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Artificial intelligence mental release action guidance system

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Abstract

Almost everyone has the problem of psychological pressure, but the national conditions with Chinese characteristics determine that Chinese people are generally reluctant to share their psychological problems with others. Professional and excellent psychological counselors are very scarce. There are no professionals in how to release psychological pressure. The guidance will not be effective. If there is an intelligent department like a friend to accompany and interact, more people may get professional guidance. There is no professional guidance assistance for professional psychological pressure release, so the development and application of our artificial intelligence psychological release action guidance system is of great significance.

Keywords

Artificial intelligence Psychological stress release.

1. Introduction

According to the "2017 Chinese Urban Residents Mental Health White Paper", an analysis of the mental health data of approximately 1.12 million urban populations across the country found that 73.6% of people are currently in a state of sub-health, and 16.1% of people with various degrees of psychological problems are mentally healthy. The population is only 10.3% [1].74% of the interviewees think it is inconvenient to obtain psychological counseling services, and there is an increasing demand for psychological services from all industries, classes, and groups of people in society. However, there is still a big gap between the society's ability to provide psychological services and social needs. According to the WHO standard of having one counselor per thousand people, there is a shortage of 1.3 million counselors in my country, there is no professional guidance and assistance for professional psychological pressure release, so the development and application of our subject is of great significance [2].

2. Development status and trends of related technologies at home and abroad

2.1. Section Headings

At present, after market surveys, network inquiries, consultations, etc., no matter whether it is domestic and foreign artificial intelligence in the psychological application accessory market or related companies, there are no applications involved in this topic [5].The "artificial intelligence psychological pressure" studied in this topic "Release the action guidance system", there is still no similar system at home and abroad [6].

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3. Project Owerview

3.1. Research (development) content

This project is an artificial intelligence development of a guidance system for psychological pressure release actions, which is specifically divided into the following functional modules: 1. Voice-induced human-computer interaction system, enter the user's information 2. Analysis system, user's stress evaluation, analyze the user's information, get the stress index, connect through the smart bracelet system, analyze the user's heart rate. 3. Intelligent action guidance system, pressure release action guidance, intelligent encouragement to complete. 4. Evaluate the system after release. 5. Smart charging timing.

3.2. Key issues to be resolved

1.Receive voice information input by a user; analyze the voice information, and determine the physical state of the user according to the analysis result; and push a push corresponding to the physical state to the user according to the physical state. 2. Establish an acoustic template corresponding to the body state based on the deep neural network and the general background DNN-UBM model. 3. Receive heart rate and exercise data through wireless transmission for evaluation. 4. Perform the action guidance voice output, and complete the guidance action feedback according to the user's voice reflection. (3) Construction indicators;

3.3. Construction index

This project includes the following functional modules: 1. Voice-induced human-computer interaction system, enter the user's information 2. Analysis system, user's stress evaluation, analyze the user's information, get the stress index, connect through the smart bracelet system, analyze the user's heart rate. 3. Intelligent action guidance system, pressure release action guidance, intelligent encouragement to complete. 4. Evaluate the system after release. 5. Smart charging timing.

4. Project implementation plan

4.1. Overrall plan

This project is an artificial intelligence development of a guidance system for psychological pressure release actions, which is specifically divided into the following functional modules: 1. Voice-induced human-computer interaction system, enter the user's information 2. Analysis system, user's stress evaluation, analyze the user's information, get the stress index, connect through the smart bracelet system, analyze the user's heart rate. 3. Intelligent action guidance system, pressure release action guidance, intelligent encouragement to complete. 4. Evaluate the system after release. 5. Smart charging timing. (2) Key issues to be resolved.

4.2. Technical route

1. Receive voice information input by a user; analyze the voice information, and determine the physical state of the user according to the analysis result; and push a push corresponding to the physical state to the user according to the physical state. 2. Establish an acoustic template corresponding to the body state based on the deep neural network and the general background DNN-UBM model. 3. Receive heart rate and exercise data through wireless transmission for evaluation. 4. Perform the action guidance voice output, and complete the guidance action feedback according to the user's voice reflection. (3) Construction indicators; A) Overall plan; 1. Voice-induced human-computer interaction system (1) Receive user interactive sentences and search for keywords. (2) The receiving unit is used to configure the user input sentence (3) The matching judgment user input sentence 2. Analysis system (1) After making a judgment based on the sentence entered by the user, the keyword is obtained, and the relevant scale is

