance measure of variables is given by sorting through drawing. Assuming that the attribute A has n different values, the entire training set can be divided into n subsets by the attribute A . Assuming that one of the subsets S_j contains all the samples of S with the same value on the attribute A , and S_{ij} represents the number of samples belonging to M_i in the subset S_j , the conditional information entropy of the subsets divided by the attribute A is:

$$E(A) = -\sum_{j=1}^n \left(\frac{S_{1j} + S_{2j} + S_{3j} + \dots + S_{mj}}{s} \times I(S_{1j} + S_{2j} + S_{3j} + \dots + S_{mj}) \right) \quad (1)$$

Among them:

$$I(S_{1j} + S_{2j} + S_{3j} + \dots + S_{mj}) = -\sum_{i=1}^m p_{ij} \log_2 p_{ij} \quad (2)$$

Among them: P_{ij} represents the probability of belonging to M_i in subset S_j , as shown in formula (3):

$$p_{ij} = \frac{S_{ij}}{|S_j|} \quad (3)$$

Calculate the information gain obtained on attribute A :

$$G(A) = I(S_1 + S_2 + S_3 + \dots + S_M) - E(A) \quad (4)$$

Taking the attribute A as the entire sample to classify, the classification information entropy can be obtained as:

$$S(A) = -\sum_{j=1}^n p_j \log_2 p_j \quad (5)$$

Among them: P_j represents the probability of belonging to the j -th subset of the attribute A in the data sample set S :

$$p_j = \frac{|S_j|}{S} \quad (6)$$

According to the above formula, the information gain rate of attribute A can be calculated:

$$R(A) = \frac{G(A)}{S(A)} \quad (7)$$

Assuming that the number of v_1 -level comments in the assessment index U_{ki} is v_{i1} , the formula is as follows:

$$r_{kij} = v_{ij} / \sum_{j=1}^m v_{ij} \quad (8)$$

The assessment matrix R_k of different sub-factor level indicators U_{ki} is processed by fuzzy operation, and the membership vector \tilde{B}_k of the relative comment set V of the main factor level indicator U_k is obtained. The formula is as follows:

$$\tilde{B}_k = A_k \cdot R_k = (b_{k1}, b_{k2}, b_{k3}, \dots, b_{kn}) \quad (9)$$

The formula for obtaining the normalization processing matrix R is as follows:

$$\tilde{B}^* = (\hat{b}_1, \hat{b}_2, \hat{b}_3, \dots, \hat{b}_m) \quad (10)$$

The fuzzy comprehensive assessment model can be obtained as follows:

$$\tilde{B} = A \cdot R = A \cdot \begin{bmatrix} \tilde{B}_1 \\ \tilde{B}_2 \\ \dots \\ \tilde{B}_m \end{bmatrix} = A \cdot \begin{bmatrix} A_1 \cdot R_1 \\ A_2 \cdot R_2 \\ \dots \\ A_m \cdot R_m \end{bmatrix} \quad (11)$$

In this paper, the factors such as gender, age, whether or not to fail the exam, family situation and so on are analyzed by single factor, all the factors with p value less than 0.1 are taken as inputs, and finally the factors such as whether or not to fail the exam, gender, communication ability, whether or not to be an only child, family situation and so on are taken as inputs of the model. Most filtering methods simply select those features that have strong correlation with the target classification variables. However, in feature selection, sometimes the combination of a single feature highly related to the dependent variable can't increase the performance of the classifier. It is possible that the correlation between features is high, which leads to the redundancy of feature variables. In order to solve this problem, the algorithm in this paper requires that the selected features have the greatest degree of discrimination, so that the selected feature subset not only has better performance, but also can cover the sample space to the greatest extent and improve the generalization ability.

This paper not only considers the correlation between features and classified variables, but also considers the correlation between features. The collected data are divided into three categories: emotional model, interest model and social model. Select the one with the largest correlation coefficient as the basic model, and the other two as the candidate models, and calculate the overall data correlation of the data parameters in the candidate models after they are added to the model in turn. If the data correlation coefficient increases, the data attribute is added to the model; Otherwise, it will be abandoned. Through data preprocessing and fusion, irrelevant data can be screened to a certain extent, and data preprocessing can be realized. In this paper, after the obtained solutions are normalized, the ranking results of the importance weights between the corresponding elements in the same level and the upper level are obtained, and the consistency of each judgment matrix is tested. ML-based technology can construct a learning model from massive data, identify the potential laws of data more accurately, and have stronger generalization ability, thus making the model applicable to different samples or groups, thus minimizing the prediction error and making a more accurate prediction of the results. In this paper, the average AUC values of classifiers trained under different feature selection methods are tested. Three different feature selection methods

combined with three different classifiers make a total of nine combinations. Figure 2 shows the average AUC values of classifiers trained under different feature selection methods.

