

---

# iscte

INSTITUTO  
UNIVERSITÁRIO  
DE LISBOA

---

## **Professional Self-Identity in Medical Students and Workplace Range: A Survey of Guangzhou Medical School**

SIYING ZHANG

Master's in Business Administration

Supervisor:

Henrique Martins, MD, PhD, MLaw, FIAHSI

Associate Professor in Health Management and Leadership at FCS-UBI and ISCTE-IUL

November 2021

---

# iscte

BUSINESS  
SCHOOL

---

Department of Marketing, Strategy and Operations

## **Professional Self-Identity in Medical Students and Workplace Range: A Survey of Guangzhou Medical School**

SIYING ZHANG

Master's in Business Administration

Supervisor:

Henrique Martins, MD, PhD, MLaw, FIAHSI

Associate Professor in Health Management and Leadership at FCS-UBI and ISCTE-IUL

November 2021

---

## Abstract

**Background:** Research finds that medical students in different schools have different professional identity. Therefore, it is necessary to explore professional identity of medical students.

**Objective:** To explore the influencing factors of medical students' professional identity and the relationship between professional cognition, emotion, commitment, expectation, behavior and values and professional identity.

**Methods:** Literature Review, Questionnaire Survey, Structural Equation Model, Statistical Analysis

**Results:** (1) The overall score of medical students' professional identity is 3.86 points (Full score of 5). (2) The factors that have a significant impact on professional identity of medical students include academic qualifications, school, first choice for college entrance examination, and reasons for studying medicine. (3) Six factors explaining medical students' professional identity are professional behavior, emotion, value, cognition, expectation, and commitment from high to low.

**Conclusion:** The main factors that constitute the professional identity of medical students are professional cognition, professional emotion, professional behavior, professional commitment, professional expectation, and professional value. And the biggest influencing factor is professional behavior. To enhance professional identity of medical students, we propose countermeasures from the three perspectives of the Chinese government, medical schools and hospitals. The Chinese government should increase investment in working conditions of doctors and improve relevant laws and regulations. Medical schools need to pay attention to guidance and reform the medical curricula. Hospitals need to establish better medical environments and attach importance to the psychological state of medical students.

**Keywords:** Medical Students; Professional Identity; Influencing Factors

---

## Resumo

**Contexto:** Força de reserva da equipa clínica, a identidade profissional dos estudantes de medicina afeta a qualidade do corpo clínico e o desenvolvimento médico futuro. Portanto, é necessário explorar a sua identidade profissional.

**Objetivo:** Explorar os fatores de influência da identidade profissional dos estudantes de medicina e a relação entre cognição, emoção, compromisso, expectativa, comportamento, valores e a identidade profissional.

**Métodos:** Revisão de Literatura, Pesquisa de Questionário, Modelo de Equação Estrutural, Análise Estatística.

**Resultados:** (1) A pontuação geral da identidade profissional dos estudantes de medicina é 3,86 (pontuação máxima 5). (2) Os fatores que mais influenciam a identidade profissional dos estudantes de medicina incluem qualificações acadêmicas, escola, primeira escolha no exame nacional e motivação de estudo. (3) Os seis fatores de influência são, por ordem decrescente, comportamento, emoção, valor, cognição, expectativa e compromisso profissionais.

**Conclusão:** Os principais fatores que constituem a identidade profissional dos estudantes de medicina são cognição, emoção, comportamento, compromisso, expectativa e valor profissionais. O maior fator de influência é o comportamento profissional. Para reforçar a identidade profissional dos estudantes de medicina, propomos contramedidas a partir de perspectivas do governo chinês, dos institutos de medicina e dos hospitais. O governo chinês deve aumentar o investimento nas condições de trabalho dos médicos e aperfeiçoar os relativos leis e regulamentos. Os institutos de medicina devem aprimorar a orientação e reformar os currículos médicos. Os hospitais devem melhorar o ambiente médico e dar importância ao estado psicológico dos estudantes de medicina.

**Palavras-chave:** Estudantes de Medicina; Identidade Profissional; Fatores de Influência.

---

## General Index

Abstract .....	I
Resumo .....	II
General Index .....	III
List of Tables and Figures .....	V
Glossary of Acronyms.....	VI
Chapter I Introduction.....	1
1.1 Research Background .....	1
1.2 Research Purpose .....	2
1.3 Research Questions .....	2
1.4 Research Methods .....	3
1.4.1 Literature Review.....	3
1.4.2 Questionnaire Survey.....	3
1.4.3 Statistical Analysis .....	3
1.4.4 Structural Equation Model.....	4
1.5 Thesis Structure.....	4
Chapter II Literature Review .....	6
2.1 Concept Definition.....	6
2.1.1 Definition of Professional Identity.....	6
2.1.2 Definition of Professional Identity of Medical Students .....	6
2.2 Current Research Status of Medical Students' Professional Identity of China and Countries Outside of China .....	6
2.2.1 Current Status of Research in China .....	6
2.2.2 Current Status of Research in Countries Outside of China.....	12
2.2.3 Summary .....	14
Chapter III Research Design.....	16
3.1 Research Design Method .....	16
3.1.1 Questionnaire Design Stage .....	16
3.1.2 Questionnaire Survey Stage.....	16

---

3.1.3 Data Collation Stage .....	17
3.2 Questionnaire Content .....	17
3.3 Reliability and Validity Analysis of Questionnaire.....	20
3.3.1 Reliability Analysis .....	20
3.3.2 Validity Analysis .....	21
Chapter IV Research Results .....	25
4.1 Basic Situation .....	25
4.2 Descriptive Analysis .....	26
4.3 Analysis of Related Factors .....	27
4.4 Six-Dimensional Analysis of Professional Identity .....	35
Chapter V Discussion.....	40
5.1 The Overall Situation of Medical Students' Professional Identity.....	40
5.2 Influencing factors of Medical Students' Professional Identity .....	40
6.3 Six-Dimensional Analysis of Professional Identity .....	44
Chapter VI Conclusions and Recommendations .....	46
6.1 Conclusion .....	46
6.2 Recommendations.....	46
6.2.1 Chinese Government increases investment in working conditions of doctors and improves relevant laws and regulations .....	47
6.2.2 Medical Schools pays attention to guidance and reforms the medical curricula .....	48
6.2.3 Hospital establishes better environment for medical treatment and attaches importance to the psychological state of medical students .....	49
6.3 Research limitations and Prospects.....	50
References.....	51
Annex.....	55

---

## List of Tables and Figures

Table 3-1 Reliability Analysis.....	21
Table 3-2 Each Index Standard of Confirmatory Factor .....	21
Figure 3-1 Theoretical Model of Medical Students' Professional Identity.....	22
Table 3-3 Convergence Validity Analysis Results of Each Latent Variable.....	23
Table 3-4 Correlation Coefficient Level AVE Square Root Matrix Table Among Various Latent Variables.....	24
Table 4-1 Basic Information of Survey Subjects (N=1112).....	25
Table 4-2 The Scores of Various Dimensions And Specific Items of Medical Students' Professional Identity ( $\bar{x} \pm s$ ) .....	26
Table 4-3 Comparison of Various Dimensions of Professional Identity in "Gender".	27
Table 4-4 Comparison of Various Dimensions of Professional Identity in "Educational Background ".....	28
Table 4-5 Comparison of various dimensions of professional identity in "School"...	29
Table 4-6 Comparison of Various Dimensions of Professional Identity in "Major"...	32
Table 4-7 Comparison of Various Dimensions of Professional Identity in "Is Medicine The First Choice?" .....	33
Table 4-8 Comparison of Various Dimensions of Professional Identity in the "Reason For Choosing Medicine" .....	34
Table 4-9 Summary of Structural Equation Model Fitness Parameters .....	36
Figure 4-1 The Initial Model of Medical Students' Professional Identity.....	37
Table 4-10 Summary of Structural Equation Model Adaptation Parameters (after revision) .....	38
Figure 4-2 The Structural Equation Model Diagram of the Final Professional Identity of Medical Students.....	39

---

## **Glossary of Acronyms**

AGFI	Adjusted Goodness of Fit Index
AVE	Average Variance Extraction
CFI	Comparative Fit Index
CMIN/DF	Chi-Square Degree of Freedom
GFI	Goodness of Fit Index
GMU	Guangzhou Medical University
GUCM	Guangzhou University of Traditional Chinese Medicine
ICWM	Integrated Chinese and Western Medicine
IFI	Increment Fit Index
JNU	Jinan University
NFI	Normed Fit Index
PCFI	Parsimony Comparative Fit Index
PGFI	Parsimony Goodness Fitting Index
PNFI	Parsimony Normed Fit Index
Q1	Question One
Q2	Question Two
Q3	Question Three
Q4	Question Four
Q5	Question Five
Q6	Question Six
Q7	Question Seven
RMSEA	Root Mean Square Error of Approximation
SCUT	South China University of Technology
SMU	Southern Medical University
SRMR	Standardized Root Mean Square Residual
SYSU	Sun Yat-Sen University
TCM	Traditional Chinese Medicine



---

# Chapter I Introduction

## 1.1 Research Background

As the reserve force of the clinical team, medical students are an important part that cannot be ignored as the main force of the country's medical and health undertakings in the future (Tian, 2019). The professional identity of medical students is a psychological synthesis process of cognition, emotion and behavioral tendency, and its ultimate direction is clinical medical practice behavior (Ye, 2014). Chen et al. (2014) showed that the degree of professional identity of medical students directly affects their learning enthusiasm, professional loyalty, motivation, sense of accomplishment and professionalism (Chen et al., 2014). A high professional identity can inspire people to devote themselves to work and do their best. The professional identity of medical students will directly affect their future career development, the training of talents in medical schools, the quality of the clinical team, and the smooth implementation of the "Healthy China" strategy.

Despite the improvement of medical facilities, the professional environment of physicians is still hard. In 2019, there were as many as 18,112 cases of medical damage liability disputes nationwide. According to the 2018 "White Paper on the Practice of Chinese Physicians" by the Chinese Medical Doctor Association, 62% of physicians still believe that the professional environment has not improved, and 50% believe that their work has not been recognized by the society (J. Wu, 2018). The general public's understanding of doctors is mostly through the media. Media reports are not objective enough, and most of them are events that are unfavorable to the doctor-patient relationship. An harmonious doctor-patient relationship is rarely reported. To a certain extent, the doctor-patient relationship is strained. This is likely to cause conflicts between doctors and patients, which not only affects the doctors' treatment process, but also interferes with the doctor's life and work. The poor professional environment of doctors directly leads to the decrease of the public's trust in doctors and the decline of doctors' social status ( Wu

---

et al., 2017). The deeper impact is increasing the confusion with the medical students in the reserve army of the teams, reduce their sense of professional identity, and shake the perseverance of dedicating themselves to a medical career in the future. Compared with developed countries abroad, China's medical industry has some lagging behind. If it is further affected, it may hinder the development of China's medical and health services, thereby affecting the quality of health care enjoyed by the people across the China.

Therefore, in face of complex and difficult doctors' professional environment, it is necessary to understand the professional identity of medical students. Based on the situation of medical students in Guangzhou, this article explains the current status of medical students' sense of professional identity, and provides a scientific reference for the Chinese government, medical schools and hospitals to formulate policies.

## **1.2 Research Purpose**

Analyze the current situation of Guangzhou medical students' professional identity, explore the influencing factors and the relationship between professional cognition, professional emotion, professional commitment, professional expectation, professional behavior and professional values and professional identity, in order to provide a scientific reference for improving the professional identity of medical students.

## **1.3 Research Questions**

- (1) Development of the professional identity scale for medical students
- (2) Discussion on the influencing factors of medical students' professional identity
- (3) Exploration of the dimensions of medical students' professional identity
- (4) Research on countermeasures against the status quo of medical students' professional identity

---

## 1.4 Research Methods

### 1.4.1 Literature Review

Literature review includes access to relevant books, papers, websites and other forms of literature in databases such as CNKI , Wanfang Database, PubMed, Science Citation Index Expanded. Literature review is used to extensively search related literature, review related literature, and become familiar with the content of medical students' professional identity, establish the research framework, clarify the deficiencies of existing research in this field, sort out relevant theoretical basis and methods, propose the necessity of this research, and provide a theoretical basis for subsequent research through the analysis of existing literature .

### 1.4.2 Questionnaire Survey

Questionnaire surveys are a way to obtain first-hand data, which can ensure the authenticity and reliability of empirical research. On the basis of sorting out relevant literature, this study uses reliable and valid scales, and according to the basic principles of questionnaire research, prepares the first draft of the questionnaire. In addition, a pre-survey, was used to optimize the questionnaire, modify it and improve the validity, reliability and ease of answering the questionnaire. Six colleges and universities in Guangzhou were selected to issue questionnaires to investigate medical students' current views on the content of their professional identity, in order to obtain survey data, empirical analysis, and verify the proposed hypotheses and models. The questionnaire is divided into two parts. The first part is the demographic characteristics variables, including gender, age, educational background and other variables. The second part is the professional identity questionnaire, which measures the status quo of medical students' professional identity.

### 1.4.3 Statistical Analysis

Use SPSS software to carry out descriptive analysis and analysis of related factors to study

---

the relationship between variables.

**Descriptive Analysis:** “mean  $\pm$  standard deviation” is used to describe the basic situation of each dimension of the current professional identity of medical students in Guangzhou.