pushed to the user for the user to fill in the information. (2) Analyze the results according to the user's information and output the pressure index. 3. Intelligent action voice guidance system (1) Push action guidance voice according to the user's pressure index (2) Push module for pushing push information corresponding to the physical state to the user according to the physical state. (3) Action voice output pressure release guidance, collect the user's release process through the camera, and send and receive exercise data through wireless transmission. 4. Post-release evaluation system (1) The heart rate test through the sports bracelet, the collection of heart rate data through wireless transmission, and the analysis of the user's release through the evaluation of the heart rate and the analysis of the exercise data. (2) Feedback on the evaluation data. (2) Technical route; This project analyzes the voice information by receiving the voice information input by the user, and determines the user's physical state according to the analysis result, and pushes the push information corresponding to the physical state to the user according to the physical state. When it is judged that the user's voice is abnormal, it can Actively care for users and push information related to their physical conditions, as well as provide users with relevant psychological measurement tables, and obtain users' stress index through statistics, which is more intimate and intelligent, and improves user experience. An embodiment of the second aspect of the present invention proposes an information push device based on artificial intelligence for voice recognition, including: a receiving module for receiving voice information input by a user; an analysis module for analyzing the voice information, and Determine the physical state of the user according to the analysis result; and a push module configured to push push information corresponding to the physical state to the user according to the physical state. In order to realize this project, the first aspect proposes an artificial intelligence-based music simulation method for motion recognition, including: receiving motion data sent by a user, the motion data including acceleration information and motion direction information; determining according to the motion data The exercise state of the user, the exercise state includes a heart rate state; when the exercise state is a fast state, obtain the user's position information and exercise intensity information; and according to the position information and the intensity information Play the sound effects of analog music. The second aspect of the present invention provides a user action guidance and feedback simulation device for action recognition based on artificial intelligence, including: a receiving module for receiving motion data sent by a user, the motion data including acceleration information and motion direction information; The determining module is used to determine the exercise state of the user according to the exercise data, the exercise state includes the heart rate state; the acquisition module is used to obtain the position information of the user when the exercise state is a fast heart rate state and The intensity information of the action; and a playing module for playing the sound effect of the analog music according to the position information and the intensity information.

4.3. Implementation interface

Mental Ability Evaluation Click the export button on the interface to carry out the corresponding data export operation. The user needs to set the corresponding export target grade and class information in the current interface. Click the export button on the interface, see Figure 1.

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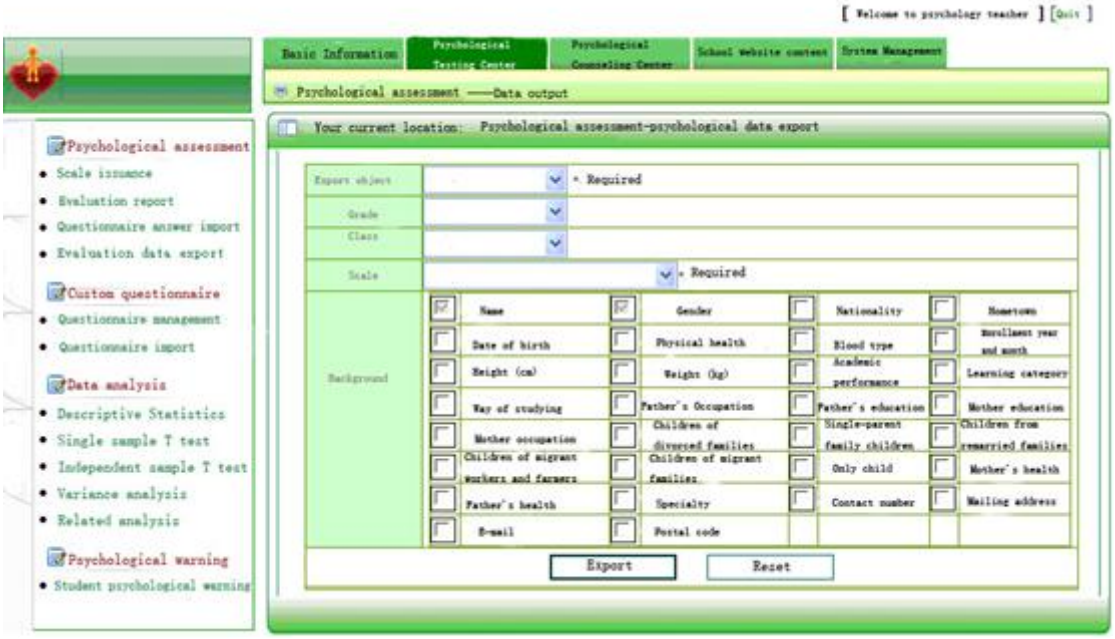

Figure 1: Input interface of mental health scale for middle school students

Psychological warning The user needs to set the corresponding grade name, gender, class, and scale data in the corresponding information query, and then click the query button on the interface to perform the corresponding retrieval operation. Click the reset button on the interface to re-enter information. Click the View Details button on the interface to enter detailed information, see Figure 2.

