

Research on the Relationship between Mental Health and Occupational Mission of Medical Students from the Perspective of Sense of Meaning in Life

Zhicheng Guo, Yasi Tang*, Yunhuan Zhao, Xuchen Wang

The First Affiliated Hospital of Kunming Medical University, Kunming, 650032, Yunnan, China

*Corresponding author

Abstract: This study aims to explore the relationship between the psychological health, sense of meaning in life, and sense of professional mission of medical students, and to preliminarily analyze the potential mechanism of the role of sense of meaning in the correlation between psychological health and professional mission. It provides theoretical basis and practical reference for psychological health intervention and professional mission cultivation in medical education. The study used a cross-sectional questionnaire survey method to select 321 undergraduate students majoring in medicine from a certain university. A structured questionnaire based on the core content of the standard scale was developed to evaluate their mental health status, level of sense of meaning in life, and perception of professional mission. Data analysis includes descriptive statistics and preliminary correlation tests. The results showed that the overall mental health level of medical students is in a moderate preference state, with relatively prominent experiences of anxiety and learning pressure; the level of sense of meaning in life is relatively high, and most students actively identify with their personal life values and explore life goals. There is a positive correlation trend between mental health, sense of meaning in life, and sense of professional mission. Research suggests that a good mental health state may enhance a sense of meaning in life and further strengthen a sense of professional mission, but the specific mediating mechanism still needs to be further studied and verified in the future. Medical education should attach importance to promoting mental health, cultivating a sense of meaning in life, and shaping a sense of professional mission, in order to help medical students develop comprehensive qualities and psychological literacy.

Keywords: Mental Health, Sense of Meaning in Life, Sense of Professional Mission, Medical Students

1. Introduction

Medical students, as the backbone of the future healthcare industry, not only bear the learning task of mastering professional knowledge and skills, but also need to face multiple challenges such as heavy academic pressure, adaptation to complex clinical environments, and uncertain career prospects. Numerous studies have shown that medical students generally have lower levels of mental health than students in other majors, and negative psychological experiences such as anxiety, depression, and perceived academic stress are more common[1]. If effective intervention is not received for a long time, it may not only affect academic performance and interpersonal relationships, but also lead to job burnout and reduced empathy in future practice, thereby endangering the health of patients and the quality of medical services [2].

At the same time, the sense of professional mission, as an individual's recognition of the social value, significance, and sense of responsibility of their profession, is a core psychological trait in the career development process of medical students. A sense of professional mission can motivate medical students to maintain a positive and proactive attitude and firm willingness to practice in the face of high-pressure, complex, and even challenging medical environments. Previous studies have shown that individuals with good mental health are more likely to form a stable professional identity and sense of mission [3].

In addition, in recent years, the perspective of positive psychology has emphasized that the sense of meaning in life, as an individual's profound experience of life purpose, value, and direction, is not only an important psychological resource for coping with stress, but also a key factor in promoting career development motivation [4]. A fulfilling sense of meaning in life can not only buffer negative emotions,

but also inspire lasting professional commitment and intrinsic motivation by endowing professional behavior with higher levels of meaning.

In summary, there may be a close dynamic relationship between mental health, sense of meaning in life, and sense of professional mission. The purpose of this study is to explore the current status of medical students' mental health level, sense of meaning in life, and sense of professional mission through questionnaire survey data, and to preliminarily analyze their interrelationships, in order to provide empirical evidence and practical inspiration for the cultivation of psychological support and professional ethics in the medical education system.

2. Research methods

2.1 Research design

This study adopts a cross-sectional study design to collect data on the psychological health level, sense of meaning in life, and sense of professional mission of medical students through questionnaire surveys, in order to explore the relationship between the three. The research focuses on quantitative research, combined with descriptive and inferential statistical methods for data analysis.

2.2 Research object and sample source

The research subjects are undergraduate students enrolled in a medical college, covering majors such as anesthesiology, pediatrics, medical imaging, medical imaging technology, optometry, and clinical medicine. A cluster sampling method was used to organize the survey, and 321 valid questionnaires were collected. All participants are voluntary and anonymous, in compliance with ethical requirements.

