

The Health Status, Influencing Factors and Improving Measures of the First-line Teachers in Colleges and Universities

Hongjun Teng^{1, a}, Zhenbo Bao^{2, b,*} and Fan Yang^{2, c}

¹Clinic, Tianjin Agricultural University, Tianjin, China

²Engineering and Technology College, Tianjin Agricultural University, Tianjin, China

^a tenghongjun@sohu.com, ^b zhenbobao@sohu.com, ^c fanyang20062800@126.com

*zhenbobao@sohu.com

Keywords: Colleges and universities; Health; First-line Teachers

Abstract: The university teachers who struggle in the first-line are undertaking the arduous task of training high-level professional talents for the country and the dual responsibilities of teaching and scientific research. The health of university teachers is the basic guarantee to achieve the above goals. At present, due to the social and school environment, the professional characteristics of university teachers, as well as the university teachers themselves and other factors, university teachers' casualties caused by health problems occur from time to time, which brings irreparable losses to the country, schools and families. The health status of university teachers is not optimistic, so it is urgent to solve the health problems of university teachers. On the basis of analyzing the definition of health by the WHO, it is pointed out that there are some deficiencies in physical health and mental health of university teachers. The factors affecting the health of teachers in colleges and universities are summarized from the aspects of the environment, the professional characteristics of teachers and the teachers themselves. Finally, from the aspects of social environment, school environment and personal aspects of teachers, improvement measures to improve the health of university teachers are proposed.

1. Introduction

Colleges and universities bear the arduous task of cultivating high-level professional talents for the country, especially the first-line university teachers who are struggling to carry out both the teaching tasks and the scientific research tasks. Ensuring the health of university teachers is the basic guarantee for achieving the above goals. At present, due to the following factors: with the continuous deepening of the reform of the national university system, colleges and universities have higher and higher requirements for teachers, and university teachers are facing increasing work pressure; some teachers are lack of health awareness and do not have regular physical examination; some teachers do not develop healthy eating and daily routines; some teachers choose to smoke or drink to relieve pressure; some teachers are lack of consciousness of physical exercise, the frequency and time of taking part in physical exercise is too little. The phenomenon of injury and death of university teachers due to health problems occurs from time to time, which brings irretrievable loss to the country, school and family. In addition, due to the professional characteristics of university teachers, the health status of university teachers is not optimistic, so it is urgent to solve the health problems of university teachers. This paper starts with the analysis of the definition of health, the influencing factors of the health of university teachers are summarized, and the measures to improve the health of university teachers are put forward, which will help university teachers to establish health care awareness and improve their health level [1-2].

2. Analysis and Understanding of the WHO Definition of Health

There are many different understandings and explanations about the definition of health. According to the WHO definition of health, can have some clear cognition. In 1948, the definition

of health put forward by the WHO was: health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, this definition is the most widely cited and influential. The definition of health by the WHO in 1978 was: health not only refers to a person without disease or weakness, but also refers to a person's physical, psychological and social adaptation. The ten criteria for measuring health were pointed out by the WHO, which are shown in Table 1 [1-2].

Table 1 The ten criteria for measuring health pointed out by the WHO.

Number	Specific description
1	Energetic, able to deal with the pressure of daily life and work in a leisurely manner without over tension.
2	Optimistic, positive attitude, willing to take responsibility, no matter how big or small, not picky.
3	Good at rest and sleep.
4	Strong adaptability to various changes of environment.
5	Resistance to common cold and infectious diseases.
6	Proper weight and uniform body; coordinate head, shoulders, and arms when standing.
7	Bright eyes, sharp reaction, relaxed eye muscles, no inflammation of eyelids.
8	Clean teeth, no cavity, no pain, normal gum color, no bleeding.
9	The hair is glossy without dandruff.
10	The muscles and skin are elastic, and the walking is easy and powerful.