**Related Factor Analysis:** use T Test, One-Way Analysis of Variance, Non-Parametric Test to analyze the influence of factors such as gender, major, education background, whether the college entrance examination is the first choice, reason for choosing medical and school on medical students' professional identity. In addition,  $P < 0.05$  is considered statistically significant.

#### 1.4.4 Structural Equation Model

Use AMOS software to check the structural equation model of the overall model, and explore the influence of various dimensions on professional identity. Structural equation model (SEM) is suitable for analyzing the relationship between multiple indicators.(M. Wu, 2010) Variables directly observed in SEM become observed variables, and variables that cannot be directly observed become latent variables. A structural model includes a measurement model and a structural model. The measurement model describes how latent variables are measured relative to the observed variables; and the structural model refers to the relationship between latent variables. This method is used to determine the relationship between professional identity and professional cognition, professional emotion, professional behavior, professional expectation, professional commitment and professional value.

### 1.5 Thesis Structure

There are six chapters in this thesis, and the specific content is as follows:

Chapter I, introduction, explains the research background, research purpose, research content, research method and thesis framework of this article.

Chapter II, literature review, by defining the concepts of professional identity and medical students' professional identity, the status quo of research of China and countries outside of China on professional identity of medical students has laid the foundation for the smooth and in-depth development of this research.

---

Chapter III, research and design, determines the content of the questionnaire and designs the questionnaire through literature research and other methods, and then determines the 6 medical schools in Guangzhou as the research object, distributes the questionnaire to obtain research data about the basic situation of medical students and their professional identity.

Chapter IV, research results, uses SPSS software to conduct descriptive analysis of data and analysis of related factors, and uses AMOS.21 software to build a structural equation model to study the impact of the six dimensions of professional cognition, professional emotion, professional commitment, professional behavior, professional expectations, and professional values on professional identity.

Chapter V, discussion, mainly discusses the results of analysis of related factors.

Chapter VI, conclusions and recommendations, summarize this research, point out the theoretical contribution of the research, put forward countermeasures and suggestions to improve the professional identity of medical students from the three levels of the Chinese government, medical schools, and hospitals, and point out the limitations of the research and next steps.

---

## **Chapter II Literature Review**

### **2.1 Concept Definition**

#### **2.1.1 Definition of Professional Identity**

Professional identity refers to a state. In a dynamic process, at each point in time, different factors may lead to an increase or decrease in professional identity. Zhang Lili (2010) believes that professional identity refers to the individual's general view of the occupation's goals, social values and other factors, and the individual's view of the "basic characteristics" of the occupation (Zhang, 2010). Professional identity is a combination of process and state, a process of gradual cognition in the work, which will eventually form a state of cognition.

#### **2.1.2 Definition of Professional Identity of Medical Students**

The professional identity of medical students refers to the perception and recognition of medical students as a profession in the process of learning. The specific dimensions include professional cognition, professional emotion, professional behavior, professional expectations, professional commitment and professional values. Dimension.

### **2.2 Current Research Status of Medical Students' Professional Identity of China and Countries Outside of China**

#### **2.2.1 Current Status of Research in China**

The research on the professional identity of medical students in China started relatively late, and Li (2005) first proposed the importance of strengthening the professional identity of medical students (Li, 2005). Qiu (2008) used a questionnaire to interpret the professional identity of medical students for the first time, and came to the conclusion that "the survey found

---

that there is still a large number of medical students whose professional awareness is still at a loss and needs to be cultivated" (Qiu, 2008).

Since then, there have been more and more researches on the professional identity of medical students, mainly in the following aspects:

### **(1) Research on the Status Quo of Medical Students' Professional Identity**

Most studies show that the current medical students' sense of professional identity is not high, and they have doubts about the idea of doctors as their lifelong profession.

Zhao et al. (2014) took clinical medical students internships in hospitals as the research objects, and the results showed that the status quo of medical students' career planning and employment willingness is not optimistic ( Zhao et al., 2014).

He et al. (2010), Zhang (2010), Zhang et al. (2016), Deng et al. (2017), Wu et al. (2017), Tian et al. (2019), Shu et al. (2019) and Liu et al. (2019) show that the level of professional identity of medical students is generally better (Deng & Wang, 2017; He et al., 2017; Liu et al., 2019; Shu et al., 2019; Tian, 2019; Wang et al., 2018; Wu et al., 2017; Zhang, 2010; Zhang & Ma, 2016).

In the six dimensions of the professional identity scale, professional cognition, professional emotion, professional behavior, professional commitment, professional expectation and professional value, established by Zhang (2010), Zhang (2010), Deng et al. (2017), Wang et al. (2018), Tian (2019) and Liu et al. (2019) research results show that the score of professional value is higher while the score of professional cognition is the lowest in most studies (Deng & Wang, 2017; Liu et al., 2019; Tian, 2019; L. Wang et al., 2018; Zhang, 2010). It shows that medical students recognize the value of the doctor as a profession, but there is still confusion due to insufficient understanding.

### **(2) Research on the Influencing Factors of Medical Students' Professional Identity**

The current research is divided into two categories. One is the research on the medical practice environment. A poor practice environment will affect the professional identity of medical students and cause medical students to worry about career choices. Most of the research focuses on the doctor-patient relationship. And part of the research focus on the medical and

---

health security system, the severe employment situation, the unequal pay and gain, and the medical environment. The other is to study the factors in the learning process, including grade level, whether to serve as a student leader, part-time experience, learning environment, school system, whether medicine is the first choice for college entrance examination and so on.

Huang et al. (2019) found that medical students' understanding of the doctor-patient environment is limited. Most of them know the status of doctors and patients through media, social rumors, and descriptions of elders. At the same time, schools and teachers have insufficient guidance for medical students on how to deal with the doctor-patient relationship (Huang & He, 2019b, 2019a). Huang et al. (2019) and Zhao et al. (2016) believe that social media has less positive responses to the status quo of the doctor-patient relationship (Huang & He, 2019b, 2019a; Zhao et al., 2016). Zhao et al. (2016) showed that bad doctor-patient incidents make medical students feel that they do not receive the respect and trust they deserve ( Zhao et al., 2016). Ye (2014) and Zhang (2014) believe that the strained doctor-patient relationship makes medical students feel that occupational risks and psychological pressure are increased, and the sense of responsibility and mission to dedicate themselves to the medical career are reduced (Ye, 2014; Zhang, 2014). Zhang (2014) researched that the stressful doctor-patient relationship medical staff job burnout, medical students can clearly feel the job burnout of medical staff through a series of channels such as clinical internships and internships, and their sense of professional identity will also decrease ( Zhang, 2014).

The research results of Chen et al. (2013) and Ye (2014) show that most of the negative influence factors that exacerbate the contradiction between doctors and patients and deteriorate the medical environment are due to the unreasonable medical and health security system (C. Chen & Lin, 2013; Ye, 2014). The research of Chen et al. (2013) also shows that the allocation of health resources in China is unreasonable, especially the perfect equipment of small hospitals and the imperfect hospital management mechanism, which greatly affects the improvement of the medical environment, thereby reducing the sense of professional identity ( Chen & Lin, 2013). Lei et al. (2009) and Chen et al. (2013) believe that severe employment forms will affect the professional identity of medical students, because most medical students hope to enter a



---

large hospital after graduation. However, the situation that the supply of ideal positions cannot meet the demand makes many students feel confused, irritable, and even disillusioned, and will have the idea of regretting choosing a medical major (Chen & Lin, 2013; Lei et al., 2009).

A study by Chen et al. (2014) shows that in reality, the serious imbalance between the high-intensity work of doctors and the low benefits of the treatment will cause medical students to question the professional value and expectations, and then the professional identity will decline (Chen et al., 2014).

Shu et al. (2019) subdivided the employment environment into five environments: social environment, institutional environment, legal environment, public opinion environment, and work environment. The study shows that medical students' evaluation of the social environment and institutional environment has a greater impact on their professional identity (Shu et al., 2019).

Regarding the school system, Zhang (2010), Ji et al. (2015), Deng et al. (2017), Wang et al. (2018), Wu et al. (2018), Kuang (2018), Tian (2019), Liu et al. (2019) and Feng et al. (2020) take undergraduates as the research objects. Their researches show that professional identity in undergraduates shows a gradual decline as the grade level increases (Deng & Wang, 2017; Feng et al., 2020; Ji et al., 2015; Kuang, 2018; Liu et al., 2019; Tian, 2019; Wang et al., 2018; Wu et al., 2018; Zhang, 2010). At the same time, Zhang (2010) and Deng et al. (2017) also study the use of master's and doctoral degrees as the research object. Their researches show that professional identity will increase with the increase of grades during the master's and doctoral degree (Deng & Wang, 2017; Zhang, 2010). Medical students have a heavy undergraduate study task, but they have little practice to understand the doctor profession itself. In addition, a large number of medical disputes are reported through the media. The dual stress of study and doctor-patient relationship reduces professional identity. However, Qiu (2008) shows that with the accumulation of professional knowledge and the improvement of professional abilities during the master and doctoral period, especially with the increase of opportunities for medical students to contact clinicians, patients and cases, the sense of professional achievement brought by the application of knowledge is increasing. At the same time, professional identity gradually

---

deepens (Qiu, 2008).

An et al. (2016), Deng et al. (2017) and Wu et al. (2017) show that being a student leader increases the sense of professional identity (An et al., 2016; Deng & Wang, 2017; Wu et al., 2017). Student leaders generally have strong organizational skills, communication skills, and execution skills, which will increase their confidence in competition with other students, thereby increasing their sense of professional identity.

Feng et al. (2020) believes that students with part-time experience have a higher sense of professional identity than students without part-time experience. The possible reason is that part-time students have rich social experience, so they know more about the hardships of doing a good job (Feng et al., 2020).

An et al. (2018) believes that the learning environment will affect students' mentality. The lower the medical students' satisfaction with the learning environment, the lower their professional identity. Learning in a place with a poor learning environment may have a certain resistance to the learning of knowledge and skills, thereby affecting the effect of knowledge acquisition (An et al., 2016).

Medical students who choose medicine carefully will have a higher degree of professional identity. Wang et al. (2018) found that the "5+3" academic system has higher professional identity than other academic systems. Because students who choose the long term system must be well thought out (Wang et al., 2018).

Zhang (2010), Ji et al. (2015) and Wu et al. (2018) show that medicine as the first choice for college entrance examination has a higher degree of professional identity than non-first choice (Ji et al., 2015; Wu et al., 2018; Zhang, 2010).

### **(3) Research on Medical Students' Professional Identity in Education**

The professional identity of medical students is the main basis for the formation of professional values. By enhancing the professional identity of medical students, it is conducive to strengthening medical students' recognition of professional values, thus promoting their own career and professional development, becoming a compound medical worker that meets the requirements of social development and promoting the sound development of the medical

---

industry.

Li (2005), Chen et al. (2014), Jiang (2018) and Li et al. (2020) show that the current problems of professional identity education for medical students. For example, there is the absence of professional identity during the selection period of medical students, the training model tends to "emphasize skills and neglect literacy", it does not pay attention to the cultivation of a sense of responsibility and honor, and so on (Chen et al., 2014; Jiang, 2018; Li, 2005; Li et al., 2020).

The research of Chen et al. (2014) and Lei et al. (2015) believe that the long-term education system in medicine and a large number of boring content requiring "rote memorization" will lead to a decline in medical students' interest, and negative professional emotional experience will ultimately reduce the sense of profession identity (Chen et al., 2014; Lei et al., 2009).

#### **(4) Research on Medical Students' Professional Identity in Emergent Public Health Incidents**

Sudden public health incidents will cause everyone to pay attention to the medical industry and the status of medical students, because sudden public health incidents will cause the public to re-examine the risks of the doctor's profession, causing candidates to give up considering applying for medical schools and medicine and medical students to give up being a doctor and choose another career.

The first study on the professional identity of medical students, "Research on Strengthening the Educational Methods of Medical Students' Professional Identity" was published after the SARS epidemic. Li (2005) believes that the various phenomena caused by the SARS epidemic have made medical school educators realize that it is extremely important to cultivate the professional identity of medical school students (Li, 2005).

After the outbreak of the new crown pneumonia, Li et al. (2020), Zhang et al. (2020), and Wang (2020) researched and surveyed that medical students had a certain degree of panic, anxiety, and irritability (Li et al., 2020; Wang, 2020; Zhang & Qiao, 2020). A study by Li et al. (2020) found that the epidemic affected more than half of medical students' future professional choices, of which 40.4% had a positive effect and 16.2% had a negative effect (Li et al., 2020).

---

Research by Zhang et al. (2020) shows that medical students' perception of the new crown pneumonia epidemic affects their professional identity through emotional reactions. However, the epidemic is not the main reason for changing the career choices of medical students, and the occupational environment is still an important factor that affects the professional identity of medical students ( Zhang & Qiao, 2020).

After the outbreak of the new crown pneumonia, Yue et al. (2021) and Lu et al. (2020) investigated the level of professional identity of medical students, and studies have shown that the professional identity of clinical medicine graduate students is at a moderately higher level. Among them, professional behavior, professional value, professional emotion, and professional commitment are relatively high, but professional cognition is low, indicating that the current depth and breadth of medical students' understanding of the doctor profession is not enough (Lv et al., 2020; Yue & Zhao, 2021).

Wang (2020) takes first-line clinical master's medical students as the research object. The result is that most medical students who insist on clinical practice have a strong sense of professional identity for the role of clinical medical workers in the future. The reason is that the subjects of this research are all clinical master's medical students who stay on the front line during the epidemic, and they are more aware of their responsibilities and responsibilities as medical students ( Wang, 2020).