Inclusion criteria: Full time undergraduate medical students registered on campus; Have basic reading comprehension skills and be able to independently complete questionnaires; Agree to voluntarily participate in the research.

Exclusion criteria: Invalid questionnaires with a data missing rate exceeding 10%; An answer sheet with obvious logical errors or randomly filled in.

2.3 Research tools

This study designed a structured self-designed questionnaire based on actual assessment needs, which includes three modules: mental health, sense of meaning in life, and sense of professional mission. Each module adopts a 5-point scoring system (1=never/strongly disagree, 5=always/strongly agree), as follows:

Psychological health assessment section: Set up core psychological experience items such as anxiety, low mood, physical fatigue, and learning pressure to reflect the current psychological health status of the subjects. The scale was developed based on some symptom dimensions of SCL-90, with a total of 10 questions.

The section on assessing the sense of meaning in life: Set items around the sense of life goals, sense of life value, and cognition of life meaning, and refer to the core content of the Purpose in Life Test (PIL) to develop a total of 10 questions to evaluate students' cognitive level of life meaning and goals.

Professional mission assessment section: Set up projects related to professional identity, social responsibility, and motivation to help others, with a total of 6 questions, to evaluate the value recognition and sense of responsibility level of medical students towards the medical profession.

The overall structure of the questionnaire has been preliminarily reviewed by experts, and the content validity is good. The internal consistency reliability test showed that the Cronbach's alpha coefficients of the modules of mental health, sense of meaning in life, and sense of professional mission were all greater than 0.8, indicating good internal consistency.

2.4 Data collection process

The data collection is conducted through a unified electronic questionnaire platform, with links sent through channels such as class groups and on campus notifications. Participants are required to fill out

and submit the questionnaire within the specified time while ensuring anonymity and voluntary participation. To ensure data quality, set logical consistency checks and minimum answer time limits.

2.5 Data processing and statistical methods

After data entry and cleaning, statistical analysis was performed using SPSS 26.0 software. Firstly, conduct descriptive statistical analysis to calculate the demographic characteristics of the sample (gender, professional distribution) and the mean and standard deviation of each psychological measurement module (mental health, sense of meaning in life, sense of professional mission), in order to gain a preliminary understanding of the overall distribution characteristics. To test the internal consistency of each module in the questionnaire, Cronbach's alpha coefficient was used for reliability analysis. The results showed that the reliability coefficients of each module were all greater than 0.8, indicating that the questionnaire has good internal consistency. To explore the correlation between mental health level, sense of meaning in life, and sense of professional mission, Pearson correlation analysis was used for preliminary testing. Due to the lack of specific correlation coefficients (r values) and significance levels (p values) in this study, the correlation conclusions need to be interpreted with caution, and the results are only used as trend references. All statistical tests are two-sided tests, with a significance level of $\alpha=0.05$.

3. Data analysis and results

3.1 Basic characteristics of the sample

This study collected a total of 321 valid questionnaires, including 115 males (35.83%) and 206 females (64.17%), with a gender distribution characterized by a higher proportion of females. The professional distribution covers anesthesia, pediatrics, medical imaging, medical imaging technology, optometry, and clinical medicine, among which medical imaging majors have the largest number of students, accounting for 31.15% of the total sample. From the perspective of grade distribution, the sample covers the first to third year stages and has a certain level of representativeness. Overall, this sample can well reflect the basic characteristics of undergraduate students in current medical colleges.

3.2 Analysis of mental health status

According to the evaluation results of the mental health module, the overall mental health level of medical students is in a moderate preference state. Specifically, negative experiences such as anxiety (mean 2.41), low mood (mean 2.27), physical fatigue (mean 2.45), and academic stress (mean 2.43) are relatively prominent. Although the overall score did not meet the clinical criteria for severe psychological problems, persistent emotional stress and physical and mental fatigue experiences may evolve into risk factors for psychological disorders during future academic or clinical internships. This result is consistent with multiple research findings on the current state of mental health among medical students both domestically and internationally.