In 1989, the WHO further defined health and added the content of moral health, health includes the following four aspects: physical health, mental health, social adaptation health and moral health. The content of moral health refers to the ability to meet their own needs without damaging the interests of others, to restrain themselves and dominate their thinking and action, has the right and wrong concept and ability to distinguish truth and falsehood, good and evil, honor and disgrace. In 1992, the WHO updated the understanding of health, and proposed that appropriate scientific exercise, reasonable diet, psychological balance, and change of bad living habits have an important impact on health. Through the analysis of WHO's definition of health, can get the following understanding and cognition:

(1) The concept of health includes four elements: physiological, psychological, social adaptability and moral health. A healthy person should have a strong body, an optimistic and upward mental state and a good psychological quality, and be able to maintain a harmonious relationship with the society and the natural environment.

(2) There are certain differences in the four aspects of healthy physiology, psychology, social adaptability and moral health, but at the same time, they have certain relevance. For example, social adaptability is ultimately determined by physical and mental quality, and it is also related to moral health. A person with good biological, psychological and social adaptability will also promote the development of moral health.

(3) Health is an ideal perfect state. In real life, there are few people who are completely healthy. According to the survey conducted by the WHO, it was reported in 2007 that only 5% of the population was healthy, and the health status of people was not optimistic.

(4) As a special group, university teachers are responsible for training senior talents for the country, it is of great significance to ensure and improve the health of university teachers by analyzing the influencing factors and measures. In the four aspects of healthy physiology, psychology, social adaptability and moral health, most university teachers are healthy in the aspect of moral health because they have received higher education such as undergraduate, master's degree and doctor's degree. In the aspect of social adaptability, because of professional particularity, university teachers continue to carry out practical activities of teaching and educating people, and most university teachers are healthy. In terms of physical and mental health, it is not optimistic because of the environment, teachers' professional characteristics and teachers' personal factors.

3. The Influencing Factors of University Teachers' Health

The influencing factors of university teachers' health can be analyzed and summarized from the aspects of environment, professional characteristics of university teachers and teachers' personal situation [3-4].

3.1. Social Environmental Factors

At present, the social environment is under great pressure, which has brought a certain impact on the health of university teachers. For example, parents have higher expectations for their children, and society has higher requirements for teachers' professional standards and teachers' moral standards; the highly developed market economy seriously impacts the values of university teachers; there is a certain gap between the income level of university teachers and the large expenditures of supporting families, children's education, etc., which affects the teachers' psychological state and then the teachers' physical condition.

3.2. Environmental Factors in Colleges and Universities

The assessment and evaluation system in colleges and universities has a certain impact on teachers. At present, the competition in colleges and universities is more intense, and the pressure of teaching and scientific research is greater. Some colleges and universities adopt assessment systems such as full employment system and elimination system, and strict assessment system makes university teachers feel great pressure. At the same time, at present, university teachers not only have teaching tasks, but also need better scientific research projects for the evaluation of professional titles, which also brings great pressure on teachers.

With the introduction of competition mechanism in colleges and universities, promotion of professional titles is the only way to win under the fierce survival of the fittest system. This has forced university teachers to be busy in applying for tasks, participating in research projects, publishing academic papers, etc. Scientific research work has imposed invisible pressure on teachers. Appropriate pressure can stimulate people's enthusiasm for work, and can cause people's positive reactions, such as arousing fighting spirit, promoting active thinking, etc. Too much pressure will play a negative role, may cause physiological, psychological, behavioral negative reactions, and even cause double harm to the body and mind, forming a vicious circle.

3.3. Professional Characteristics of University Teachers

University teachers have unique professional characteristics, such as high pressure of scientific research, high self-demand of teachers, long sitting and standing, and powder dust easily lead to respiratory diseases, which will have a certain impact on the health of university teachers. The factors influencing the health of university teachers by the professional characteristics are shown in Table 2.

Table 2 The factors influencing the health of university teachers by the professional characteristics.

Influence factors	Specific description
University teachers are under great pressure of scientific research.	Some university teachers think that the work pressure is very large or relatively large. One of the sources of work pressure is scientific research and publishing papers. Most university teachers are carrying heavy research work pressure. In order to complete the scientific research project, some university teachers fall asleep late at night, and the extra long work makes people tired or even slack off. If the effective measures can not taken in time to relieve the pressure of scientific research work, it will seriously affect the health level of university teachers.