Zhou et al. (2020) takes undergraduate medical students as the research object, and the results show that after the epidemic the proportion of lower grade students who have a positive professional identity is higher than that of upper grade students ( Zhou et al., 2020). However, Li et al. (2020) uses undergraduates, postgraduates and regular trainees studying in medicine as the research objects, and the results shows that medical students of different grades have no differences in the tendency of future professional choices ( Li et al., 2020).

### 2.2.2 Current Status of Research in Countries Outside of China

Research in Countries Outside of China on doctors' professional identity is relatively early. Mumford (1984) first studied the relationship between family and medical students'

---

professional identity (Mumford, 1984). The literature in Countries Outside of China is less about the current situation of medical students' professional identity, and more is the research on the formation process of medical students' professional cognition and the factors that affect the professional identity. The reason may be that doctors in capitalist countries have a high degree of social recognition. In addition, medical disputes are more often resolved through legal means, which reduces the probability of medical troubles. Therefore, research has focused more on improving professional identity.

### **(1) Research on the Formation Process of Medical Students' Professional Identity**

Sharpless et al. (2015) show that the professional identity of medical students will affect the development of becoming doctors in the future (Sharpless et al., 2015). Monrouxe (2010), Goldie (2012), Cope et al. (2017) believe that professional identity is dynamic and can be changed through education (Cope et al., 2017; Goldie, 2012; Monrouxe, 2010). Research by Crossley and Vivekananda-Schmidt (2009) shows that compared with students of other majors, the current medical education trend may hinder the development of their own professional identity (Crossley & Vivekananda-Schmidt, 2009).

In the research on the formation of medical students' professional identity, Cruess et al. (2014) show that the evaluation of medical students' professional identity is a major problem that schools need to solve. In addition, Educational strategies that support the development of a professional identity suitable for future medical practice must not only be based on a concept that reflects the past "nostalgic professionalism", but also need to emphasize the role of the individual doctor (Cruess et al., 2014).

Goldie (2012) indicates that schools should use the opportunities of students in different social environments to help enhance their professional identity in different identities (Goldie, 2012).

Hatem et al. (2019) shows that medical students can reflect on how they feel like doctors through narratives to promote the formation of professional identity (Hatem & Halpin, 2019).

Grasset et al. (2018) find that objective structured teaching exercises can help medical students' professional identity development ( Grasset et al., 2018).

---

Schei et al. (2019) use freshman medical students as the research object. The results of the study show that the emotional response of medical students when they first met the patient will affect the formation of professional identity. And structured education strategies and supervision can be used to reduce the impact of adverse emotions (Schei et al., 2019).

## **(2) Research on the Influencing Factors of Professional Identity**

Ramos-Cerqueira and Lima (2002) find that the teacher-student relationship plays a fundamental role in the formation of medical students' professional identity (Ramos-Cerqueira & Lima, 2002).

Hendelman and Byszewski (2014) survey research shows that witnessing a decline in the professionalism of teachers, clinicians and other administrative staff will affect the formation of medical students' professional identity (Hendelman & Byszewski, 2014).

Burgess and Nestel (2014) finds that learning with partners can promote the development of professional identity (Burgess & Nestel, 2014).

Hayashi et al. (2020) find that studying international elective courses can contribute to the formation of medical professional identity based on cross-cultural understanding (Hayashi et al., 2020).

Cruess et al. (2015) show that the influencing factors in the formation of the professional identity of medical students include role models, mentors, experience, learning environment, family, friends, and sense of ritual (Cruess et al., 2015).

### **2.2.3 Summary**

Judging from the data collected so far, the research on the professional identity of medical students has attracted more and more attention from scholars, and there are more and more relevant researches. It has become a consensus to improve the professional identity of medical students. However, compared with other research objects, there are fewer medical students as the main subjects. And the research on the professional identity of medical students mainly focuses on the current status of professional identity and influencing factors. The research on the professional identity of medical students still has the following shortcomings and

---

deficiencies:

- a) The measures to enhance the professional identity of medical students are mostly related to the government, lacking the perspective of medical schools and hospitals.
- b) The outbreak of the new crown epidemic may affect the professional identity of medical students, and there are few studies on the professional identity of medical students after the outbreak.
- c) Most studies divide the professional identity of medical students into multiple dimensions, and seldom use structural equation models to explore the impact of each dimension on the professional identity of medical students.

Professional identity will affect the employment rate of medical students. The professional identity of medical students may change with changes in the environment. The outbreak of the new crown pneumonia epidemic in 2020 is a major environmental change. To achieve the goal of "Healthy China 2030", medical students as the reserve army are a key part. To sum up, in order to make China's medical career better develop and understand the latest status of medical students' professional identity, it is necessary to propose countermeasures at all levels to improve medical students' professional identity.

---

## Chapter III Research Design

### 3.1 Research Design Method

#### 3.1.1 Questionnaire Design Stage

In order to better study the status quo of medical students' professional identity, this research focuses on the research theme, firstly, based on the research of relevant domestic and foreign literatures, to make the first draft of the questionnaire by referring to good reliability and validity scales of China and countries outside of China. And then in order to let the survey questionnaire be better understood by the survey respondents, as well as consider the later data collation and analysis, so that simplify the questionnaire structure as much as possible to make that the survey respondents can understand the content of the questionnaire and then improve the quality of the survey data.

#### 3.1.2 Questionnaire Survey Stage

The research object of this study is a group of medical students in Guangzhou, and the sample data is mainly obtained by random sampling. The questionnaire is distributed through a combination of online and offline methods.

Before the formal investigation, first actively contacted students from six Guangzhou medical schools, including Sun Yat-sen University, Southern Medical University, Jinan University, Guangzhou Medical University, Guangzhou University of Chinese Medicine, and South China University of Technology, to obtain support and cooperation. Secondly, train the investigators systematically to be familiar with the content of the investigation and better answer the questions of the respondents.

During the questionnaire survey, the investigator first briefly introduced the subject to the respondent and started the formal investigation. In view of the relatively high educational level of the survey respondents, the survey process was carried out in the form of the survey



---

respondents filling in the questionnaires and the surveyors' guidance from the side.

### 3.1.3 Data Collation Stage

After the questionnaire is returned, this research will screen the returned questionnaires according to the questionnaire criteria such as whether they belong to the survey group, whether they are filled in completely, whether the filling is obvious, whether the questionnaires are similar quality and so on. After the data collection is completed and the quality of the questionnaire is uniformly controlled, the qualified questionnaires are uniformly coded and then the data is entered by two persons. In addition, the entered data is checked and improved to ensure the accuracy of the data entry. Finally, a standard database is established in accordance with the analysis requirements to provide a basis for later data analysis.

For the collected questionnaire data, we use SPSS software and AMOS.21 software to perform statistical processing.

## 3.2 Questionnaire Content

### (1) Personal Characteristic Variables

The content includes basic personal information: gender, age, educational background, school, major, grade, whether studying medicine is the first choice, and reasons for choosing medicine. The options of each variable are set as follows:

- a) Gender: Male, Female
- b) Education: Bachelor, Master, PhD
- c) Major: Western Medicine, Public Health, Traditional Chinese Medicine, Integrated Chinese and Western Medicine
- d) School: Sun Yat-sen University, Southern Medical University, Jinan University, Guangzhou Medical University, Guangzhou University of Chinese Medicine, South China University of Technology
- e) Grade: First Grade, Second Grade, Third Grade, Fourth Grade, Fifth Grade
- f) Is studying medicine the first choice: yes, no

---

g) Reason for choosing medicine: Self-Like, Family Wishes, Recommendations From Others, Results Of Adjustments, Others

### **(2) Key Content Variables**

The key content variables mainly include six dimensions of professional cognition, professional emotion, professional behavior, professional commitment, professional expectation and professional value.

**Professional cognition** refers to the degree of understanding and understanding of the nature and significance of the doctor's occupation by medical students. The measurement items of professional cognition are:

Q1: I had a better understanding of the doctor's profession when I enrolled

Q2: I am now clear about the professional requirements of doctors

Q3: I know the responsibilities and missions of a doctor

Q4: I think doctors can treat diseases and save people, it is great

Q5: I think doctor is a noble profession

**Professional emotion** refers to the emotional investment of medical students to the doctor's profession and the emotional experience that the profession brings to the individual, whether it is a positive experience or a negative experience. The measurement items of professional emotion are:

Q1: I love my major

Q2: I admire the work of a doctor

Q3: I think the doctor's work is full of fun

Q4: I am more and more interested in the work of doctors

Q5: In interacting with other majors, I am proud that I am a medical student

Q6: I feel uncomfortable when others say that the doctor is not good

Q7: If I can choose again, I will still study medicine

**Professional behavior** refers to the behavior tendency of medical students in pointing to medical practice, including professional skills and behavior characteristics. The measurement items of professional behavior are:

---

Q1: I am very attentive and dedicated to professional learning

Q2: I can master the necessary operational skills for clinical medicine

Q3: I will spend time thinking about medical problems

Q4: I will actively follow the news reports of doctors in the society

Q5: I make a clear plan for my future career development

**Professional commitment** refers to the degree to which medical students are unwilling to change their occupations due to their investment in occupations and internalization of social norms, their desire to maintain their occupations, and their perception of the cost of leaving this occupation. The measurement items of professional commitment are:

Q1: I will treat clinical work with a rigorous attitude

Q2: I will communicate with patients in time at work, understand their thoughts, and solve their difficulties

Q3: I can serve patients wholeheartedly

Q4: I am willing to serve more patients

Q5: Patient satisfaction is my goal in future work

Q6: I treat disease prevention as the focus of the doctor's work

Q7: After graduation, I will firmly choose the profession of doctor

**Professional expectation** refers to the expected level of professional development and the expectations of whether or not they can achieve professional success, including the views on the overall environment of the doctor industry itself and the prospects for the individual's achievements in the overall environment. The measurement items of professional expectation are:

Q1: I think I can work as a doctor in the future

Q2: I am confident that I will become an excellent doctor

Q3: I hope to achieve something in my doctor's career

Q4: I hope there are more policies to support the development of doctors

Q5: Doctor will be my life's profession

Q6: I think being a doctor will enable me to lead an ideal life

---

**Professional value** refers to the basic views and evaluations of medical students on the professional value of doctors, that is, the embodiment of values in the profession of doctors.

The measurement items of professional value are:

Q1: I think the salary level of doctors is relatively high

Q2: I think the doctor's contribution matches the income

Q3: I think the social status of doctors is relatively high

Q4: Being a doctor is my ideal career choice

Q5: I think being a doctor can realize my life value

The scale adopts the Likert 5-level scoring method to set the answer. There are 5 options in total, from strongly disagree, disagree, not agree, agree and strongly agree, which are recorded as 1 to 5 points in turn. This part of the entries are all forward entries. The average score of all items in each dimension reflects the feelings of medical students in each dimension. The higher the score, the higher the professional identity of medical students.

### **3.3 Reliability and Validity Analysis of Questionnaire**

#### **3.3.1 Reliability Analysis**

Reliability analysis refers to the degree of consistency of the results obtained when the same method is used to repeatedly measure the same object. This study uses Cronbach's Alpha coefficient to represent the reliability analysis of the scale to assess the internal consistency of the scale. It is generally believed that the higher the Cronbach's Alpha coefficient, the better the internal consistency of the questionnaire. Wu (2010) points out that the Cronbach alpha coefficient of the total questionnaire is above 0.8, indicating that the questionnaire is good; the alpha coefficient is between 0.7-0.8, and the questionnaire is within the acceptable range. For each dimension of the questionnaire, the reliability coefficient of each level is greater than 0.7, indicating that the questionnaire is appropriate. The reliability coefficient is between 0.6-0.7, indicating that the questionnaire is in an acceptable range. If the Cronbach alpha coefficient is less than 0.6, it means that the questionnaire needs to be re-edited or revised( Wu, 2010).

Using the reliability analysis of SPSS 27.0 statistical software, the internal consistency coefficient of the sample data is calculated, and the results are shown in Table 3-1.

Table 3-1 Reliability Analysis

Cronbacn’s Alpha	Number of items
0.924	35

It can be seen from Table 3-3 that Cronbach’s  $\alpha$  coefficient is 0.924, and the questionnaire has high overall reliability.

### 3.3.2 Validity Analysis

Validity analysis refers to the validity and accuracy of questionnaire design, which is used to measure the rationality of item design and the accuracy of item items. In this study, confirmatory factor analysis is used to analyze the validity of the scale. The validity is divided into convergent validity and discriminative validity. This study uses AMOS software to initially construct a structural equation model of medical students' professional identity. When performing confirmatory factor analysis, it mainly depends on whether the observation variables can accurately measure the corresponding latent variables. The specific indicators and standards are shown in Table 3-2.