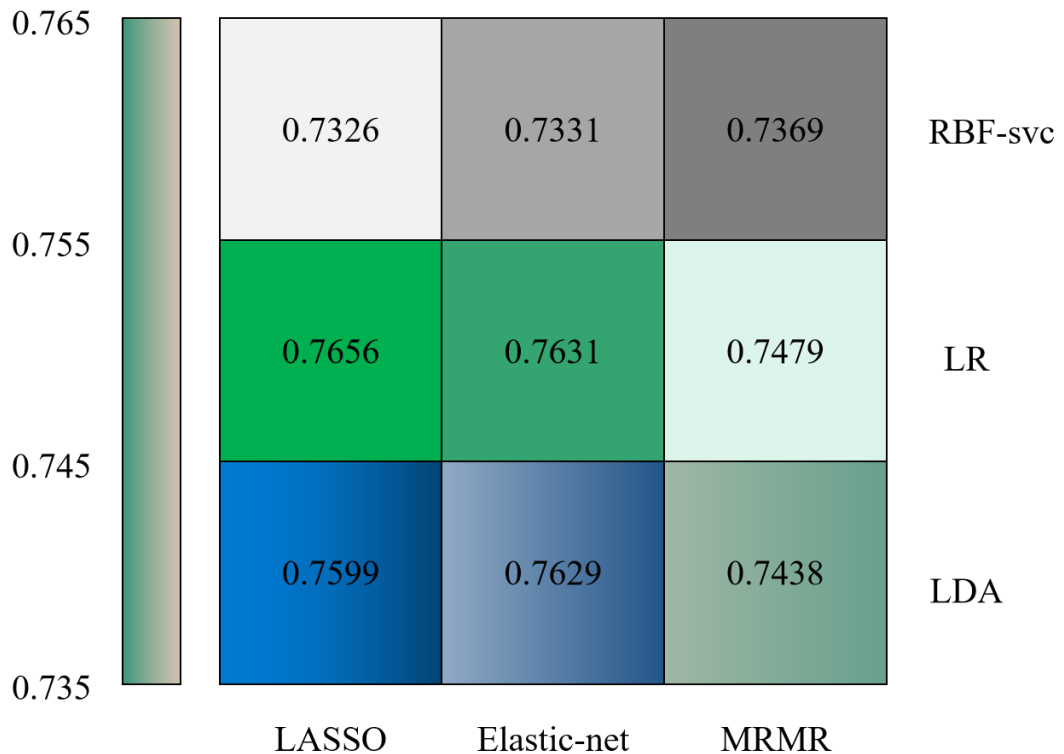


Figure 2: Average AUC value of training classifier under different feature selection methods.

It can be seen that the method based on LASSO for feature selection, combined with logistic regression classifier, has the best result.

3.3 Discussion on Educational Model

Based on the modeling and analysis of university students' psychological fitness in the previous section, this section puts forward some ideas and suggestions on the educational model of university students' psychological fitness in the new era. At present, network technology promotes the infinite extension of traditional classroom in time and space, and becomes a very effective and necessary teaching aid. The same is true of psychological fitness education courses. Compared with other professional teachers, the course of psychological fitness education for university students requires teachers to use psychological knowledge more flexibly and professionally to organize the whole classroom operation, which is undoubtedly a challenge for teachers [7]. Teachers should not only understand the characteristics and objectives of the course, but also deeply understand the needs and characteristics of students, so as to enhance the pertinence of teaching. Under the educational background of the prevalence of humanism, the teaching ideas and methods of psychological fitness education have also gained important enlightenment. Judging from the current situation, the goal of setting up the course of psychological fitness for university students is to lead students to

experience the course content, form a feeling, and correct their personal wrong words and deeds based on it, so as to promote the healthy growth of university students. Its teaching process aims to help students solve their puzzles in the process of growth, life and development, and guide them to solve their own problems.