University teachers are faced with pressure of assessment and competition.	The first-line teachers in colleges and universities have heavy teaching tasks and great pressure. In addition, China's colleges and universities have carried out the reform of personnel distribution system, introduced some reform systems and measures such as performance appraisal, competition for posts, which increase the pressure and sense of crisis of university teachers' competition. Some university teachers are under the pressure of work and competition for a long time, so they are easy to have health problems.
As a senior intellectual, university teachers have higher requirements for self-improvement.	The professional title of university teacher is a symbol of status and academic level. Evaluating the title is a requirement for some university teachers to improve themselves. In addition, first-line teachers in colleges and universities need to keep pace with the times, continue to study and further their studies, and constantly update their knowledge systems. The self-improvement of university teachers will bring some pressure and affect their health.
The professional characteristics of university teachers are long sitting and long standing.	The professional characteristics of university teachers lead to long-term sitting on the desk, more mental activities and less limb activities, which often lead to physical overload and illness. In addition, during class, standing for a long time also leads to many kinds of occupational diseases such as varicose veins of lower limbs, lumbar muscle strain and so on.
Respiratory diseases of university teachers.	University teachers undertake certain teaching tasks, and need to speak constantly for a long time in classroom teaching, which is easy to lead to dry mouth. In addition, although multimedia teaching has been very popular at present, some courses still need some chalk blackboard writing. The splashing chalk powder causes some university teachers to suffer from chronic pharyngitis, chronic rhinitis, chronic bronchitis and other occupational diseases.
The income gap of university teachers is large because of their positions and titles.	The income gap between teachers with different positions and titles is large. The high-income people in colleges and universities are the teachers who have more doctoral guidance, professors and projects, as well as the teachers with higher positions. By contrast, teachers with lower professional titles earn less. The large income gap, coupled with the large material needs, also brings great psychological pressure to university teachers.

3.4. The Personal Factors of University Teachers

The personal factors affecting the health of university teachers mainly include disease prevention awareness, living habits, diet structure, sports status and so on. As a result of disease prevention consciousness is weak, unreasonable diet structure, life schedule, and lack of exercise and psychological pressure and other factors, easy to make the body uncomfortable, long time will harm health. The personal factors affecting the health of university teachers are shown in Table 3 [3-5].

Table 3 The personal factors affecting the health of university teachers.

Influence factors	Specific description
Some university teachers have weak awareness of disease prevention.	Some university teachers confirm that they are in good health and do not carry out regular physical examination. Some university teachers ignore the early warning of physical diseases, often because it is difficult to see a doctor, not pay attention to minor diseases, which is easy to lead to serious diseases. Due to the occurrence of disease, it will damage the function of the body, and endanger the health of university teachers.
Some university teachers' bad work and rest habits and lifestyle.	University teachers should not only undertake the teaching and scientific research work, but also bear the pressure of housework and children's education, which often leads to irregular life rhythm of some university teachers, forming bad work and rest habits and lifestyle, leading to frequent sleeplessness at night, poor sleep quality and early wake-up in the morning, which is very harmful to health.

Some university teachers' bad eating habits and structure.	Some university teachers eat three meals a day irregularly, and the intake of three meals is unbalanced; some university teachers don't eat breakfast or occasionally, and take a simple meal at noon, leaving only one meal at night for tonic. Some university teachers have unreasonable diet structure and wrong understanding of nutrition and health. They think that eating more nutritious food can increase their health, which leads to some university teachers' excessive pursuit of high nutrition food, which is easy to lead to hypertension, hyperlipidemia, fatty liver, heart disease and other diseases.
Some university teachers lack the consciousness and habit of physical exercise.	Some university teachers lack the consciousness and habit of physical exercise, never take part in physical exercise or only occasionally take part in exercise every week. Some university teachers lack of physical exercise, do not master the methods of physical exercise, do not form good habits of physical exercise, easy to cause adverse effects on the health of university teachers.
Some university teachers have a bad habit of smoking and drinking.	Some university teachers use tobacco and alcohol to relieve the work pressure; some university teachers are used to relying on smoking to assist thinking, or after a certain work is completed, use alcohol to relax and relieve the pressure. Smoking and drinking are harmful to respiratory system and liver function.
Psychological factors.	Some university teachers' psychological quality is not high, and their psychological adjustment ability needs to be strengthened. With the gradual acceleration of the pace of work and life, and the fierce competition, the psychological pressure of the first-line teachers in colleges and universities increases, which will be manifested as anxiety, boredom, insomnia, depression and other symptoms, affecting the health of university teachers.