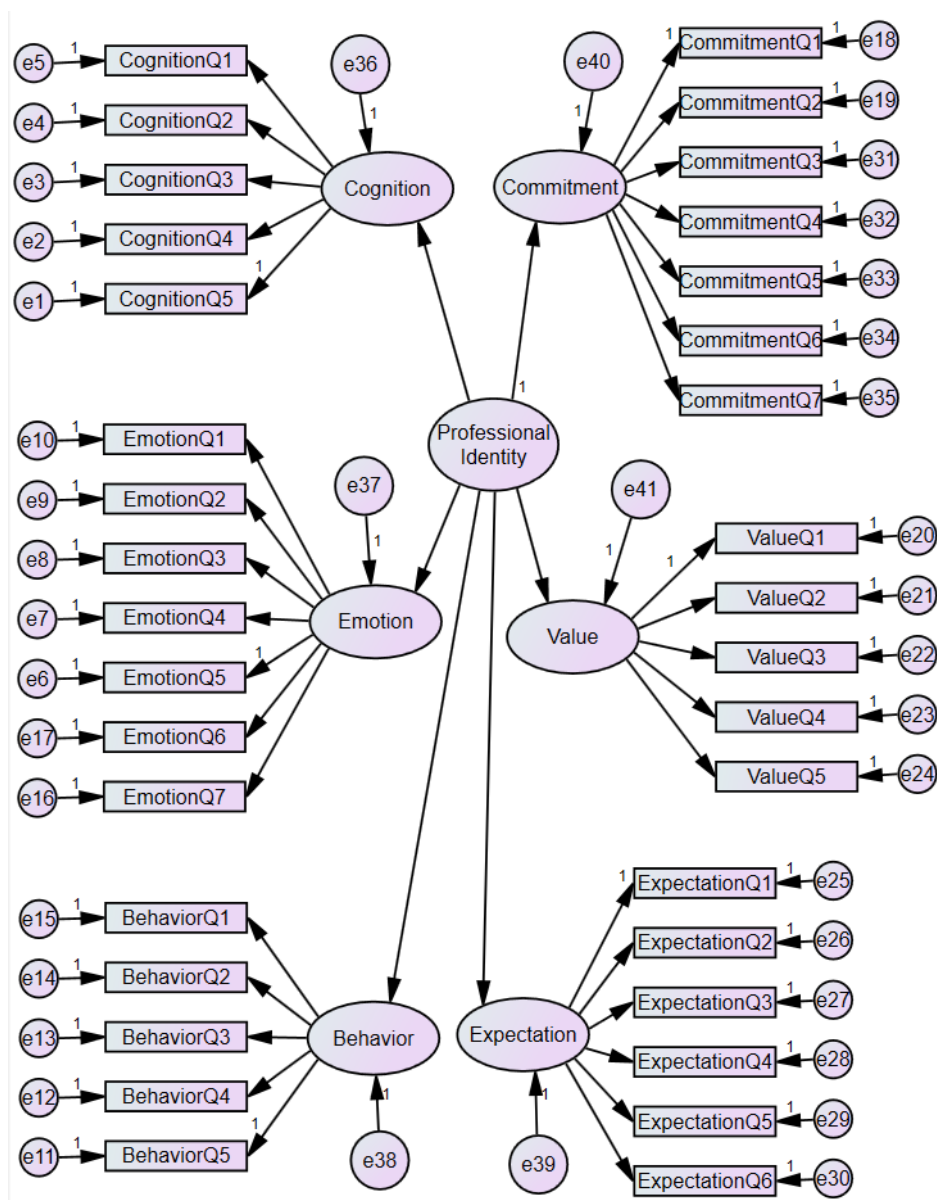
Table 3-2 Each Index Standard of Confirmatory Factor

Inspection Type	Reference Standard
Combination	1. Standardized factor loading > 0.5 (p < 0.05)
Reliability	2. Combination reliability CR > 0.7
Convergence	1. Standardized factor load > 0.5 (p < 0.05)
Validity	2. Combination reliability: CR > 0.7
	3. Average variance extraction: AVE > 0.5
Discrimination	1. Standardized factor load > 0.5 (p < 0.05)
Validity	2. Combination reliability: CR > 0.7
	3. Average variance extraction: AVE > 0.5
	4. AVE square root > the absolute value of the correlation

coefficient of the two latent variables

Using AMOS to build a theoretical model of medical students' professional identity is shown in Figure 3-1, to see whether the observed variables can accurately measure the corresponding latent variables.

Figure 3-1 Theoretical Model of Medical Students' Professional Identity



From the following Table 3-3, it can be seen that the factor loading of each item is greater than 0.5, the combined reliability of each latent variable is greater than 0.6, and the average variance extraction (AVE) value is greater than 0.5, indicating that the internal quality of the model is relatively ideal.

Table 3-3 Convergence Validity Analysis Results of Each Latent Variable

Latent Variable	Item	Factor Loading	P Value	Combination Reliability	AVE
Professional Cognition	Awareness Q1	0.717	***	0.8643	0.5611
	Awareness Q2	0.799	***		
	Awareness Q3	0.708	***		
	Awareness Q4	0.712	***		
	Awareness Q5	0.81	***		
Professional Emotion	Emotions Q1	0.762	***	0.9001	0.5643
	Emotions Q2	0.687	***		
	Emotions Q3	0.712	***		
	Emotions Q4	0.8	***		
	Emotions Q5	0.823	***		
	Emotions Q6	0.796	***		
	Emotions Q7	0.663	***		
Professional Behavior	Behavior Q1	0.789	***	0.906	0.6587
	Behavior Q2	0.843	***		
	Behavior Q3	0.833	***		
	Behavior Q4	0.759	***		
	Behavior Q5	0.831	***		
Professional Commitment	Commitment Q1	0.728	***	0.904	0.5391
	Commitment Q2	0.781	***		
	Commitment Q3	0.712	***		
	Commitment Q4	0.764	***		
	Commitment Q5	0.78	***		
	Commitment Q6	0.765	***		
	Commitment Q7	0.591	***		
Professional Expectation	Expectation Q1	0.797	***	0.8776	0.5479
	Expectation Q2	0.837	***		
	Expectation Q3	0.691	***		
	Expectation Q4	0.772	***		
	Expectation Q5	0.743	***		
	Expectation Q6	0.571	***		
	Value Q1	0.737	***		

Professional Value	Value Q2	0.881	***	0.9067	0.6617
	Value Q3	0.794	***		
	Value Q4	0.754	***		
	Value Q5	0.889	***		

Note: \*\*\* means  $p < 0.05$

It can be seen from Table 3-4 that the correlation coefficient between each variable and other latent variables is less than the square root value of the average variance extraction of any latent variable. It shows that the cohesion of each latent variable is higher than the correlation with other latent variables, indicating that the scale has better discriminative validity.

Table 3-4 Correlation Coefficient Level AVE Square Root Matrix Table  
Among Various Latent Variables

	Professional Cognition	Professional Emotion	Professional Behavior	Professional Expectation	Professional Commitment	Professional Value
Professional Cognition	0.749					
Professional Emotion	.272**	0.751				
Professional Behavior	.300**	.277**	0.812			
Professional Expectation	.300**	.103**	.313**	0.734		
Professional Commitment	.301**	.300**	.362**	.362**	0.740	
Professional Value	.346**	.376**	.348**	.329**	.397**	0.813

Note:

1. \*\* Significantly correlated at the 0.01 level (two-sided);

2. The diagonal data in the table represents the square root of AVE, and the other values represent the correlation coefficient between the two latent variables.

In summary, the measurement model of the structural model of medical students' proposed in this study has a good fit and good validity.



---

## Chapter IV Research Results

### 4.1 Basic Situation

A total of 1,212 medical students were randomly selected from 6 Guangzhou undergraduate medical schools, Sun Yat-Sen University (SYSU), Southern Medical University (SMU), Jinan University (JNU), Guangzhou Medical University (GMU), Guangzhou University of Traditional Chinese Medicine (GUCM), South China University of Technology (SCUT), and conducted a questionnaire survey. 1,212 questionnaires were distributed and returned. There are 1112 valid questionnaires, and the effective recovery rate is 92%.

Table 4-1 Basic Information of Survey Subjects (N=1112)

Project		Number of people	Percentage(%)
Gender	Male	454	40.8
	Female	658	59.2
Educational Background	Undergraduate	788	70.9
	Master	292	26.3
	Doctor	32	2.9
School	SYSU	193	17.4
	SMU	233	21.0
	JNU	174	15.6
	GUCM	182	16.4
	GMU	199	17.9
	SCUT	131	11.8
Major	Western Medicine	723	65.0
	Public Health	142	12.8
	Traditional Chinese Medicine	190	17.1
	Integrated Chinese and Western Medicine	57	5.1
Is studying medicine first choice for the college entrance examination?	Yes	876	78.8
	No	236	21.2
The reason for choosing medicine	I like it	699	62.9
	Family Wishes	231	20.8
	Recommended by others	85	7.6

Adjustment Result	57	5.1
Other	40	3.6

Note: Western medicine includes clinical medicine, stomatology, etc.; public health includes preventive medicine, etc..

## 4.2 Descriptive Analysis

It can be seen from Table 4-2 that the overall score of medical students' professional identity is 3.86 points. The scores for the six dimensions are: professional cognition 4.00, professional emotion 3.85, professional behavior 3.82, professional commitment 4.03, professional expectations 3.92, and professional values 3.58.

Table 4-2 The Scores of Various Dimensions  
And Specific Items of Medical Students' Professional Identity ( $\bar{x} \pm s$ )

Dimension	Score	Specific Items	Score
Professional Cognition	4.00 ± 0.558	Q1: I had a better understanding of the doctor's profession when I enrolled	3.45 ± 1.017
		Q2: I am now clear about the professional requirements of doctors	3.98 ± 0.699
		Q3: I know the responsibilities and missions of a doctor	3.32 ± 1.012
		Q4: I think doctors can treat diseases and save people, it is great	4.17 ± 0.638
		Q5: I think doctor is a noble profession	4.18 ± 0.730
Professional Emotion	3.85 ± 0.700	Q1: I love my major	3.89 ± 0.839
		Q2: I admire the work of a doctor	4.07 ± 0.775
		Q3: I think the doctor's work is full of fun	3.67 ± 0.996
		Q4: I am more and more interested in the work of doctors	3.75 ± 0.906
		Q5: In interacting with other majors, I am proud that I am a medical student	3.90 ± 0.922
Professional Behavior	3.82 ± 0.647	Q6: I feel uncomfortable when others say that the doctor is not good	4.06 ± 0.812
		Q7: If I can choose again, I will still study medicine	3.64 ± 1.122
		Q1: I am very attentive and dedicated to professional learning	3.94 ± 0.767
		Q2: I can master the necessary operational skills for clinical medicine	3.55 ± 0.973
		Q3: I will spend time thinking about medical problems	3.98 ± 0.741
Professional Commitment	4.03 ± 0.613	Q4: I will actively follow the news reports of doctors in the society	3.97 ± 0.786
		Q5: I make a clear plan for my future career development	3.66 ± 0.938
		Q1: I will treat clinical work with a rigorous attitude	4.15 ± 0.704
		Q2: I will communicate with patients in time at work, understand their thoughts, and solve their difficulties	4.06 ± 0.712
		Q3: I can serve patients wholeheartedly	4.00 ± 0.757
		Q4: I am willing to serve more patients	4.10 ± 0.731
		Q5: Patient satisfaction is my goal in future work	4.02 ± 0.776
		Q6: I treat disease prevention as the focus of the doctor's work	4.06 ± 0.713

Professional Expectation	3.92 ± 0.653	Q7: After graduation, I will firmly choose the profession of doctor	3.86 ± 0.912
		Q1: I think I can work as a doctor in the future	3.84 ± 0.813
		Q2: I am confident that I will become an excellent doctor	3.85 ± 0.842
		Q3: I hope to achieve something in my doctor's career	4.08 ± 0.750
		Q4: I hope there are more policies to support the development of doctors	4.32 ± 0.721
		Q5: Doctor will be my life's profession	3.73 ± 0.933
Professional Value	3.58 ± 0.715	Q6: I think being a doctor will enable me to lead an ideal life	3.69 ± 0.983
		Q1: I think the salary level of doctors is relatively high	3.21 ± 1.057
		Q2: I think the doctor's contribution matches the income	2.96 ± 1.187
		Q3: I think the social status of doctors is relatively high	3.66 ± 0.950
		Q4: Being a doctor is my ideal career choice	3.86 ± 0.916
		Q5: I think being a doctor can realize my life value	4.05 ± 1.057
<b>Professional Identity</b>		<b>3.86 ± 0.559</b>	

### 4.3 Analysis of Related Factors

#### (1) Gender

The T test was used to determine whether gender has an effect on medical students' professional identity, and  $p < 0.05$  represents a statistical difference. It can be seen from Table 4-3 that there is no statistical difference between genders in terms of professional identity in general. There are statistical differences between genders in the dimension of professional values. The scores of men and women are 3.65 and 3.48 respectively, and boys are significantly higher than girls. In other five dimensions, there is no significant statistical difference between male and female students.

Table 4-3 Comparison of Various Dimensions of Professional Identity in "Gender"

Dimensions	Gender	Mean	Standard Deviation	T Value	P Value
Professional Cognition	Male	3.99	0.619	-0.84	0.933
	Female	4.00	0.513		
Professional Emotion	Male	3.89	0.698	1.275	0.203
	Female	3.83	0.700		
Professional Behavior	Male	3.86	0.683	1.648	0.100
	Female	3.79	0.619		

Professional Commitment	Male	4.04	0.658	0.452	0.651
	Female	4.03	0.580		
Professional Expectation	Male	3.97	0.670	2.111	0.035
	Female	3.88	0.639		
Professional Value	Male	3.65	0.736	4.105	<.001
	Female	3.48	0.692		
Professional Identity	Male	3.90	0.596	1.936	0.053
	Female	3.83	0.530		

## (2) Educational Background

One-way analysis of variance was used to determine whether academic qualifications had an effect on medical students' professional identity, and  $p < 0.05$  represented statistical differences. From Table 4-4, it can be seen that the level of academic qualifications has an impact on professional identity, with the highest undergraduate degree, followed by a doctorate, and lastly a master's degree. Specific to the six dimensions, in addition to professional behavior, the impact of different educational backgrounds in the five dimensions of professional cognition, professional emotion, professional commitment, professional expectations, and professional values is statistically significant.

