# An In-Depth Study on the Ideological Education Pathway Based on the Psychological Perplexities and Expectations of Pharmacy Students

# Xiaojin Wang\*, Lizhen Lai, Bingxue Yi, Hedong Jiang, Xunbing Shen

Jiangxi University of Chinese Medicine, Nanchang, Jiangxi, 330004, China \*Corresponding author: xiaojinwang1994@163.com

Abstract: Pharmacy students, as the prospective professionals in the medical field, their ideological caliber and mental well-being are of paramount significance for both personal development and the advancement of the industry. This research focuses on pharmacy students, conducts a comprehensive analysis of their psychological perplexities and expectations, and explores the ideological education path. The students are confronted with challenges such as academic stress, career-choice perplexities, and interpersonal relationship problems. At the same time, they aspire for a favorable professional growth prospect, more practical opportunities, and all-round personal development. The existing ideological education approach has achieved certain results; however, it has drawbacks such as the weak relevance of educational content, a monotonous methodology, the necessity to enhance the teaching workforce, and an imperfect assessment mechanism. The strategies to improve the ideological education path mainly include enhancing the relevance of educational content, innovating teaching methods, strengthening the construction of the teaching team, and refining the educational evaluation system. This provides support for cultivating medical talents with excellent professional ethics and a strong sense of social responsibility. In the future exploration of the ideological education path, unremitting efforts should be made to provide superior ideological education services for the growth and progress of pharmacy students.

Keywords: pharmacy students, ideological education, psychological perplexities, expectations

#### 1. Introduction

Pharmacy students, being the core professional talents in the prospective medical domain, their ideological quality and mental health condition play a crucial and decisive part in both personal growth and advancement and the long-term development of the entire medical industry[1]. In the current complex and perpetually evolving learning and living milieu, pharmacy students will inevitably encounter a series of formidable challenges and thus are highly susceptible to confronting diverse psychological perplexities<sup>[2]</sup>. Primarily, the academic pressure is truly formidable. The onerous curriculum tasks are analogous to heavy fetters, and the highly arduous professional knowledge is more like an impassable peak, frequently plunging students into profound anxiety[3]. They are required not only to master an extensive amount of theoretical knowledge but also to possess robust experimental skills, which indisputably imposes substantial psychological burdens on the students<sup>[4]</sup>. Secondly, in the realm of career choice, students are often beset with bewilderment. Precisely where lies the future career orientation? How should the development trajectory be selected? These queries are akin to a dense fog enshrouding them, rendering them feeling utterly at a loss. Finally, interpersonal relationship issues also surface intermittently. When interacting with classmates, conflicts may erupt due to competitive pressures or personality disparities; when communicating with teachers, misunderstandings may transpire owing to ineffective communication; and with respect to future colleagues, they are fraught with uncertainties and concerns, being ignorant of how to coexist harmoniously with them, all of which have evolved into intractable problems plaguing them. Many previous studies have given a certain degree of attention to the psychological status and ideological education of pharmacy students<sup>[5]</sup>. Some studies have focused on the impact of academic pressure on students' mental health and, through in-depth research and analysis, proposed corresponding mitigation strategies, providing useful references for students to relieve academic pressure<sup>[6]</sup>. There are also studies that have deeply explored the reasons for career choice perplexities and given practical coping methods to help students find their way in career planning[7]. Regarding interpersonal relationship problems, many scholars have conducted detailed

analyses and provided constructive suggestions from different perspectives, providing students with various ideas for handling interpersonal relationships. However, at present, the comprehensive research on the psychological perplexities and expectations of pharmacy students is relatively scarce, and the exploration of the ideological education path still needs to be further dug deeper. This study aims to comprehensively and deeply understand the psychological perplexities and expectations of pharmacy students and actively explore targeted ideological education paths to effectively improve the comprehensive quality of pharmacy students. It is committed to contributing to the cultivation of medical talents with good professional ethics and strong social responsibility, thereby promoting the sustainable and healthy development of the medical industry.