Psychological fitness education for university students is a practical course. One of its important goals is to make students realize individual differences and internalize knowledge through students' active participation. Through the relevant analysis of psychological theory, people's perception of things is mainly acquired in practice, and only through people's personal experience can students form a good psychological perception ability. The characteristics of psychological fitness education are: paying more attention to actual effect than form, improving mental quality than mastering mental knowledge, internalizing mental knowledge more than inculcating, and paying more attention to students' active participation than passive acceptance. Whether before class, in class or after class, psychology education class requires students to have certain self-control and consciousness to ensure the smooth progress of self-study before class, discussion in class and reflection after class. University students' cognitive ability and monitoring ability are close to the adult level, so they meet the requirements of students' subjective cognitive ability. The purpose of the design of the course is to achieve high-level goals. In other words, it is to lead students to know how to use their personal knowledge to deal with practical problems and strengthen their personal emotional experience. Therefore, in the psychological fitness class, teachers need to carefully design teaching activities to maximize the use of classroom time, so as to complete the process of students' knowledge internalization. Therefore, teachers need to combine the characteristics of psychological fitness education with various teaching methods, create a flexible teaching environment, and truly become classroom organizers and guides.

To achieve the goal of promoting the healthy growth of students' psychological fitness, it is essential for students to grasp the knowledge of psychological fitness. The dissemination of psychological fitness knowledge in innovative psychology classroom is not simply through indoctrination, but through internalization into students' concept consciousness, which requires students to give full play to their subjective initiative to develop their ability to cultivate their psychological quality. According to the survey, what university students need most in the course of "Psychological Fitness Education for University Students" is emotional management, interpersonal relationship, self-awareness, stress response, etc. Therefore, we can choose and make videos to solve these problems, and pay attention to students' positive emotions and experiences, positive personality traits and so on. It should be noted that the course resources provided should not be too much and the difficulty should be appropriate. The video settings should be short and concise. Although there are abundant resources of excellent courses or open courses on the Internet, the applicability is not universal because the syllabus and teaching plan of each school are different. On the one hand, the video released in advance requires teachers to master certain multimedia technology; On the other hand, the content of video production also requires teachers to summarize the teaching content highly. In addition, after class, teachers should change their identity and become promoters of after-class reflection. Reflection strategies can promote students' understanding through online counseling or discussion, and can also improve students' practical life ability through situational case questions or practical simulation questions.

4 RESULT ANALYSIS AND DISCUSSION

Using ML to analyze university students' psychological fitness factors requires a lot of data support, and the diversity and accuracy of data directly affect the accuracy of algorithm analysis. After obtaining the data, this paper preprocesses the data. Delete the invalid data in the database, and then normalize the data. Normalization means that the data is limited to [0,1] after being processed by some algorithm. Normalization is to ensure the convergence of the program when it is running, and to provide convenience for the following data processing. In addition, in order to ensure the

integrity of the data, the data collected in this paper are mainly divided into two types of attributes, which mainly include student attributes and family attributes. The data of student attributes and family attributes of psychological fitness factors are shown in Table 1 and Table 2.

<i>Serial number</i>	<i>Variable</i>	<i>Assessment</i>
1	<i>Student age</i>	<i>Actual age</i>
2	<i>Learning professional</i>	<i>Science: 0; Arts: 1</i>
3	<i>Student grade</i>	<i>Actual grade</i>
4	<i>Student achievement</i>	<i>< 70:0; 70~100:1</i>
5	<i>Leave situation</i>	<i>Actual times</i>
6	<i>Reward situation</i>	<i>Yes: 1; No: 0</i>
7	<i>Disposition</i>	<i>Yes: 1; No: 0</i>

Table 1: Student attribute data of psychological factors.

<i>Serial number</i>	<i>Variable</i>	<i>Assessment</i>
1	<i>Family residence</i>	<i>Field: 0; Local: 1</i>
2	<i>Family composition</i>	<i>Single parent: 0; Both parents: 1; Other: 2</i>
3	<i>Is it the only child</i>	<i>Yes: 0; No: 1</i>
4	<i>Family economic level</i>	<i>Average: 0; Rich: 1; Poor: 2</i>
5	<i>Family relationship situation</i>	<i>Harmony: 0; Other: 1</i>

Table 2: Family attribute data of psychological factors.