Table 4-4 Comparison of Various Dimensions of Professional Identity in "Educational Background "

Dimensions	Educational Background	Mean	Standard Deviation	Significance of test for homogeneity of variance	F Statistics	P Value
Professional Cognition	Undergraduate	4.03	0.543	0.297	5.663	0.004
	Master	3.90	0.587			
	Doctor	4.05	0.572			
Professional Emotion	Undergraduate	3.94	0.657	0.002	36.434	<.001
	Master	3.65	0.773			
	Doctor	3.71	0.653			
Professional	Undergraduate	3.83	0.646	0.261	2.003	0.135

Behavior	Master	3.77	0.660			
	Doctor	3.97	0.498			
Professional Commitment	Undergraduate	4.07	0.527			
	Master	3.92	0.674	0.370	5.998	0.003
Professional Expectation	Doctor	4.10	0.569			
	Undergraduate	3.96	0.639			
Professional Value	Master	3.81	0.681	0.335	5.663	0.004
	Doctor	3.91	0.636			
Professional Identity	Undergraduate	3.68	0.667			
	Master	3.27	0.726	0.018	83.323	<.001
Professional Identity	Doctor	3.05	0.832			
	Undergraduate	3.92	0.539			
Professional Identity	Master	3.72	0.590	0.262	13.529	<.001
	Doctor	3.80	0.532			

### (3) School

One-way analysis of variance and Kruskal-Wallis H test were used to determine whether different schools had an impact on the professional identity of medical students.  $P < 0.05$  represents a statistical difference. Among them, because the data of professional value does not meet the condition of homogeneity of variance, so the Kruskal-Wallis H test is used in statistical analysis. The remaining dimensions that meet the condition of homogeneity of variance are tested by one-way analysis of variance. It can be seen from Table 4-5 that the difference in the professional identity scores of each school is statistically significant, and is specifically manifested in the three dimensions of professional emotion, professional expectation and professional value.

Table 4-5 Comparison of various dimensions of professional identity in "School"

Dimensions	School	Mean	Standard Deviation	Significance of test for homogeneity of variance	F Statistics/ H Statistics	P Value
Professional	SYSU	3.92	0.627	0.324	1.987	0.078

---

Cognition	SMU	3.98	0.524			
	JNU	3.96	0.640			
	GUCM	3.99	0.544			
	GMU	4.03	0.507			
	SCUT	4.08	0.492			
	SYSU	3.72	0.740			
	SMU	3.90	0.656			
Professional Emotion	JNU	3.71	0.819	0.011	23.809	<0.001
Emotion	GUCM	3.84	0.665			
	GMU	3.90	0.659			
	SCUT	4.02	0.607			
	SYSU	3.75	0.682			
	SMU	3.77	0.637			
	JNU	3.81	0.700	0.946	1.764	0.117
Professional Behavior	GUCM	3.89	0.641			
Behavior	GMU	3.81	0.607			
	SCUT	3.91	0.606			
	SYSU	3.93	0.680			
	SMU	4.01	0.559			
	JNU	3.98	0.701	0.323	2.865	0.014
	GUCM	4.06	0.590			
Professional Commitment	GMU	4.09	0.588			
	SCUT	4.14	0.543			
	SYSU	3.79	0.727			
	SMU	3.88	0.603			
	JNU	3.85	0.746	0.121	4.547	<0.001
Professional Expectation	GUCM	4.02	0.640			
Expectation	GMU	3.94	0.589			

	SCUT	4.06	0.580			
	SYSU	3.34	0.750			
	SMU	3.59	0.652			
Professional	JNU	3.37	0.765			
Value	GUCM	3.59	0.795	<0.001	66.032	<0.001
	GMU	3.52	0.692			
	SCUT	3.85	0.544			
	SYSU	3.74	0.613			
	SMU	3.86	0.521			
Professional	JNU	3.78	0.646			
Identity	GUCM	3.90	0.553	0.109	5.598	<0.001
	GMU	3.88	0.508			
	SCUT	4.01	0.475			

#### (4) Major

Use one-way analysis of variance to determine whether the impact of majors on medical students' professional identity is statistically significant,  $p < 0.05$  represents a statistical difference. It can be seen from Table 4-6 that there is no statistically significant difference in the professional identity scores of different majors. Specific to each dimension, different majors have statistically significant differences in professional commitment and professional expectation scores. In terms of professional commitment, the scores from high to low are Traditional Chinese Medicine (TCM) 4.07, Western Medicine 4.06, Integrated Chinese and Western Medicine (ICWM) 3.95, and Public Health 3.91. In terms of professional expectation, the scores from high to low are Western Medicine 3.96, Traditional Chinese Medicine (TCM) 3.93, Integrated Chinese And Western Medicine (ICWM) 3.85, and Public Health 3.74.

Table 4-6 Comparison of Various Dimensions of Professional Identity in "Major"

Dimensions	Major	Mean	Standard Deviation	Significance of test for homogeneity of variance	F Statistics	P Value
Professional Cognition	Western Medicine	4.00	0.567	0.591	5.663	0.651
	Public Health	3.97	0.491			
	TCM	1.01	0.560			
	ICWM	3.92	0.599			
Professional Emotion	Western Medicine	3.85	0.710	0.398	36.434	0.367
	Public Health	3.83	0.665			
	TCM	3.92	0.663			
	ICWM	3.76	0.669			
Professional Behavior	Western Medicine	3.84	0.644	0.432	2.003	0.337
	Public Health	3.73	0.646			
	TCM	3.81	0.662			
	ICWM	3.77	0.631			
Professional Commitment	Western Medicine	4.06	0.600	0.775	5.998	0.045
	Public Health	3.91	0.599			
	TCM	4.07	0.650			
	ICWM	3.95	0.658			
Professional Expectation	Western Medicine	3.96	0.646	0.882	5.663	0.003
	Public Health	3.74	0.694			
	TCM	3.93	0.641			
	ICWM	3.85	0.620			
Professional Value	Western Medicine	3.55	0.721	0.370	83.323	0.925
	Public Health	3.58	0.700			
	TCM	3.54	0.717			
	ICWM	3.51	0.671			



	Western Medicine	3.87	0.559			
Professional	Public Health	3.80	0.544			
Identity	TCM	3.88	0.561	0.812	13.529	0.320
	ICWM	3.79	0.575			

### (5) Is Medicine The First Choice For The College Entrance Examination?

The T test was used to judge whether the impact of the first choice on medical students' professional identity is statistically significant, and  $p < 0.05$  represented a statistical difference. It can be seen from Table 4-7 that whether medicine is the first choice has a statistically significant impact on professional identity. The professional identity of medical students whose first choice is medicine (3.89) is significantly higher than that of non-first choice medicine students (3.74). Specific to each dimension, in addition to professional values, the difference in the scores of other dimensions in whether medicine is the first choice is statistically significant. The scores of medical students whose first choice is medicine are higher than those whose first choice is not medicine.

Table 4-7 Comparison of Various Dimensions of Professional Identity in

#### "Is Medicine The First Choice?"

Dimensions	Yes or No	Mean	Standard Deviation	T Value	P Value
Professional Cognition	Yes	4.03	0.555	4.191	<.001
	No	3.86	0.550		
Professional Emotion	Yes	3.91	0.690	4.888	<.001
	No	3.66	0.702		
Professional Behavior	Yes	3.85	0.646	2.585	0.010
	No	3.72	0.644		
Professional Commitment	Yes	4.07	0.608	3.415	<.001
	No	3.91	0.620		
Professional Expectation	Yes	3.95	0.639	2.698	0.007
	No	3.81	0.695		
Professional Value	Yes	3.57	0.703	2.018	0.44
	No	3.47	0.754		

Professional Identity	Yes	3.89	0.554	3.825	<.001
	No	3.74	0.562		

### (6) Reason For Choosing Medicine

One-way analysis of variance and Kruskal-Wallis H test are used to determine whether the impact of different schools on the professional identity of medical students is statistically significant, and  $P < 0.05$  represents a statistical difference. Among them, because the data of "professional emotion", "professional behavior", and "professional commitment" do not satisfy the condition of homogeneity of variance, the Kruskal-Wallis H test is used in statistical analysis. And the data of the three dimensions of professional cognition, professional expectation, professional value, and professional identity meet the condition of homogeneity of variance using one-way analysis of variance. It can be seen from Table 4-8 that the differences in the professional identity scores of medical students who choose medicine for different reasons are statistically significant, and the differences in the six dimensions are statistically significant. The factor "I like it" has the highest score in all dimensions.

Table 4-8 Comparison of Various Dimensions of Professional Identity in the "Reason For Choosing Medicine"

Dimensions	Reason	Mean	Standard Deviation	Significance of test for homogeneity of variance	F Statistics/ H Statistics	P Value
Professional Cognition	I like it	4.09	0.528	0.448	15.388	<0.001
	Family Wishes	3.86	0.619			
	Recommended by others	3.87	0.518			
	Adjustment Result	3.74	0.541			
	Other	3.73	0.404			
Professional Emotion	I like it	4.02	0.625	<0.001	124.532	<0.001
	Family Wishes	3.56	0.780			
	Recommended by others	3.75	0.584			
	Adjustment Result	3.32	0.715			
	Other	3.54	0.567			
Professional	I like it	3.91	0.587	<0.001	37.472	<0.001

Behavior	Family Wishes	3.67	0.753			
	Recommended by others	3.81	0.594			
	Adjustment Result	3.58	0.594			
	Other	3.43	0.785			
	I like it	4.14	0.535			
Professional Commitment	Family Wishes	3.85	0.746			
	Recommended by others	4.00	0.570	<0.001	55.568	<0.001
	Adjustment Result	3.76	0.590			
	Other	3.75	0.715			
	I like it	4.03	0.609			
Professional Expectation	Family Wishes	3.74	0.714			
	Recommended by others	3.86	0.565	0.031	62.739	<0.001
	Adjustment Result	3.61	0.704			
	Other	3.60	0.664			
	I like it	3.66	0.677			
Professional Value	Family Wishes	3.37	0.774			
	Recommended by others	3.47	0.681	0.119	13.165	<0.001
	Adjustment Result	3.17	0.801			
	Other	3.38	0.490			
		I like it	3.98	0.505		
Professional Identity	Family Wishes	3.67	0.648			
	Recommended by others	3.80	0.496	0.017	88.090	<0.001
	Adjustment Result	3.53	0.545			
	Other	3.57	0.461			
		I like it	3.98	0.505		

#### 4.4 Six-Dimensional Analysis of Professional Identity

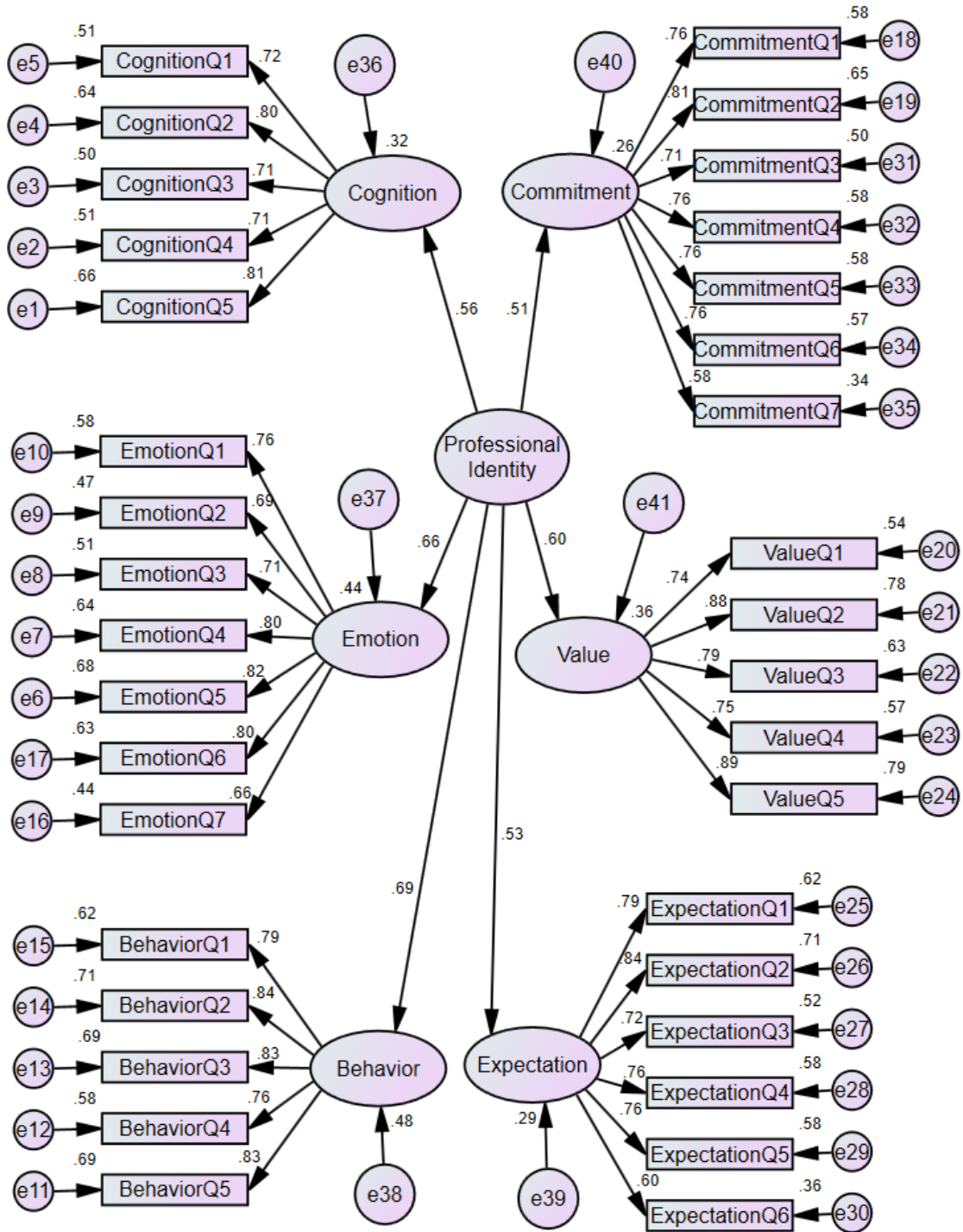
Use AMOS software to perform maximum likelihood estimation analysis on the initial model of the medical students' professional identity in Figure 4-1, and obtain the model quality

assessment fitness index including Chi-Square Degree of Freedom (CMIN/DF), Standardized Root Mean Square Residual (SRMR), Root Mean Square Error of Approximation (RMSEA), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Normed Fit Index (NFI), Comparative Fit Index (CFI), Increment Fit Index (IFI), Parsimony Normed Fit Index (PNFI), Parsimony Comparative Fit Index (PCFI), and Parsimony Goodness Fitting Index (PGFI) are shown in Table 4-9. Except for the results of AGFI which did not meet the target, the other indicators were all up to the standard.