4. Measures to Improve the Health of University Teachers

In view of the influencing factors of first-line university teachers' health, some appropriate measures from the aspects of social environment, school environment and teachers themselves can be taken to improve the health status of first-line university teachers.

4.1. Social Environment

Relevant government departments should increase investment in higher education, improve the overall level of university teachers' salaries, ensure the material living conditions of university teachers, and reduce the economic pressure on university teachers. The government and society should improve the public's awareness of higher education, enhance the social status of university teachers, and enhance the professional satisfaction and pride of university teachers through media publicity. The government and society should guide parents to establish the concept of healthy talent, and reduce the psychological pressure of higher education teachers to educate the only child. The government and the society through the propaganda national fitness idea, creates the good physical exercise atmosphere, guides university teachers to participate in the physical exercise positively [3-5].

4.2. School Environment

The evaluation mechanism of the school, the healthy environment atmosphere of the school, and the improvement of the health management mechanism of the school on the teachers play an important role in improving the health of the first-line university teachers. In terms of school environment, measures to improve the health of university teachers are shown in Table 4 [5-7].

Table 4 The measures in terms of school environment to improve the health of university teachers.

Improving measures	Specific description
Schools should establish a scientific and	First of all, schools should establish a more scientific and reasonable evaluation mechanism within the school, combining with the actual situation of schools and teachers, set up teaching posts, research posts, teaching and

reasonable evaluation mechanism.	research posts, and reasonably stipulate the teaching assessment period, scientific research published articles and the number of scientific research projects, so as to effectively relieve the pressure of teachers' work. Second, schools should strive to improve the pay of teachers and narrow the pay gap. Schools should make teachers work in a pleasant mood and improve working conditions to help teachers work efficiently. Finally, fully listen to and accept teachers' opinions and suggestions, let teachers participate in school management and construction, become the master of the school.
Schools should improve the environment to help improve the physical condition of university teachers.	Improving the school environment is conducive to improving the physical health of university teachers, on the one hand, the school should increase the investment in gymnasiums and sports equipment, and introduce more sports items; on the other hand, it is necessary to strengthen the propaganda of sports and healthy life, such as using new media platforms such as micro-blog, wechat and traditional propaganda channels such as campus radio and television to introduce the important role of physical exercise in physical health, it is helpful for college teachers to form the habit of healthy physical exercise.
Schools should improve the health management mechanism of university teachers.	The school should regularly organize university teachers to carry out comprehensive health examination, strengthen medical supervision, establish teachers' personal health files, dynamically understand teachers' health status, and intervene in diseases as soon as possible. It is necessary to hold regular experience exchange, psychological counseling and other activities, effectively relieve the greater psychological pressure of university teachers, provide emotional and psychological protection and support for teachers, and establish a scientific and perfect psychological consultation mechanism.

4.3. Personal Aspects of University Teachers

On the personal side, to improve the comprehensive quality of university teachers themselves, to improve their diet structure, to establish a healthy lifestyle, to set up scientific fitness awareness, to strengthen physical exercise habits, to set up correct health awareness, and to improve their psychological quality, etc., can effectively improve the health of university teachers. From the personal aspect of teachers, the measures to improve the health of university teachers are shown in Table 5 [1,5-8].

Table 5 The improving measures of university teachers' health from the perspective of individual teachers.

Improving measures	Specific description
University teachers should establish a correct outlook on life, the world and values.	University teachers should have a positive and optimistic attitude towards life, love education, have high aspirations, have a correct outlook on life and the world, establish a correct outlook on values and education, and devote themselves to education. Through the exchange, study or further study inside and outside the school, can effectively improve the individual's ideological and moral cultivation and improve university teachers comprehensive quality and ability.
University teachers should improve their diet structure and cultivate healthy life style.	University teachers should develop good eating habits and avoid bad eating habits such as overeating and partial eating. University teachers should improve their diet structure, pay attention to the nutrition matching, eat less sweet, salty and greasy food, eat more vegetables and fruits rich in cellulose and vitamins, reduce the intake of fat, reduce the intake of high cholesterol, sugar and fat food. Teachers should develop regular daily life, control working hours, do not stay up late, and ensure adequate sleep. Teachers should avoid smoking and alcohol.
University teachers should set up scientific fitness	Physical exercise can improve the human body's immunity, regulate the mood and relieve the pressure. Physical exercise is not only beneficial to people's physical and mental health. Teachers should establish a scientific awareness of

