The influence of Morning Exercises Individual Differences on Mental Health Based on the Network Big Data

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Abstract: In order to explore the differences in mental health of morning exercises groups, this study used random sampling method, sampling 20 morning point and make a survey of morning exercises. Through big data analysis, we study the influence of individual differences on mental health status. Individual differences were mainly measured by 8 indicators, such as gender, race, age, education level, work status, personal income, occupation type, family type. The results showed that morning exercises groups has different degrees in each factor and the total index. Among them, female, under 30 years old, primary school education, laid off, students, low income, the couple's family type of mental health status in each index group is poor. Therefore, the government and other relevant departments should pay full attention to the morning exercises groups physical exercise and mental problems, especially for poorer mental health group

Key words: Mathematical statistics, Morning exercises, Network big data, Mental health

1. INTRODUCTION

The era of big data makes the life and social psychology has a wider space, also brought a variety of possibilities, more important is the big data promote the ability to control the social psychology, the overall improvement of psychological construction has important practical significance (Liu, 2005). The function extension of the big data for the psychological construction includes the guidance and guidance to the individual's psychological life and social life (Le, 1996; Lv, 2015). This leads to the psychological in their own lives and social applications, you can grasp the direction of life in the future, you can guide the psychological growth path.

The development of human society from the industrialization and information, is having a stage of transition and the evolution and development process, the development process is the era of big data in the new era (Si, 1994; Wang, 1999). The construction work is the psychological education in various colleges and universities in particular is an important part of the work of mental health education, which is of high quality, is effective not only affect students' psychological development, to enhance the quality and effectiveness of education also involves the school education (Ren, 1997). The advent of the era of big data makes the education industry is facing a variety of challenges for the psychological construction work, thinking about the big data led to the problem. Along with the people living standard improves rapidly, "exercise is medicine" and "exercise for an hour every day, 50 years of health, a happy life", "please eat better to ask people sweat" health concept is accepted by more and more people participate in the exercise, people are more and more people pay more attention to the role of physical exercise to enhance health and improve the quality of life. But people focus on physical exercise at the same time, mental health? The purpose of this study is to seek the psychological differences between the different causes of morning exercises groups, difference, has the vital significance to the construction of Harmonious Society of health Chinese.

2. INFORMATION MENTAL HEALTH COUNSELING

Big data refers to a large scale in the acquisition, storage, management and analysis greatly exceeded the traditional database software tools capable of data collection, data size, fast data transfer, with a massive variety of data types and the value of low density four characteristics. To have powerful data collection, processing, analysis and the ability to generate information. Uneven quality of the various areas of resources, scarce or even scarce, is one of the main factors restricting the effectiveness of traditional mental health counseling scale rapid results. The information platform, one of its inherent advantages is to break through the physical domain restrictions, efficient integration to achieve cross regional and transnational quality resources, to achieve a broader, more advanced concepts, without the limits of time and space psychological services. Different from the traditional theory of listening to the exchange or even didactic counseling, big data platform more respect preferences and habits.
According to the core needs of information platform, big data architecture and expert system platform based on mental health counseling by the base layer, data layer, analysis layer, decision layer, interface layer, application layer consisting of six tiers.

- **Basic layer**: including the hardware equipment, network environment, dynamic environment, operating system, database software and so on.
- **Data layer**: including 3 types of data. Psychological counseling to comics, stories, songs and other forms of film and television resources; expert team expertise and other related information and anonymous former students served the school teaching information platform; acquisition and linkage of real name students daily study life performance fluctuations, attendance, violation of discipline and the teacher comments other information.
- **Analysis layer**: mainly responsible for two aspects of the work. On the one hand is responsible for the content classification and generate new guidance materials according to their service case of psychological counseling materials have been brought in; on the other hand, to personality, emotional, psychological, preferences and other massive information for students personal characteristics of contour extraction.
- **Decision-making layer**: according to a preset and constantly learning inference rules for iterative optimization, to judge the students' psychological problems and guidance in the form of optimal pairing and guidance materials, and on the basis of the relevant feedback results, optimization of inference rules.
- **Interface layer**: comprises an interface for data interaction with the peripheral system and a short message interface.
- **Application layer**: through mobile phones and computer clients and other channels to provide a friendly and passive service interface, and linkage with the platform, the initiative to push early psychological counseling materials.
Digitalization is the premise of data, which is used to represent objects and phenomena. Data conversion is the conversion of all the variables can be involved in the calculation, the information has become a statistical or mathematical analysis of the number of units. Big data refers to a large amount of data, a large number of types of miscellaneous mathematical analysis to describe the status quo, problems, the trend of a potential data mining information technology and thinking. There are a series of related concepts, such as data reorganization, data, data, data value depreciation of exhaust gas, data evaluation, data of dictatorship, paranoia, data warehouse, data security, data mining, etc., and constitute the most fashionable IT context. The characteristics of big data can be understood from two aspects: their own characteristics and the extended features. The characteristics of the show is different from the traditional "big data" data characteristics, namely the large capacity, high speed data processing and analysis, data presented in the form of diversity and large data processing, high technical requirements etc. From the extension of the function analysis of the value of big data characteristics, can be trusted and reliable data processing can provide the value of early warning, but also to provide differentiated service oriented and personalized service strategy. In addition, a large number of data to make a large number of real facts of the possible resources for all types of research to provide a broader and more diverse perspective.