Table 4-9 Summary of Structural Equation Model Fitness Parameters

Statistical Detection		Statistical	Statistical	Fit
Volume		Detection Volume	Detection Volume	Result
Absolute fit	CMIN/DF	<5	3.3593	True
	SRMR	<0.08	0.0512	True
	RMSEA	<0.08	0.048	True
	GFI	>0.90	0.908	True
	AGFI	>0.90	0.895	False
Value-added adaptation	NFI	>0.90	0.914	True
	CFI	>0.90	0.937	True
	IFI	>0.90	0.937	True
Parsimonious fit	PNFI	>0.5	0.851	True
	PCFI	>0.5	0.872	True
	PGFI	>0.5	0.798	True

Figure 4-1 The Initial Model of Medical Students' Professional Identity



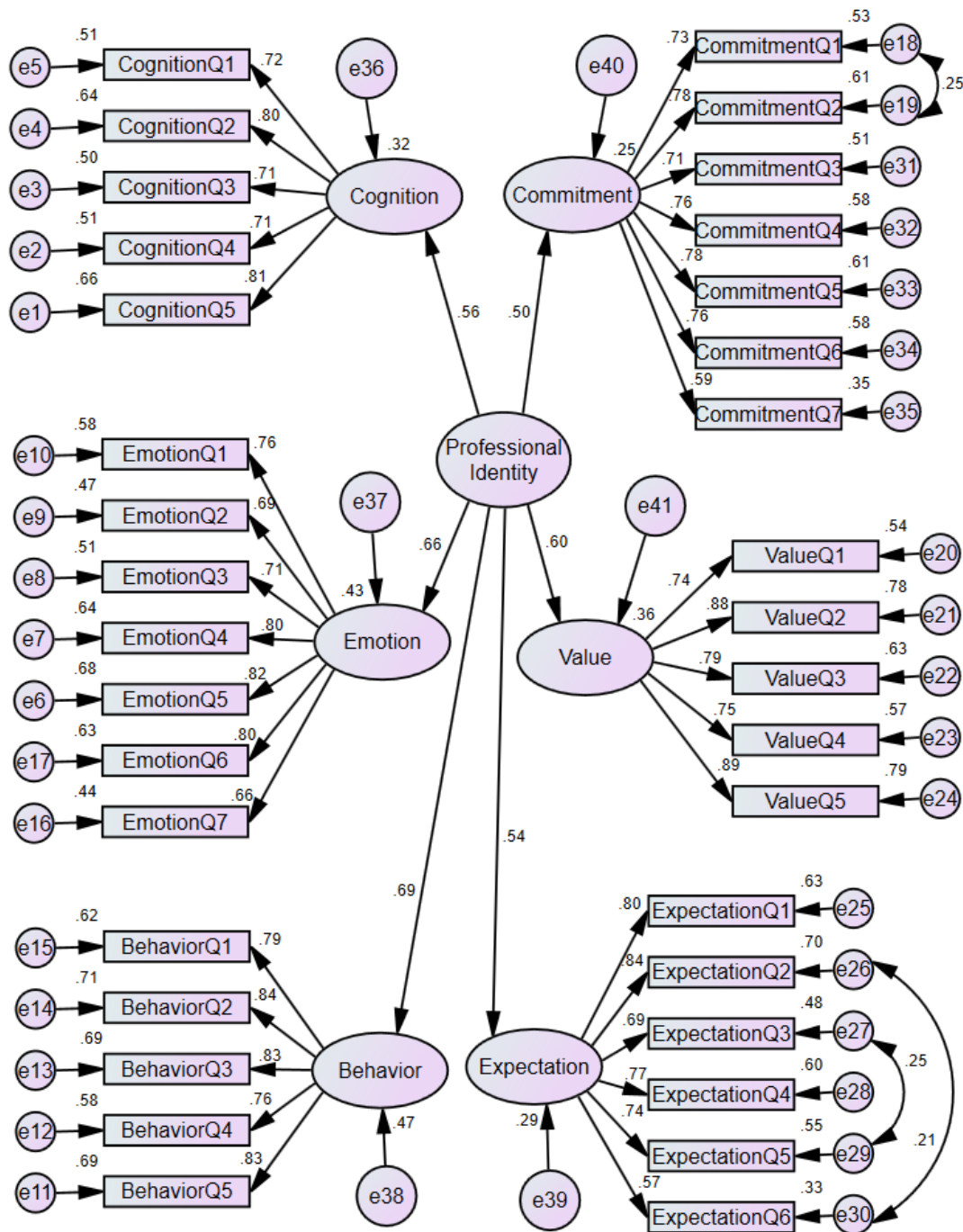
In order to improve the adaptability of the model, it is necessary to take further corrections to the initial model. According to the results of the correction index (MI), it is found that the MI of e18-e19, e26-e30, and e27-e29 are relatively large, so the relevant road strengths are selected in turn for model correction and fitting. After fitting corrections, the revised model fitting indicators are within a reasonable range, indicating that the model fits well as a whole

that means that professional behavior, professional emotion, professional cognition, professional expectation, professional commitment, and professional value are the main factors that constitute the professional identity of medical students. The revised fitness index is shown in Table 4-10, and the final structural equation model diagram of the professional identity of medical students is shown in Figure 4-2.

Table 4-10 Summary of Structural Equation Model Adaptation Parameters  
(after revision)

Statistical Detection Volume		Statistical Detection Volume	Parameters before correction	Parameters after correction	Fit Result
Absolute fit	CMIN/DF	<5	3.3593	3.354	True
	SRMR	<0.08	0.0512	0.0511	True
	RMSEA	<0.08	0.048	0.046	True
	GFI	>0.90	0.908	0.914	True
	AGFI	>0.90	0.895	0.902	True
Value-added adaptation	NFI	>0.90	0.914	0.920	True
	CFI	>0.90	0.937	0.943	True
	IFI	>0.90	0.937	0.943	True
Parsimonious fit	PNFI	>0.5	0.851	0.852	True
	PCFI	>0.5	0.872	0.873	True
	PGFI	>0.5	0.798	0.799	True

Figure 4-2 The Structural Equation Model Diagram of the Final Professional Identity of of Medical Students



The load of the six factors explaining the professional identity of medical students, from high to low, are professional behavior 0.69, professional emotion 0.66, professional value 0.60, professional cognition 0.56, professional expectation 0.54, and professional commitment 0.50. And professional behavior to the profession of medical students Identity has the greatest impact.

---

## **Chapter V Discussion**

### **5.1 The Overall Situation of Medical Students' Professional Identity**

The result of this study shows that female medical students accounted for 59.2% of the total sample, more than male medical students, indicating that there are more female medical students, which is in line with the reality. Medicine as the first choice for college entrance examinations accounted for 78.8% of medical students, which is much higher than the proportion of medical students who are not the first choice (21.2%). T When choosing medical reasons, 62.9% of medical students who they like as the reason, indicating that most medical students have an internal drive to learn medicine.

The 5 points for the professional identity of medical students is the highest score representing the level of recognition, the 4 points representing the more agreeable level, and the 3 points representing the general level. The higher the score, the higher the professional identity of medical students, and vice versa. The results of this study show that the professional identity score of medical students is 3.86 points, indicating that the level of professional identity of medical students is above the middle. The overall average score of professional commitment is relatively high, while the score of professional values is low. The low score of professional value indicates that medical students do not know enough about the value of the doctor profession, and their basic evaluation is low. Generally speaking, the professional identity has not reached the level of more recognition, which shows that current medical students still have certain concerns about the medical industry that they will work in the future.

### **5.2 Influencing factors of Medical Students' Professional Identity**

Gender and major are not the main factors influencing the professional identity of medical students. Professional identity shows a trend of first decline and then rise with the increase of



---

academic qualifications; medical students in the three schools differ in their professional identity. Professional identity of medical students whose first choice is medicine is higher than that of non-medicine students whose first choice is non-medicine. Professional identity of medical students who choose "I like it" among medical reasons is higher than that of other medical students in all dimensions.

#### (1) Gender

In various scholars' researches on the professional identity of medical students, some studies believe that gender is not an influencing factor of medical students' professional identity (Deng & Wang, 2017; L. Wang et al., 2018; Y. Wu et al., 2018), but some studies believe that gender is an influential factor of medical students' professional identity (An et al., 2016; He et al., 2017; Ji et al., 2015; Zhang, 2010).

The result of this study shows that males and females have no significant differences in professional identity overall, but there are differences in professional values. The scores of professional values of male medical students are significantly higher than those of female medical students. It may be in today's society, because of the particularity of the medical profession, especially some departments have higher requirements for physical strength and experience, and this is a natural advantage of men for women, so the gender advantage of men cannot be ignored when recruiting. Under the background of the hidden male gender advantage in employment, male doctors may get more opportunities to make greater social contributions, and thus have a higher recognition of the professional value of doctors. In addition to career pressure, girls also need to take care of family and childbirth pressures, which may become obstacles to the career development of female doctors. Gender leads to different social expectations and requirements, which may cause male medical students to score higher in professional values than female medical students.

#### (2) Educational Background

The study shows that the professional identity of medical students studying at the undergraduate level is the highest. As the professional study deepens to the master level, it shows a downward trend, and when it comes to the doctoral level, the professional identity

---

increases again. This result is consistent with the results of most scholars' research, that the sense of professional identity drops first and then rises as the grade of study rises (Deng & Wang, 2017; Ji et al., 2015; Tian, 2019; Lili Zhang, 2010).

At the undergraduate level, students just start to get in touch with clinical professional courses, and the freshness of just entering university makes college students full of hope for their future study and life. After continuous in-depth study, they find the gap between ideal and reality. Some professional basic courses are esoteric and difficult to understand, and there are certain differences between theory and practice. And then professional identity begin to decline gradually.

At the master's level, with the accumulation of professional knowledge and the improvement of professional abilities, medical students have more opportunities to contact patients, and they will feel the usefulness and value of knowledge. However, with the professional difficulties in the application of medical knowledge and the negative effects of the actual medical environment, medical students will be confused and shaken about their chosen profession, and their sense of professional identity will decline.

At the doctoral level, after years of study and training, medical students can significantly improve their work skills and accumulate a certain amount of work experience. They have formed a more mature view of the reality of social medical care as well as their career choices tend to be stable. So the sense of professional identity will rise.

### (3) School

Research finds that medical students in different schools have different professional identity, which may be due to the following reasons. One is the different ways of school orientation and education. The orientation of talent training will affect the curriculum, and there are certain differences from teachers' expectations to students' self-evaluation. These differences will subtly affect the professional identity of medical students. Secondly, the school's supporting resources are inconsistent. The place of internship will directly affect the professional identity of medical students. For example, hospitals belonging to different schools are inconsistent in scale, and the difficulty of seeing cases in large hospitals for medical students

---

is different from that of smaller hospitals, and the sense of accomplishment after the solution will be different. This will largely affect professional identity of medical students.

#### (4) Major

In various scholars' research on the professional identity of medical students, some studies believe that majors are not the influencing factors of the professional identity of medical students (Tian, 2019), but some studies believe that gender is an influential factor of medical students' professional identity (Ji et al., 2015; Y. Wu et al., 2018; Lili Zhang, 2010; Lina Zhang & Ma, 2016).