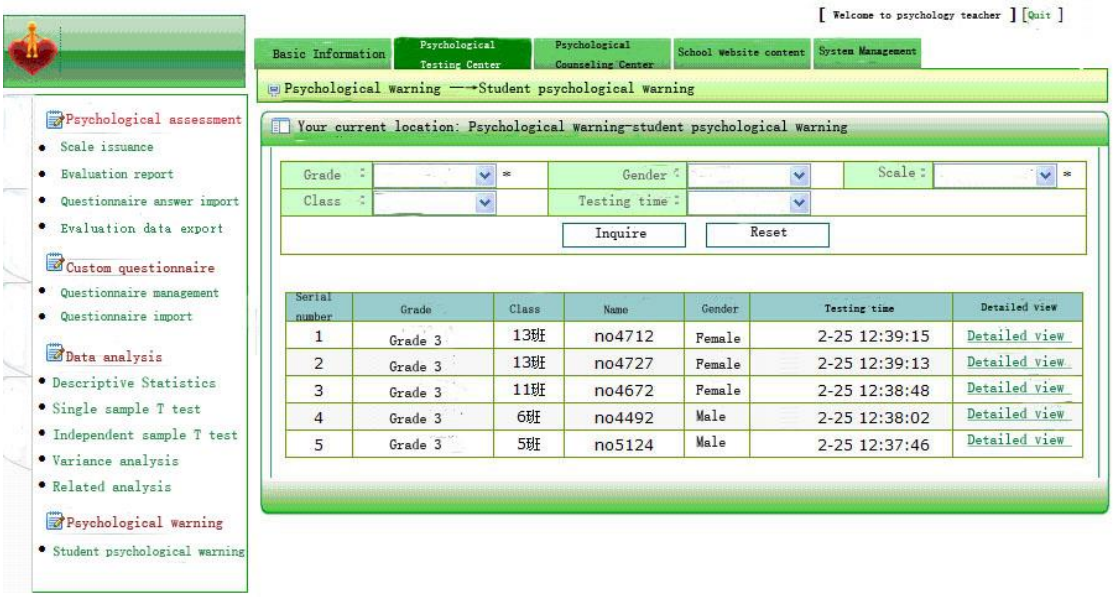

Figure 2: Psychological warning detailed information input interface

Data analysis Click the single sample button on the interface to view the corresponding inspection data. The interface is the comparative data information of the mental health table, see Figure 3.