On the whole, factors such as failing the exam, communication ability, being an only child, and love situation will have a certain impact on students' psychological fitness, especially love situation and family situation will have a great impact on students' overall mental state. Therefore, in order to analyze university students' psychological fitness factors, it is still necessary to collect university students' interests, friends and corresponding emotional states, and then refer to Tables 1 and 2 for corresponding assignment and data processing.

In this paper, 1000 sample students are divided into training set and testing set, of which 750 are used as training set to construct support vector machine model. 20 cases were used as the test set to test the effect of the classification model. At the same time, this paper makes second-order factor analysis by formula, generates comprehensive data table of psychological fitness, and establishes corresponding accident database and table. Then cluster the data, and finally derive the relationship between factors and psychological fitness. Figure 3 shows the MAE of the three algorithms.

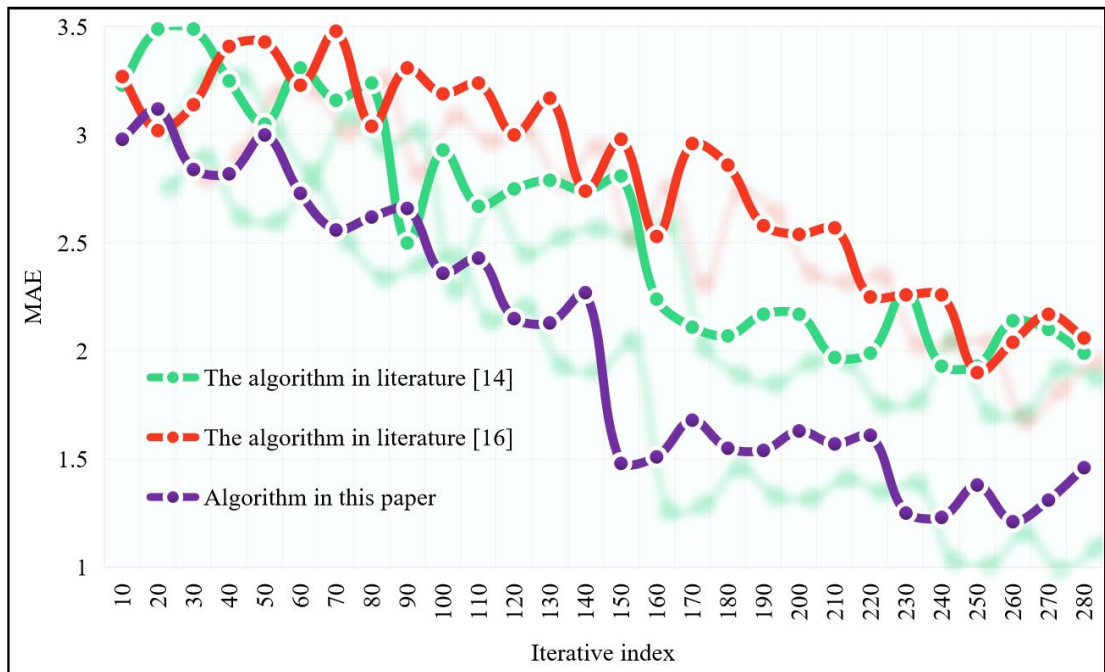


Figure 3: MAE comparison of algorithms.

Accuracy is the most commonly used classification performance index, and it is also the most intuitive performance index. Taking the model of predicting the psychological fitness changes of university students with negative psychological symptoms as an example, this model is to identify the positive and negative predictions of psychological symptoms. The number of pairs identified in the test set divided by the total amount of data in the test set is the accuracy rate. The formula is as follows:

$$ACC = \frac{TP + TN}{TP + FN + FP + TN} \quad (12)$$

The recall rate is defined as the proportion of samples predicted to be positive among all the samples that are actually positive. The formula is as follows:

$$Recall = \frac{TP}{TP + FN} \quad (13)$$

Figure 4 shows the recall rates of the three algorithms. Figure 5 shows the accuracy of the three algorithms.