In this survey, different majors have no significant impact on professional identity, but students from different majors still have differences in professional commitment and professional expectations. The two majors with the highest scores for professional commitment and professional expectation are Traditional Chinese Medicine and Western Medicine, which are significantly higher than the scores of medical students with Integrated Chinese and Western Medicine and Public Health. Students of Integrated Chinese and Western Medicine study the courses of Chinese medicine and Western medicine. During the course of learning, there may be a contrast, which will be shaken as to which one is inclined. In addition, the professional choice of public health is more extensive, and students can choose research directions such as disease prevention, health and quarantine, food safety and so on. After graduation, the employment direction can be disease prevention and control agencies, occupational disease prevention and control agencies, customs, food management departments, drug regulatory bureaus and so on. Compared with the students of the other two majors, medical students who choose Traditional Chinese Medicine and Western Medicine will have a relatively oriented career path in the future, have a clearer career plan, and have a clearer understanding of future career development prospects. These will lead to higher investment and loyalty in future careers for Traditional Chinese Medicine medical students and Western Medical students, and the corresponding professional commitments and professional expectations will be relatively higher.

---

### (5) Active Willingness

Medicine is the first choice and the medical students who choose medicine as their college entrance examination volunteer because of "I like it" have a higher professional identity than other categories. This is consistent with the results of most studies (Wu et al., 2017; Wu et al., 2018; Zhang, 2010). There may be the following reasons. One is that these are often well thought out, the professional motivation is relatively strong, and the professional identity is relatively high when entering the school. The second is that people will persist for what they like, and will find solutions when encountering difficulties. With the increase in the content and number of medical courses and the increasing pressure, students who actively choose medicine will have a longer motivation to study and will have more perseverance to solve the difficulties they encounter.

## **6.3 Six-Dimensional Analysis of Professional Identity**

According to the results of structural equation model analysis, The influence coefficient of occupational behavior on medical students' professional identity is 0.69, which is the maximum in 6 dimensions. Most of the sense of accomplishment of the doctor profession comes from solving the patient's pain and restoring the patient to health. The realization of this vision depends on the doctor's treatment plan for the patient, that is, the doctor's professional behavior. When doctors use their own judgment and their own methods to successfully handle things, their confidence in themselves will increase, especially for medical students who have little contact with patients. This is a great encouragement. This will increase their awareness of being a good doctor. Professional confidence, thereby enhancing their professional identity.

The impact of professional emotion on medical students' professional identity is second only to professional behavior, with an impact coefficient of 0.66, ranking second. Positive professional emotions have a positive influence on the learning attitude, consciousness and interest of medical students. Maintaining good professional emotion helps medical students to objectively look at the problems encountered in clinical practice, so that they can smoothly pass the transition period from student to doctor, have a positive professional attitude and good

---

clinical skills, and so as to obtain a sense of achievement and recognition of their career on the career path. A positive professional emotion, compared with the stimulation and induction of the external material environment, produces a more stable and longer-lasting behavioral motivation, which promotes medical students to consciously forge ahead on the career path of doctors, and their professional identity will be improved accordingly.

The influence coefficient of professional commitment on medical students' professional identity is 0.50, which is the smallest value among the six dimensions. Professional commitment reflects an attitude of recognition and commitment to the profession they are engaged in. The degree of love, recognition and devotion of medical students to the profession they are engaged in will form a virtuous circle, stick to it because of recognition, and more agree with it because of commitment. However, medical students are still at the stage of exploring their future career paths. At the student stage, the commitment is not so firm, so the impact of professional commitment on professional identity is not as high as in other dimensions.

---

## Chapter VI Conclusions and Recommendations

### 6.1 Conclusion

- a) Medical students' professional identity survey questionnaire consists of 35 items in 6 dimensions: professional cognition, professional emotion, professional behavior, professional commitment, professional expectations, and professional values. It has a certain degree of reliability and validity, and the load of each dimension is: 0.69 professional behavior, 0.66 professional emotion, 0.60 professional values, 0.56 professional cognition, 0.54 professional expectations, 0.50 professional commitment. The indicators of the scale are all within the range of statistical reference requirements, and can be used as a measuring tool for medical students' professional identity.
- b) The overall level of medical students' professional identity is in the upper-middle level. The structural equation model shows that the main factors that constitute the professional identity of medical students are professional cognition, professional emotion, professional behavior, professional commitment, professional expectations, and professional values. And the most influential factor is professional behavior.
- c) Gender and major are not significant factors that affect the professional identity of medical students.
- d) There are differences in the professional identity of medical students with different educational backgrounds, with the highest professional identity of undergraduate medical students; the professional identity of medical students in different schools differs; the professional identity of medical students who choose medicine for different reasons is different. Medical students who choose medicine because they "like it" have the highest professional identity.

### 6.2 Recommendations

Although the overall professional identity of medical students is in the upper-middle level,

---

under complex and changeable social factors, the level of professional identity of medical students has not yet reached the expectations of society, industry, and university education. The joint efforts of the Chinese government, medical schools, hospitals and other groups are needed to create a harmonious and positive career development environment for medical students and improve their sense of professional identity.

### 6.2.1 Chinese Government increases investment in working conditions of doctors and improves relevant laws and regulations

#### **a) Improve relevant laws and regulations to protect the interests of doctors**

The occurrence of medical disputes reflects the risks of doctors' practice, but there are currently no complete laws and regulations to protect the interests of doctors. The frequent occurrence of negative events will impair the enthusiasm of doctors, and ultimately the health of the people cannot be guaranteed. The Chinese government should fully balance the interests of patients and doctors when carrying out medical reforms, so that the interests of both parties can be protected. The interests of doctors are guaranteed, and medical students who serve as the reserve army can also be more determined to engage in the doctor profession.

#### **b) Increase medical investment**

As the economy develops, people will pay more attention to health. People's health concepts have evolved from "can see a doctor" to "good for sick" and "not sick". This has higher requirements for the training of doctors. The Chinese government needs to increase financial investment in the medical and health field to ensure the stable development of the entire medical industry and achieve the goal of "healthy China". Increasing financial investment also includes investment in the training of medical students, such as the improvement of learning conditions, the increase and renewal of technical equipment and so on. When medical students feel that their future careers are valued by the state, their sense of professional identity will also be positive Influence.

---

## 6.2.2 Medical Schools pays attention to guidance and reforms the medical curricula

### **a) Strengthen vocational awareness education**

The first is to strengthen enrollment publicity. Students who choose medicine as their first choice have a higher sense of professional identity. Students should be guided to recognize medical majors, social environment, and career planning during the high school enrollment consultation stage. The second is to implement teaching reforms, like arranging internship courses early, to allow medical students to get in touch with the clinic as soon as possible, and to increase the combination of theoretical and practical guidance. It enables medical students to have a more intuitive understanding of the profession of doctors, enhance their interest in learning from actual contacts, and strengthen their beliefs.

### **b) Emphasize the importance of career planning**

A good career plan can promote a person's career development. Therefore, medical colleges and universities offer more career guidance courses in the curriculum to guide medical students to think about the field, height, and realization path of their career development. At the same time, it is also necessary to teach students the awareness and ability to dynamically adjust planning based on objective reality. Establishing goals through clear awareness will help medical students to make various preparations so that they can achieve their career development goals as soon as possible.

### **c) Do a good job in professional emotional education**

At the beginning of the internship in the hospital, medical students who have high expectations for the transformation of their theory into practice will follow the clinical tutor to the outpatient clinic to handle some things independently. Clinical instructors need to guide students to build self-confidence, avoid behaviors that directly impact self-confidence, and achieve the goal of making medical students firm that they can be a doctor.

### **d) Pay attention to positive feedback on professional behavior**

Appropriate goals foster confidence. When they first entered the hospital for internship,



---

medical students who had high expectations for the transformation of their theories into practice followed the clinical tutor to the outpatient clinic to handle some things independently, gradually cultivate self-confidence, and avoid directly suppressing self-confidence in the first place. It is necessary that medical students must be convinced that they can pursue a career as a doctor.

**e) Establish positive professional values**

Medical students will encounter all kinds of patients during the internship, including things that are bad and full of negative energy. Clinical teachers should promptly discover and resolve the negative emotions generated by medical students, and provide positive guidance to make things present a positive and sunny perspective, so that medical students can form a positive view of the medical industry.

### 6.2.3 Hospital establishes better environment for medical treatment and attaches importance to the psychological state of medical students

Hospitals are important places for medical students to practice and work in the future, so they play an irreplaceable role in improving the professional identity of medical students.

**a) Establish a better environment for medical treatment**

Hospitals should establish a better environment for medical treatment, such as reasonable diagnosis and treatment procedures to reduce patient waiting time, training of doctors' communication skills to reduce patient anxiety and anxiety, and publicity of medical knowledge to increase patients' trust in doctors. Through different measures to create a harmonious atmosphere, create a sense of professional identity of medical students, create a good environment, and increase the belief in the profession of a doctor.

**b) Attach great importance to medical disputes**

Medical disputes, such as verbal abuse, threats, physical attacks and so on., can cause harm to the body and mind of medical students, and make medical students lack a sense of security in the medical professional environment they will be engaged in. The hospital should offer lectures on medical disputes so that medical students can objectively analyze the causes of

---

medical disputes and treat various medical disputes in a rational manner. At the same time, it ought to teach medical students the necessary coping skills to deal with medical disputes, so that they can have certain coping capabilities. In addition, it is necessary to attach great importance to students who have experienced medical disputes, and carry out psychological counseling for them as soon as the medical dispute occurs to reduce the negative impact of the incident, strengthen the psychological defense mechanism, and improve the psychological endurance.

### **6.3 Research limitations and Prospects**

Due to the characteristics and time of the research content, this research has a problem and limitation that needs to be studied and resolved in the next step.

#### **(1) The scale is not professional enough**

This study did not require many representative authoritative experts to revise and improve the scale. The next research plan will be from point to point, taking the sample of this study as an example, requiring authoritative professions to revise the scale, and perfecting and promoting the professional identity scale of the medical students in Guangdong Province and even the whole of China.

#### **(2) The sample coverage is less**

This study takes the participation of medical students in Guangzhou as an example, so the results may be limited. In the next step, on the basis of this research, on the one hand, the scale will be extended to other provinces to increase the regionality of the samples; on the other hand, the professional scope will be expanded to develop professional identity scales for medical students in other majors, such as basic medicine, pharmacy, biotechnology and so on, to further understand the current situation of medical students' professional identity and provide a basis for improving the quality of my country's medical reserve army.

---

## References

- An, H., Yang, X., Zhang, A., & He, S. (2016). An Analysis of Students' Recognition of Professional Identity in a Medical School. *China Higher Medical Education*, *10*, 38–39. (in Chinese)
- Burgess, A., & Nestel, D. (2014). Facilitating the development of professional identity through peer assisted learning in medical education. *Advances in Medical Education and Practice*, *5*, 403–406.
- Chen, C., & Lin, J. (2013). A Survey of Medical Students' Professional Identity. *Health Vocational Education*, *31*(3), 119–120. (in Chinese)
- Chen, X., Liang, B., Sun, D., & Liang, J. (2014). Thinking of Improving Medical Students' Professional Value Identity. *Chinese Medical Ethics*, *27*(5), 664–666. (in Chinese)
- Cope, A., Bezemer, J., Mavroveli, S., & Kneebone, R. (2017). What Attitudes and Values Are Incorporated into Self as Part of Professional Identity Construction When Becoming a Surgeon? *Academic Medicine*, *92*(4), 544–549.
- Crossley, J., & Vivekananda-Schmidt, P. (2009). The development and evaluation of a Professional Self Identity Questionnaire to measure evolving professional self-identity in health and social care students. *Medical Teacher*, *31*(12), e603–e607.
- Cruess, R. L., Cruess, S. R., Boudreau, J. D., Snell, L., & Steinert, Y. (2014). Reframing medical education to support professional identity formation. *Academic Medicine*, *89*(11), 1446–1451.
- Cruess, R. L., Cruess, S. R., Boudreau, J. D., Snell, L., & Steinert, Y. (2015). A schematic representation of the professional identity formation and socialization of medical students and residents: A guide for medical educators. *Academic Medicine*, *90*(6), 718–725.
- De Grasset, J., Audetat, M. C., Bajwa, N., Jastrow, N., Richard-Lepouriel, H., Nendaz, M., & Junod Perron, N. (2018). Medical students' professional identity development from being actors in an objective structured teaching exercise. *Medical Teacher*, *40*(11), 1151–1158.
- Deng, F., & Wang, H. (2017). Development Stauts and COuntermeasures of Professional Identification of Medical Students. *Journal of Nanjing University of TCM( Scocial Science)*, *18*(3), 189–193. (in Chinese)
- Feng, G., Li, R., Liu, J., Hao, S., Xu, M., Wu, G., Man, M., & Yan, Q. (2020). Discussion on the training model of general medical students based on professional identity. *China Medical Herald*, *17*(35), 64–67. (in Chinese)
- Goldie, J. (2012). The formation of professional identity in medical students: Considerations for educators. *Medical Teacher*, *34*(9), e641–e648.
- Hatem, D. S., & Halpin, T. (2019). Becoming Doctors: Examining Student Narratives to Understand the Process of Professional Identity Formation Within a Learning Community. *Journal of Medical Education and Curricular Development*, *6*, 1–7.
- Hayashi, M., Son, D., Nanishi, K., & Eto, M. (2020). Long-term contribution of international electives for medical students to professional identity formation: a qualitative study. *BMJ Open*, *10*(8), 1–9.