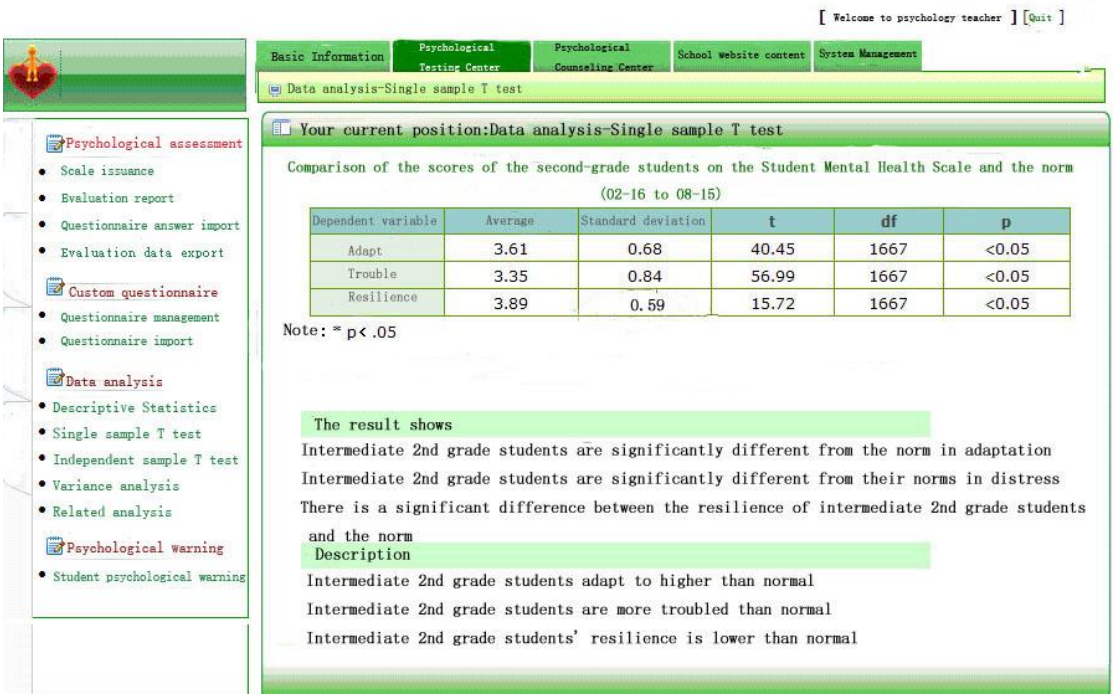

Figure 3: Mental health table comparison data information

Variance analysis The interface will display the corresponding dependent variable, source of variation, sum of squares, and degree of freedom data information. Follow the corresponding notes on the interface for corresponding explanation operations. The result shows that: carry out the analysis operation of the corresponding result data. Post-comparison: Perform comparison and display operations of the corresponding overall data results, see Figure 4.

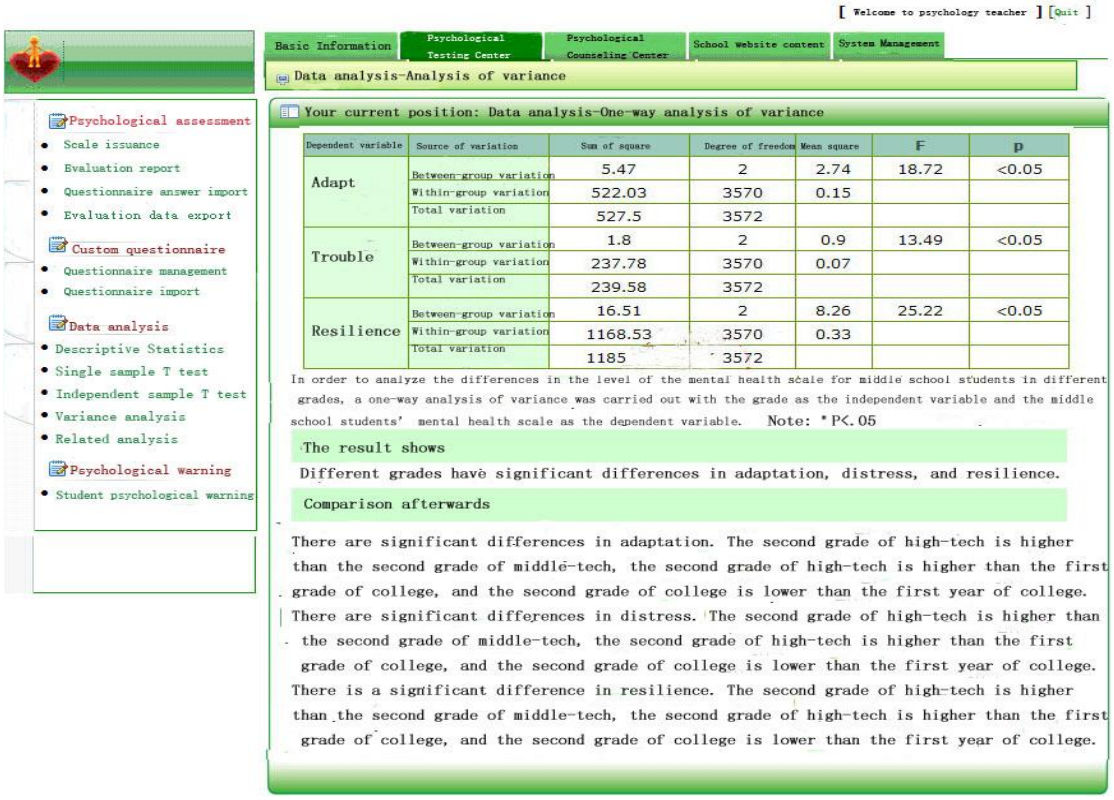

Figure 4: Variance interface

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Stress release guidance The user clicks the pressure action release guidance button to jump to the pressure action release guidance page. In the pressure action release guidance page, the pressure action release guidance can be viewed and operated. The user can set relevant information according to their own needs on this interface and perform related operations. Operation. The details are shown in the figure below.

5. Conclusion

This project embodiment proposes an information push pressure release action guidance based on a mental health scale. It provides data comparisons on students' stress adaptation, distress and resilience, and provides actions for students to release stress, thereby reducing students' discomfort. To push push information corresponding to the physical state to the user according to the physical state, this project is now in its preliminary stage.

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