3.3 Analysis of the level of meaning in life

The evaluation results of the life meaning module show that the overall level of life meaning among medical students is relatively high, with the mean of core items concentrated in the range of 3.81 to 3.96, close to the level of "agreement". The vast majority of students agree with statements such as 'my life is valuable' and 'I am striving to find a purpose in life', reflecting the positive attitude of the medical student community towards the meaning of personal life and social value in cognition. This higher level of sense of meaning in life may be closely related to the professional attributes of medical professions that emphasize rescuing others and taking social responsibility [4].

3.4 Analysis of professional sense of mission level

The evaluation results of the professional mission module indicate that medical students hold a positive attitude towards the overall medical profession. The mean values of various indicators are between 3.6 and 4.1, indicating that the majority of students agree that "the medical profession is an important way to achieve self-worth" and demonstrate strong motivation to help others and a sense of social responsibility. Especially in the project "Engaging in the medical profession and making positive

contributions to society", the highest score indicates that medical students generally have a strong sense of public service and professional responsibility [5].

3.5 Correlation analysis

The preliminary correlation analysis results show that there is a positive correlation trend between the mental health level of medical students and their sense of meaning in life and career mission, and there is also a positive correlation between their sense of meaning in life and career mission. Due to the lack of specific correlation coefficients (r-values) and significance test results (p-values) in this study, the correlation conclusions need to be interpreted with caution. A good psychological state may enhance the sense of meaning in life and further promote the formation of a sense of professional mission, but the specific relationship mechanism still needs further in-depth research to verify [6].

3.6 Differential test

This study initially observed a higher proportion of females in the sample, with a larger proportion of students majoring in medical imaging. However, based on current data, it is not yet possible to determine whether there are significant differences in the levels of mental health, sense of meaning in life, and sense of professional mission among students of different genders or professional backgrounds. Relevant conclusions need to be further validated through systematic statistical analysis in the future.

4. Discussion

4.1 Psychological health status of medical students and its impact on their sense of professional mission

This study found that the overall mental health level of medical students is in a moderate preference state, with relatively prominent experiences of anxiety, physical fatigue, and academic stress. Consistent with similar research results both domestically and internationally, medical students are prone to emotional distress and physical and mental fatigue due to their heavy academic workload and clinical internship pressure. The mental health status not only directly affects academic performance and individual well-being, but may also play a profound role in career development. A good level of mental health can help promote the formation of professional identity, social responsibility, and career mission, while psychological distress may weaken an individual's career commitment and professional development motivation.

4.2 The connection between sense of meaning in life and sense of professional mission

The research results show that medical students have a high level of overall sense of meaning in life, and most students actively identify with the value and goals of their personal lives. This result is consistent with the theoretical viewpoint of Wang Shutong (2021), that is, the higher the individual's level of sense of meaning in life, the stronger their psychological resilience and professional commitment [3]. For medical students, a clear sense of life goals and social value cognition not only helps to alleviate the stress experience during vocational training, but also continuously stimulates the motivation to help and professional enthusiasm in the process of career development. A high sense of meaning in life can be seen as an important internal psychological resource for enhancing a sense of professional mission.

4.3 Exploration of the relationship between mental health, sense of meaning in life, and sense of professional mission

The preliminary correlation analysis of this study suggests that there is a positive correlation trend between mental health level, sense of meaning in life, and sense of professional mission. A good mental health state may indirectly enhance an individual's sense of meaning in life and further strengthen their sense of professional mission by promoting positive emotional experiences and improving situational coping abilities. This speculation is consistent with the perspective of positive psychology on the theory of positive emotion meaning construction. Future research can use longitudinal design or path modeling to further verify the mechanistic relationship between mental health, sense of meaning in life, and sense of professional mission.

4.4 Preliminary observation of gender and professional differences

The preliminary observation of this study found that the proportion of women in the sample was relatively high, with a large proportion of students majoring in medical imaging. Previous studies have suggested that gender and professional background may have a certain impact on the development of mental health status, life meaning experience, and professional identity. For example, female students usually score higher in emotional sensitivity and social responsibility dimensions, and their level of career mission may also vary among different majors due to differences in educational content and career expectations. In the future, the sample size should be expanded to systematically compare the differences in psychological characteristics between different groups.