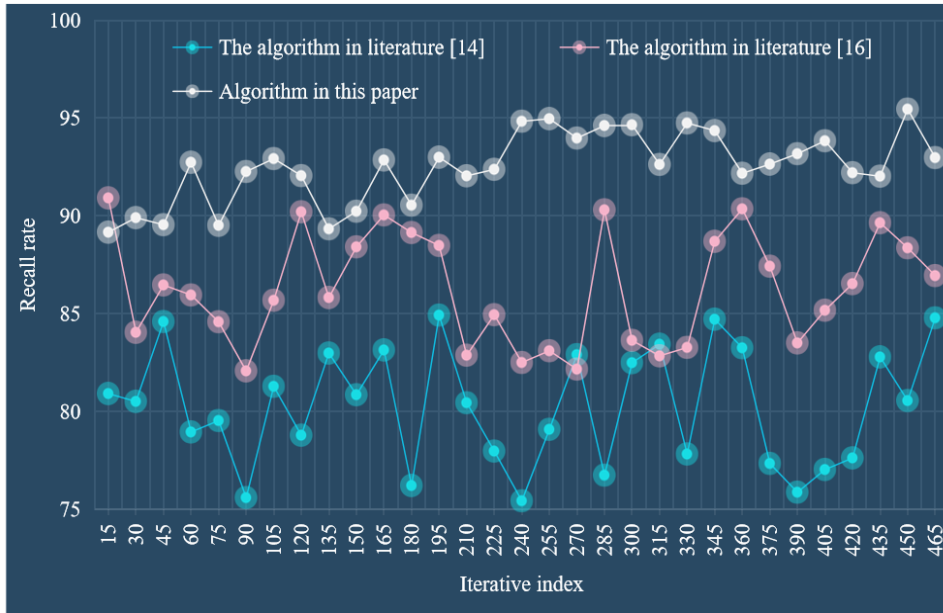


Figure 4: Comparison of recall rates of algorithms

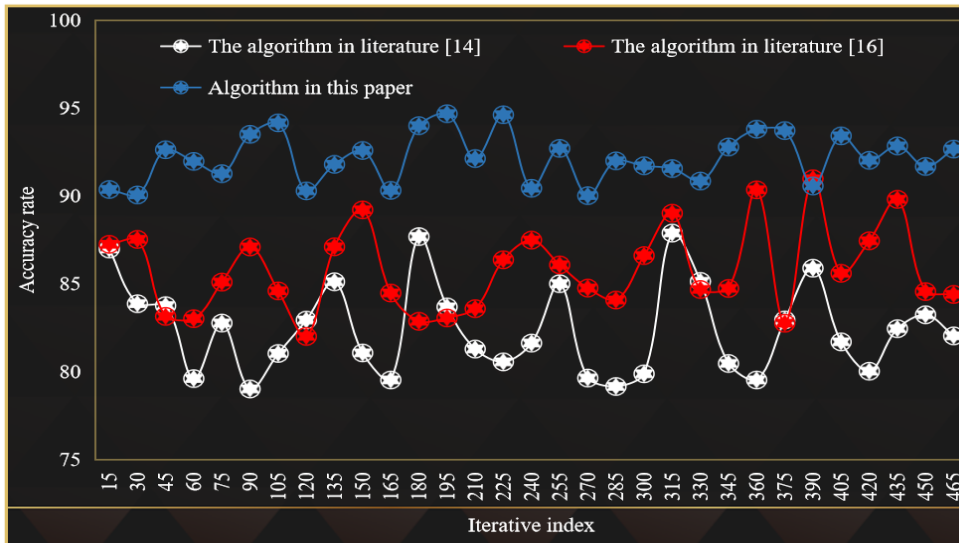


Figure 5: Accuracy comparison of algorithms.

In this paper, some important factors related to psychological fitness are obtained through correlation analysis, and these factors are used as the input of support vector machine classifier, and a rapid screening model is established, finally the accuracy rate is over 90%. This shows that using ML can more effectively evaluate or predict the effectiveness of psychotherapy or intervention, and greatly improve the cure rate of patients.

In this paper, a total of 1,000 students from a university were selected for an example test. Among them, 500 students adopt the traditional education mode; Another 500 students adopt the educational model proposed in this paper. Then, the 1000 students were tested by the ML-based analysis model of university students' psychological fitness. Finally, the students' scores of the two teaching methods are shown in Figure 6 and the teachers' scores are shown in Figure 7.