![Figure 3. Data mining analysis](image)

3. RESEARCH DESIGN

3.1. Objects and methods

In order to discuss the differences between different morning exercises groups in terms of mental health, this study used random sampling method, the method of personnel interviews, sampling on 20 morning point morning personnel investigation, the survey involved in different occupation in different industries, in nationality, age, education level, monthly income, family the type of differences between male and female individuals, issue 1000 questionnaires, 867 questionnaires were collected, screened 759 effective questionnaires. The survey data obtained by SPSS software to analyze and calculate the mean and standard deviation (SD), two samples were compared using one sample T test and independent sample T test, ANOVA using Levene test, multiple comparison and 22 compared with single factor analysis of variance. The statistical results are analyzed and discussed in this paper after the professional examination.

3.2. Results and analysis

(1)Gender differences in mental health factors in morning exercises groups

Statistics found that men in the morning exercises groups score 9 SCL90 self rating scale factor and symptom index were lower than those of the female morning crowd, with a high degree of statistical significance, also found in men and women through the morning exercises group and the national norm were single sample T test, the male population in the morning compared with each factor the national norm is highly significant, female morning exercises groups except somatization, compulsion, symptom index and the national norm was not statistically significant, but the three points lower than the national norm, with a high degree of statistical significance in the interpersonal relationship, anxiety, hostility, phobia and psychoticism, depression was statistically significant and paranoid factor.
(2) Different ages of morning exercises groups of mental health factors comparison

Through the single factor variance of cross-sectional study of different ages in the mental health status of the population exercise analysis can be seen: (1) from the factor score of each age group can be seen, the age group of 30-44 and each factor score is lower than the morning morning exercises groups in other age groups, the factors of mental health in different age groups of morning exercises groups and the symptom index were with statistical significance. (2) from the total symptom index, the score from high to low: below 30 years old group, 60-74 years group, above 75 years old group, 45-59 years group, 30-44 years group, 30 age group A.m. exercisers mental health level of the poor, aged 30-44 mental health group morning exercises groups is better than the other age groups morning exercises; From the number to participate in the exercises, under the age of 30, the minimum number of morning exercises groups, the most 60-74 years old.

(3) The different cultural degree of morning exercises groups of mental health factors comparison

From the result of the analysis of variance of mental health factors of morning exercises groups of different cultural levels can be seen: (1) the different cultural degree of morning exercises groups was highly statistically significant in the 9 factors of SCL90 scale; (2) the different cultural degree of morning exercises groups were statistically significant in the total symptom index and total symptom index from. High to low is: primary school, graduate, undergraduate, high school (including technical secondary school, vocational school), junior high school, the highest score of the primary school, graduate and undergraduate higher education followed by the crowd.
Figure 6. The different cultural degree of morning exercises groups of mental health factors comparison

(4) Different occupation crowd morning exercises mental health factor

Through the single factor variance of mental health factors of exercise people with different working condition analysis can be seen: (1) with a high degree of statistical significance between 6 different working conditions in the morning exercises groups; (2) from the total symptom index, with a high degree of statistical significance between the groups, laid-off and other working conditions and the highest scores of group exercise crowd. Far higher than the national norm. The survey found that the unemployed group for workers, temporary workers, mental health is more serious in the force, anxiety, terror and psychosis factor; the other group is no fixed work or odd jobs or small business as the source of life, mental health in force, interpersonal relationship, hostility, phobia, paranoid, serious mental factors (see Figure 6).

We can see from Figure 7: (1) with a high degree of statistical significance between different types of occupation exercise group; (2) from the total symptom index score, from high to low is: students group and other occupation groups, service personnel group, UNESCO workers group, management group, peasant workers group, has a group. Highly significant in each group.

Figure 7. The different working conditions of morning exercises groups of mental health factors comparison
(5) Different personal income morning exercises groups of mental health factors comparison

After investigation: (1) among different income groups of morning exercises groups except somatization factor has significant statistical significance, were highly statistically significant in all factors; (2) from the total symptom index, 1000 yuan was the highest, 2500 yuan more than the lowest average group, with statistical significance between the groups, of which 1000 the group is far higher than the national norm symptom index. The survey found that non income group is mainly students and housewives, poor mental health mainly in obsessive-compulsive, hostility, phobia and psychoticism; 1000 yuan Group is no fixed staff, poor mental health mainly in obsessive-compulsive, interpersonal relationship, depression, anxiety, terror, paranoid and psychotic factors; group of more than 2500 yuan morning exercises groups mental health status is better than the other group.