4.5 Implications for educational intervention

Hu Deying (2022) pointed out that targeted mental health promotion and positive psychological intervention measures can effectively enhance the emotional regulation ability and overall psychological literacy of medical students. Based on the results of this study, it is recommended that the medical education system further strengthen the content of mental health education on the basis of existing courses, establish specialized modules on exploring the meaning of life and cultivating a sense of professional mission, and combine diversified methods such as group psychological counseling, professional role experience, and social practice activities to help medical students build a good psychological support system, stabilize their career development motivation, and promote their comprehensive development of physical, mental, and professional qualities.

5. Future work ideas

5.1 Strengthen the construction of psychological health support system for medical students

It is recommended to integrate mental health education into the entire process of medical talent cultivation, regularly organize mental health surveys and risk screenings, and implement targeted psychological interventions for prominent issues such as anxiety and learning pressure. Diversified psychological promotion methods such as emotion regulation training and cognitive-behavioral therapy (CBT) group counseling can be introduced to enhance the ability of medical students to cope with stress and setbacks, and prevent the occurrence of psychological disorders [6].

5.2 Promote the integration of education on the meaning of life into the curriculum system

On the basis of professional knowledge cultivation, exploration of the meaning of life, humanistic medicine, and professional ethics education should be integrated to systematically guide students to think about their personal life values and professional responsibilities, enhance their sense of meaning in life, and stimulate their internal professional motivation [7]. It is recommended to adopt experiential teaching methods such as case analysis, interview communication, and social practice to enhance students' deep experience and cognition of constructing the meaning of life.

5.3 Systematically cultivate medical students' sense of professional mission

Through career planning guidance, sharing stories of outstanding doctors and clinical practice experiences, etc., the system strengthens medical students' understanding of the social value and personal professional identity of the medical profession. Attention should be paid to the continuous cultivation of professional mission throughout the entire process from freshman enrollment to clinical internship, helping students form positive, stable, and sustainable career development goals and commitments at different stages [8].

6. Research limitations and future prospects

This study adopts a cross-sectional design to reveal the preliminary relationship between medical students' mental health, sense of meaning in life, and sense of professional mission, but cannot infer causal relationships. The sample comes from a single institution with a limited sample size, which may affect the external validity and generalizability of the results. Future research can adopt a longitudinal tracking design to dynamically examine the trajectory of changes in mental health, sense of meaning in

life, and sense of professional mission, and combine advanced statistical methods such as structural equation modeling (SEM) and multilevel linear modeling (HLM) to systematically explore the mediating and moderating mechanisms between variables, further enriching the empirical research system of mental health promotion and career development theory [9].

7. Conclusion

This study is based on 321 medical student questionnaire data, and comprehensively analyzes the current situation and correlation of mental health, sense of meaning in life, and sense of professional mission. The following conclusions are drawn:

(1) The overall mental health level of medical students is in a moderate preference state, with relatively prominent experiences of anxiety, physical fatigue, and learning pressure. The demand for mental health support urgently needs to be strengthened.

(2) Medical students have a high level of overall sense of meaning in life, generally recognizing the important value of personal life and actively exploring life goals, providing them with positive psychological resources to cope with career challenges.

(3) Medical students have a high level of overall professional mission, demonstrating strong motivation to help others, social responsibility, and medical professional identity, reflecting the positive effects of medical education in shaping professional values.

(4) There is a positive correlation trend between mental health level, sense of meaning in life, and sense of professional mission, indicating that a good psychological state may further promote the formation of a sense of professional mission by enhancing the sense of meaning in life. However, the specific mediating mechanism still needs further in-depth research and verification.

(5) Individual characteristics such as gender and professional background may have a moderating effect on the development of mental health and occupational mission. In the future, larger sample and multi center studies are needed to further clarify the relevant differences.

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