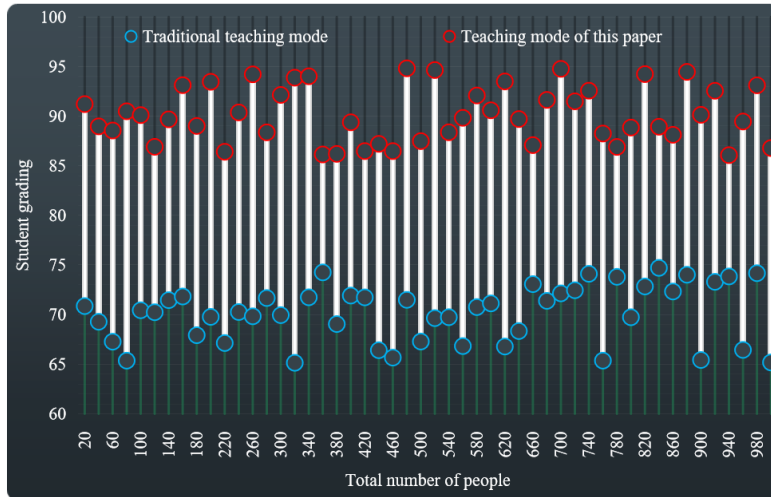


Figure 6: Student grading situation.

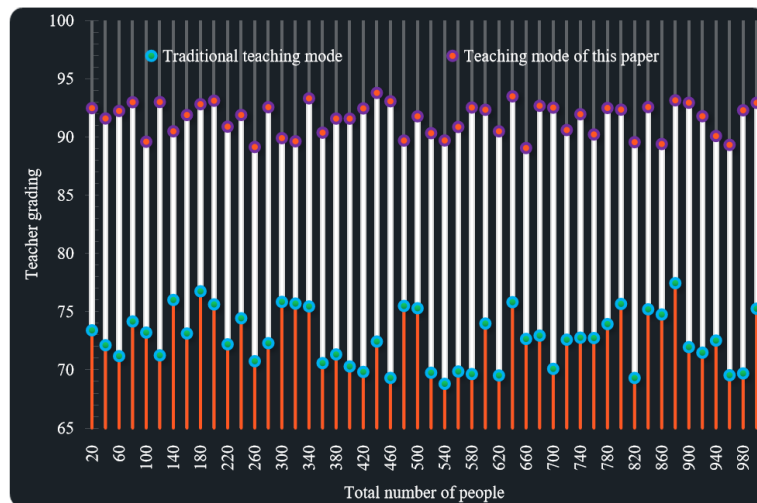


Figure 7: Teacher grading situation.

The test results in this section show that the accuracy of the algorithm is as high as 94.87%, and the MAE is only 1.25. The result shows that the algorithm in this paper has certain reliability, and it can accurately analyze university students' psychological fitness problems. At the same time, compared with the traditional teaching method, the analysis of university students' psychological

fitness proposed in this paper has certain advantages and feasibility, and its students and teachers score higher, which shows that this instructional mode can promote the classroom effect of psychological health education.

5 CONCLUSIONS

Improving university students' psychological fitness level is an important guarantee for university students to go to modernization, the world and the future. This paper analyzes and discusses the psychological fitness problems of university students based on ML, and constructs an analysis model of university students' psychological fitness based on ML. In this paper, FCA is applied to the analysis of university students' psychological fitness. Through FCA, the laws and characteristics of university students' psychological fitness are explored, and the potential relationships among various factors affecting psychological fitness are excavated. At the same time, the information entropy and information gain rate of information data set are analyzed and calculated. While analyzing and processing related data to the greatest extent, the backward pruning theory is used to remove unnecessary root nodes, thus avoiding over-fitting. In addition, this paper discusses the shortcomings of the traditional classroom instructional mode of psychological fitness, and based on the modeling and analysis of university students' psychological fitness, puts forward some ideas and suggestions on the sub-education mode of university students' psychological fitness in the new period.

The final test results show that the accuracy of the proposed algorithm is as high as 94.87%, and the MAE is only 1.25. The result shows that the algorithm in this paper has certain reliability, and it can accurately analyze university students' psychological fitness problems. At the same time, compared with the traditional teaching method, the analysis of university students' psychological fitness proposed in this paper has certain advantages and feasibility. The high scores of students and teachers indicate that this instructional mode can promote the classroom effect of psychological health education, thus further improving the psychological fitness level of university students. However, the new classroom model of university students' psychological fitness has brought all kinds of opportunities for teaching, while teachers are also facing great challenges. The teaching effect and exertion of the classroom need a process of exploration and adaptation for both teachers and students. In addition, the collection of university students' psychological fitness data should be combined with more professional knowledge, and the influencing factors on psychological fitness should be deeply explored to further improve the accuracy of prediction.

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