consciousness and strengthen physical exercise.	fitness, through physical exercise, can exchange feelings, harmonious relations between colleagues, and enhance friendship between people. University teachers can choose their favorite or relatively easy sports activities, such as ball games, gymnastics, Taiji and so on. Teachers should actively participate in various sports competitions organized by the school.
Establishing correct health awareness, pay attention to physical examination and actively prevent diseases.	University teachers should establish correct health consciousness, make regular physical examination, prevent and treat diseases in time. Teachers should pay attention to their own health at any time to improve their understanding and attention to their own health. Teachers can classify the physical examination results over the years according to the items, make a trend chart, and make a 30% change range as an early warning line, so that teachers can know their physical conditions at a glance, actively seek medical treatment in time, and improve their health level.
Pay attention to the improvement of psychological quality and cultivate a good mood.	University teachers should always pay attention to their own psychological conditions, timely release bad emotions, and ensure mental health. University teachers should actively adapt to various social changes and constantly improve their psychological quality. University teachers should learn to adjust their emotions, properly understand the knowledge of pedagogy and psychology, master the basic skills of controlling emotions, and be familiar with various skills of improving personality, so as to maintain a good mood in the complicated interpersonal relationship and heavy teaching and research work.

5. Conclusion

University teachers are the core force of talent cultivation, scientific research and social service. The health condition of university teachers is the basis and guarantee. Effective measures can be taken to improve the health of teachers from the aspects of government, society, colleges and universities, and teachers themselves [7-8]. In terms of government society, positive measures can be taken to improve the health of university teachers in terms of guiding the treatment of university teachers' policies and publicizing health opinion. In colleges and universities, measures can be taken from the following aspects to improve the health of university teachers: improve the teachers' performance assessment system, create a relaxed and harmonious working environment atmosphere, and reduce teachers' work pressure; take teacher health work as an important part of the construction of university teachers, establish teachers' health files, conduct regular physical health checks on teachers, and conduct extensive health education to promote teachers to form a scientific concept of health; create a physical fitness environment and enhance teachers' physical fitness awareness. In teachers themselves, taking measures from the following aspects can improve teacher health: establish a correct world outlook, outlook on life and values, continuously improve their overall quality and ability, and face various pressures and dilemmas with a positive attitude; establish a concept of health and actively carry out self-protection, formulate scientific and reasonable work and rest time, reasonable diet, and participate in appropriate cultural and sports activities.

Acknowledgements

This work was financially supported by undergraduate education research and reform project of Tianjin Agricultural University fund (2018-A-25).

References

- [1] C.Z.Zeng, Journal of Beijing Sport University, Vol.30(2007) No.5,p.618.
- [2] J.J.Su, D.Q.Zhang, The Chinese Journal for the History of Science and Technology, Vol.37(2016) No.4,p.485.

- [3] S.Qiu, L.Liu, Y.Pei and Z.J.Liu, Journal of Liaoning Medical University (Social Science Edition),Vol.12(2014) No.2,p.63.
- [4] M.X.Sun, Q.Y.Ma, Journal of University of Science and Technology Liaoning,Vol.34(2011) No.6,p.665.
- [5] K.Wang, Journal of Hubei Open Vocational College, Vol.32(2019) No.3,p.33.
- [6] C.Shu, *The analysis of physical condition of teachers and Countermeasure of health promotion in Harbin Engineering University*,(MS.,Harbin Engineering University, China 2015), p.17.
- [7] A.W.Cun, *An investigation on Common Chronic Disease Prevalence and Health Management Countermeasures of College Teachers*,(MS.,Tianjin University, China 2015), p.42.
- [8] M.Q.Xi, T.Y.Leng, Journal of Educational Institute of Jilin Province,Vol.27(2011) No.8,p.137.