Figure 8. Different types of occupation morning exercises groups of mental health factors comparison

(5) Different types of family mental health factors in morning exercises groups

By univariate analysis of variance of mental health factors of different family types of exercise crowd analysis can be seen: (1) between different family groups in addition to morning exercises groups in somatization, interpersonal relationship, depression factor was statistically significant, with statistical significance on the factor of terror, were highly statistically significant in all factors; (2) from the total symptom index, couples group morning exercises groups the symptom index the highest scores of spouses and children, and the three or four generation group was the lowest, with a high degree of statistical significance between the groups; (3) the average value of all factors from the point of view, a single group, couples group, single parent family group in some factors is far higher than the national average the norm of the single parent family morning exercises groups in the interpersonal relationship, anxiety, paranoia, psychosis were far more than the national norm, the overall health of Psychology In these areas more serious.
4. DISCUSS

Through the survey found that the mental health status of male than female morning exercises groups and women in the crowd, the social structure has certain relation to belong to vulnerable groups. Therefore, the relevant departments of our particular neighborhood streets the women to carry out targeted health education of psychology, specialized mental health guidance according to different psychological problems, enable them to establish a correct awareness of mental health counseling, learn to own negative feelings in a positive way, help the masses of women to establish a stable, optimistic and positive mental health.

The population under 30 years has just entered the community, due to lack of work experience, and appeared on the global financial crisis makes the society more brutal competition, work, study, study pressure, sleep time is not fixed and other factors, people under most 30 year old that they have no time and energy for exercise, resulting in 30 people under the age of psychology under pressure, not a good physical exercise habits, resulting in under 30 years of age groups the level of mental health is the worst; while the psychological health level of poor people aged 60-74 exercises are mainly concentrated in some older people who just retired at home, down from the job, look into a non working state caused by the aged the psychological difference, resulting in "retirement syndrome": 75 years mainly because the wife left or the children are not around to become empty The old man, old that no contribution, no value and some due to the body aging daily cognitive decline greatly; 45-59 years old morning crowd mainly faces some such as the cultural level is not high and can not adapt to modern work, laid-off workers, health problems, cause their children to school, employment, family factors such as psychological distress; 30-44 years old is the best, because these people have some work experience, with young and strong social adaptation ability, master new knowledge and new technology ability, working condition is relatively stable, guaranteed income, some people began to pay attention to health, pay attention to physical exercise.

In the survey also found that the degree of education, working conditions, occupation type, economic income, living environment for people to maintain good mental health status has a significant impact. Primary school mental health group is the worst due to various reasons mainly because they had only primary school education is the most basic, in the rapid development of society today will encounter all sorts of difficulties and setbacks, coupled with the impact of love, family, work, interpersonal relationship, social pressure and other factors, but also by their own lack of knowledge of the influence of culture and the lack of effective psychological counseling and psychological counseling knowledge awareness, resulting in a variety of psychological problems; while the graduate and undergraduate students educated because of higher education, scientific research work, undertake in the corresponding task more pressure and greater responsibility, thus affecting the level of their mental health. To take odd jobs or a small business, has no fixed job and low income people living day want to attend to their own physical and mental health, even with the disease, but also can drag on, no time no energy to think of health problems, coupled with the pressure of life, economic crisis caused by unemployment and prices factors such as rising the psychological pressure, mental health is poor; while high income because of better economic conditions, relatively more stable working environment, life burden is small, pay more attention to their own health, can take the initiative to create the conditions for health, mental health is better. Exercise among students mental health symptom index was highest in each group, indicating poor psychological health status of students in exercise groups, and related research results of domestic scholars. But some students because the sports college entrance test must be standard pressure forced to exercise. This
phenomenon is mainly related to the pressure of study, the pressure of study and the pressure of employment, and it is related to the existing examination system and the traditional idea. At the same time, the relationship with parents, family structure, the quality of school teaching is also one of the factors that affect students' mental health.

5. CONCLUSION AND SUGGESTION

In the factors and the symptom index of the difference between the morning exercises groups in gender, age, education level, work status, personal income, occupation type and family type factors were statistically significant. The total symptom index were female, 30 years old the following morning A.m. exercisers, primary school and higher education A.m. exercisers, laid-off A.m. exercisers, students A.m. exercisers, 1000 yuan for low-income couples A.m. exercisers, family type A.m. exercisers was higher than other groups. Government and community workers should give full attention to exercise people physical exercise and physical and mental health problems, especially for poorer mental health exercise group attention, establish and perfect the social welfare insurance system, strengthen the health education, strengthen the construction of hardware and software, increase community sports funds, enhance the strength of community sports instructors that offers various types of sports clubs or counselling stations, to encourage more people to participate in physical exercise. Sports publicity departments and the media should pay attention to the people to set up to the physical, psychological and social adaptation of the three-dimensional concept of health public and guidance ability as the core, to mobilize many favourable factors for improving awareness of exercise psychology, learn to adapt themselves to their work, and in a timely manner, bad mood, lifelong physical exercise consciousness and the correct concept of fitness.

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