- 
- He, X., Wang, F., & Yao, L. (2017). The Current Situation of Medical Students' Professional Identity and Countermeasures. *Journal of Nanjing University of TCM( Social Science)*, 18(4), 274–276. (in Chinese)
- Hendelman, W., & Byszewski, A. (2014). Formation of medical student professional identity: Categorizing lapses of professionalism, and the learning environment. *BMC Medical Education*, 14(1), 1–10.
- Huang, L., & He, Y. (2019a). Analysis on the Influence of Medical Students' Career Choice under the Present Situation of Doctor-patient Relationship. *Research and Practice of Innovation and Entrepreneurship Theory*, 14, 185–191. (in Chinese)
- Huang, L., & He, Y. (2019b). Talking About the Influence of the Current Doctor-Patient Relationship on Medical Students' View of Choosing Careers. *Asia Pacific Education*, 07, 42. (in Chinese)
- Ji, X., Wang, W., Hou, S., Ren, S., & Li, M. (2015). Study on the Status and the Influence Factors of Professional Identity of Medical Students. *Journal of Jining Medical College*, 38(1), 71–74. (in Chinese)
- Jiang, W. (2018). Research on the Cultivation of Craftsman Spirit and Professional Identity Education of Medical Students. *Chinese Medical Ethics*, 31(8), 1073–1076. (in Chinese)
- Kuang, H. (2018). Talking About the Current Situation and Measures of Medical Students' Professional Identity. *Economic Outlook of Bohai Rim*, 5, 143. (in Chinese)
- Lei, M., Zeng, G., Yuan, J., He, Z., & Zhong, W. (2009). Strengthen the Professional Identity and Professionalism Education of Medical Students. *Educational Exploration*, 3, 11–12. (in Chinese)
- Li, Y. (2005). Strengthen the Research of Medical Students' Professional Identity Education Method. *Medicine and Society*, 18(3), 63–65. (in Chinese)
- Li, Y., Zhu, J., Wang, M., Zhang, L., Liu, C., Li, M., & Jia, X. (2020). Medical Students' Cognition of COVID-19 and Effect on Medical Students' Psychological State and Professional Identity Brought by COVID-19. *China Medical Education Technology*, 34(6), 699–707. (in Chinese)
- Li, Y. Li, R., & Yu, J. (2020). Cultivation Path of Professional Identity of Medical Students in the New Era. *Occupation*, 19, 24–25. (in Chinese)
- Liu, W., Liang, L., Tao, S., Kang, Z., Gao, L., Xu, J., Song, W., & Xue, Y. (2019). Analysis on the Status of Medical Students' Professional Identity. *China Higher Medical Education*, 3, 6–8. (in Chinese)
- Lv, Y., Liu, H., Yin, X., Lv, Y., Zhao, R., Li, Z., & Gong, S. (2020). Investigation and Analysis on the Professional Identity Status of Medical Students during the COVID - 19 Epidemic. *Chinese Medical Ethics*, 33(8), 954–958. (in Chinese)
- Monrouxe, L. V. (2010). Identity, identification and medical education: Why should we care? *Medical Education*, 44(1), 40–49.
- Mumford, E. (1984). *Private lives and professional identity of medical students*. S.P. Broadhead. Transaction Books, New Brunswick, NJ, 1983. 128 pp. \$24.95. *Social Science & Medicine*, 19(1), 71–72.

- 
- Qiu, X. (2008). Investigation on the Status Quo of Medical Students' Professional Consciousness and Discussion on the Countermeasures. *Higher Education Exploration*, 2, 134–136. (in Chinese)
- Ramos-Cerqueira, A. T. de A., & Lima, M. C. P. (2002). A formação da identidade do médico: implicações para o ensino de graduação em Medicina [The Establishment of the Physician's Identity: Implications for Undergraduate Medical Teaching]. *Interface - Comunicação, Saúde, Educação*, 6(11), 107–116.
- Schei, E., Knoop, H. S., Gismervik, M. N., Mylopoulos, M., & Boudreau, J. D. (2019). Stretching the Comfort Zone: Using Early Clinical Contact to Influence Professional Identity Formation in Medical Students. *Journal of Medical Education and Curricular Development*, 6, 1–6.
- Sharpless, J., Baldwin, N., Cook, R., Kofman, A., Morley-Fletcher, A., Slotkin, R., & Wald, H. S. (2015). The becoming: Students' reflections on the process of professional identity formation in medical education. *Academic Medicine*, 90(6), 713–717.
- Shu, M., Huang, S., & Chen, J. (2019). Impact of Medical Practice Environmental Assessment on Professional Identity of Clinical Medical Students. *Medicine and Society*, 32(6), 131–134. (in Chinese)
- Tian, X. (2019). Investigation on the Status Quo of Medical Students' Professional Identity and Countermeasures. *Journal of Chemical Information and Modeling*, 31(9), 69–72.
- Wang, J. (2020). Investigation on Mental Health Status and Professional Identity of Medical Students who Adhere to Clinical Practice Under the New Crown Pneumonia Epidemic. *China Higher Medical Education*, 9, 7–8. (in Chinese)
- Wang, L., Zhong, F., Hu, D., & Ma, Y. (2018). Investigation and Research on the Professional identity of Medical Students. *Journal of HUBEI Correspondence University*, 31(12), 33–34. (in Chinese)
- Wu, J. (2018). Reinterpretation of the White Paper on Physician Practice. *China Hospital CEO*, 21, 32–33. (in Chinese)
- Wu, M. (2010). *Structural Equation Model: Operation and Application of AMOS* (2nd ed.). Chongqing University Press. (in Chinese)
- Wu, Q., Zhou, J., Huang, X., Fang, M., & Fang, Y. (2017). Analysis on the Medical Students' Professional Identity Status Quo. *Chinese Journal of General Practice*, 5(9), 1542–1545. (in Chinese)
- Wu, Y., Shen, L., Chen, D., Zhong, Y., & Zhang, Y. (2018). A Professional Identity Survey of Medical Students in A Medical College in Zhejiang Province. *China Higher Medical Education*, 6, 55–56. (in Chinese)
- Ye, Z. (2014). Investigation and Analysis of the Impact of Bad Medical Environment on the Professional Identity of School Medical Students. *China Higher Medical Education*, 4, 51–52. (in Chinese)
- Yue, G., & Zhao, L. (2021). Status Quo Analysis of Clinical Medical Postgraduates' Professional Self - identity in a Medical School in Jiangsu Province in the Context of COVID - 19. *Medicine and Society*, 34(1), 104–109. (in Chinese)

- 
- Zhang, L. (2010). *Research on the Status Quo and Influencing Factors of Medical Students' Professional Identity*. East China Normal University. (in Chinese)
- Zhang, L., & Ma, X. (2016). Investigation and Countermeasures on the Status Quo of Medical Students' Professional Identity. *School Party Building and Ideological Education*, 21, 72--74. (in Chinese)
- Zhang, L. (2014). On the Influence of Doctor-patient Relationship on Medical Students' Professional Identity. *Medical Journal of Chinese People 's Health*, 26(14), 100–102. (in Chinese)
- Zhang, X., & Qiao, P. (2020). Research on Medical Students' Cognition and Professional Identity of the New Coronary Pneumonia Epidemic. *Journal of Inner Mongolia Normal University ( Educational Science)*, 33(4), 53–57. (in Chinese)
- Zhao, J., Yan, C., & Xi, Y. (2016). Investigation and Research on the Influence of Doctor-patient Relationship on Medical Students' Employment. *Studies of Trace Elements and Health*, 34(1), 51–52. (in Chinese)
- Zhao, X., Liu, H., Xue, Z., Li, Z., Jiang, Y., & Nie, J. (2014). Medical Students' Professional Identity: An Evaluation Study. *China Higher Medical Education*, 12, 7–8. (in Chinese)
- Zhou, P., Yang, C., LI, Z., LI, X., Zhao, W., XIN, C., Lin, J., Wu, H., & Zhao, X. (2020). Survey of Order-Oriented General Medical Students' Participation in the Prevention and Control of COVID-19 Epidemic and its Impact on Their Professional Self-Identity. *Journal of Wenzhou Medical University*, 50(4), 272-277,284. (in Chinese)

---

## Annex

### Questionnaire on Professional Identity of Medical Students

Dear students:

Hello! Thank you for taking the time to fill out this questionnaire.

The degree of medical students' professional identity affects their enthusiasm for learning and the motivation for future career development. To understand the professional identity of medical students in Guangzhou, we designed this questionnaire. There is no right or wrong answer to the questionnaire. Please choose the answer that is closest to your real situation. Your filling will directly affect the accuracy of our research results. Please fill in each question carefully and completely.

This questionnaire is for academic research only, and the content you fill in will be kept strictly confidential.

Thank you again for your support!

Research Group of Medical Students' Occupational Identity

February 2021

#### ● Basic Situation

1. Your Gender: [multiple choice] \*

Male

Female

Other \_\_\_\_\_ \*

2. Your Age (according to your birthday) [fill in the blanks] \* \_\_\_\_\_

---

**3. Your Educational Background [multiple choice] \***

- Undergraduate
- Master
- Doctor
- Other \_\_\_\_\_ \*

**4. Your School [multiple choice] \***

- Sun Yat-Sen University
- Southern Medical University
- Jinan University
- Guangzhou University of Chinese Medicine
- Guangzhou Medical University
- South China University of Technology
- Other \_\_\_\_\_ \*

**5. Your Major [multiple choice] \***

- Western Medicine (such as clinical, oral, etc.)
- Traditional Chinese Medicine
- Integrated Chinese and Western Medicine
- Public Health (such as prevention)
- Other \_\_\_\_\_ \*



---

**6. Your Grade [multiple choice] \***

- First grade
- Second grade
- Third grade
- Fourth grade
- Fifth grade

**7. Is studying medicine your first choice for the college entrance examination?**

[multiple choice] \*

- Yes
- No

**8. You chose medicine because of [multiple choice] \***

- I like it
- Family wishes
- Recommended by others
- Adjustment result
- Other \_\_\_\_\_ \*

## ● Questionnaire

The descriptions related to the professional identity of medical students are listed below, please choose according to the degree of conformity with your actual situation.

### 9. Professional Cognition [matrix multiple choice]\*

It refers to the degree of understanding of medical students on the nature and significance of the doctor's profession.

Description	Strongly disagree	Disagree	Not agree	Agree	Strongly Agree
Q1: I had a better understanding of the doctor's profession when I enrolled	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q2: I am now clear about the professional requirements of doctors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q3: I know the responsibilities and missions of a doctor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q4: I think doctors can treat diseases and save people, it is great	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q5: I think doctor is a noble profession	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 10. Professional Emotion [matrix multiple choice] \*

It refers to the emotional investment of medical students in the doctor's profession and the emotional experience that the profession brings to the individual, whether it is a positive experience or a negative experience.

Description	Strongly disagree	Disagree	Not agree	Agree	Strongly Agree
Q1: I love my major	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Description	Strongly disagree	Disagree	Not agree	Agree	Strongly Agree
Q2: I admire the work of a doctor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q3: I think the doctor's work is full of fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q4: I am more and more interested in the work of doctors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q5: In interacting with other majors, I am proud that I am a medical student	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q6: I feel uncomfortable when others say that the doctor is not good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q7: If I can choose again, I will still study medicine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 11. Professional Behavior [matrix multiple choice] \*

It refers to the behavior tendency of medical students in pointing to medical practice, including professional skills and behavior characteristics, etc.

Description	Strongly disagree	Disagree	Not agree	Agree	Strongly Agree
Q1: I am very attentive and dedicated to professional learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q2: I can master the necessary operational skills for clinical medicine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q3: I will spend time thinking about medical problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Description	Strongly disagree	Disagree	Not agree	Agree	Strongly Agree
Q4: I will actively follow the news reports of doctors in the society	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q5: I make a clear plan for my future career development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 12. Professional Commitment [matrix multiple choice]\*

The degree of reluctance of medical students to change their occupations is caused by their investment in occupations and the internalization of social norms, their desire to maintain their occupations, and their perception of the cost of leaving this occupation, etc.

Description	Strongly disagree	Disagree	Not agree	Agree	Strongly Agree
Q1: I will treat clinical work with a rigorous attitude	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q2: I will communicate with patients in time at work, understand their thoughts, and solve their difficulties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q3: I can serve patients wholeheartedly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q4: I am willing to serve more patients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q5: Patient satisfaction is my goal in future work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q6: I treat disease prevention as the focus of the doctor's work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q7: After graduation, I will firmly choose the profession of doctor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 13. Professional Expectation [matrix multiple choice] \*

It refers to the expected level of professional development and the expectations of achieving career success, including the view of the overall environment of the doctor industry and the prospects of the individual's achievements in the overall environment.

Description	Strongly disagree	Disagree	Not agree	Agree	Strongly Agree
Q1: I think I can work as a doctor in the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q2: I am confident that I will become an excellent doctor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q3: I hope to achieve something in my doctor's career	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q4: I hope there are more policies to support the development of doctors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q5: Doctor will be my life's profession	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q6: I think being a doctor will enable me to lead an ideal life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 14. Professional Value [matrix multiple choice]\*

It refers to the basic views and basic evaluations of medical students on the professional value of doctors, that is, the embodiment of values in the doctor's profession.

Description	Strongly disagree	Disagree	Not agree	Agree	Strongly Agree
Q1: I think the salary level of doctors is relatively high	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Description	Strongly disagree	Disagree	Not agree	Agree	Strongly Agree
Q2: I think the doctor's contribution matches the income	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q3: I think the social status of doctors is relatively high	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q4: Being a doctor is my ideal career choice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q5: I think being a doctor can realize my life value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**15. Why do you study medicine? What do you think is the benefit of studying medicine for you? [Fill in the blanks]**

---

**16. Please go to medical school and write down what you want to say most**

[fill in the blanks]

---

**Thanks again for your cooperation!**

**Happy Learning!**