#### 2. Psychological perplexities of Pharmacy Students

#### 2.1. Academic Pressure

# 2.1.1. High Difficulty of Courses

Pharmacy professional courses cover multiple fields like chemistry, biology, and medicine with an intertwined and complex knowledge system and arduous learning difficulty<sup>[8]</sup>. Pharmacy students face numerous challenges and need to master a large amount of professional knowledge and skills. For example, medicinal chemistry requires understanding drug molecular structure, synthesis methods, and chemical properties; pharmacology demands delving into drug action mechanisms, pharmacodynamics, and pharmacokinetics; pharmaceutics involves drug formulation design, preparation, and quality control. This extensive and profound knowledge and skills pose extremely high requirements for students' learning ability and time management ability. In terms of learning ability, students need strong memory, comprehension, and analysis abilities to master complex knowledge and apply it to practical problems, along with good autonomous learning ability.

#### 2.1.2. High Requirements of Experimental Courses

Pharmacy is characterized by various experimental courses with extremely strict requirements Experiment is crucial in pharmacy for exploring drug mysteries and verifying theoretical knowledge<sup>[9]</sup>. Pharmacy students face complex instruments and reagents and must follow accurate procedures and specifications. A solid theoretical foundation is essential for conducting experiments, enabling accurate grasp of experimental purposes and points. Skilled experimental skills are also indispensable. However, experiments are not always smooth. Failure and frustration often occur, bringing psychological pressure. Failure can mean wasted efforts and lead to self-doubt. Multiple failures can multiply pressure. Worries about ability, academic performance, and career development may arise. If not alleviated in time, this pressure can impact physical and mental health and learning enthusiasm.

# 2.1.3. Examination Pressure

Pharmacy examinations are extensive in knowledge coverage, ranging from basic chemical principles to complex biological mechanisms and pharmaceutical structures and processes. They are often difficult, testing not only memory but also understanding, application, and comprehensive analysis of knowledge. Pharmacy students must invest significant time and energy for comprehensive review, sorting knowledge points, organizing notes, doing exercises, and taking mock exams. This often requires sacrificing rest and recreation time. However, huge exam pressure can lead to emotional problems such as anxiety and nervousness, with symptoms like a racing heart, sweaty palms, and poor sleep<sup>[10]</sup>. Prolonged high stress and anxiety can seriously affect students' physical and mental health, causing depression, loss of motivation, and perplexities and fear about the future. Additionally, exam pressure can trigger excessive competition, disrupting the learning atmosphere and interpersonal relationships.

# 2.2. Career Choice perplexities

# 2.2.1. Unclear Professional Direction

Pharmacy major encompasses drug research and development, production, sales, and clinical pharmacy. Pharmacy students often face perplexities in choosing a career direction as they lack clarity on development prospects and specific talent requirements in these fields. Research and development has innovation but also risks and challenges. Production demands quality control and management but can be monotonous. Sales requires communication skills and market insight yet is competitive. Clinical pharmacy serves patients with responsibility and achievement. Students wonder about future

development, career stability, and income. They are also unsure about their interests and whether their abilities match. Uncertainty makes them hesitate and feel confused<sup>[11]</sup>.

# 2.2.2. Intense Employment Competition Pressure

In the wake of the growth of the medical industry, the quantity of pharmacy graduates is on the rise, and concomitantly, the pressure of employment competition is intensifying. For these pharmacy students on the cusp of entering society, their concerns loom large like a persistent shadow. They fret about the arduousness of securing an ideal job post-graduation. Gazing upon the cutthroat competition landscape in the job market, where numerous outstanding graduates vie for a finite number of positions, their hearts are rife with anxiety. During the learning process, they are frequently plagued by self-doubt regarding the adequacy of their professional acumen and the alignment of their comprehensive qualities with market requisites. This state of perplexities and anxiety not only dampens their learning zeal but also renders them bereft of sufficient confidence and fortitude when confronting future challenges.

#### 2.2.3. Uncertain Career Development Prospect

The medical industry is developing and changing rapidly, and pharmacy students are uncertain about the future career development prospect<sup>[12]</sup>. They are often deeply confused and do not know whether the professional knowledge and skills they have learned can truly meet the urgent needs of the industry in the future. The knowledge in the pharmaceutical field is constantly updated and iterated, and new drug research and development technologies, production processes, and clinical application methods emerge in an endless stream. At the same time, they are also not clear about what challenges and opportunities they may face in their career development. New drug research and development directions, emerging market fields, and innovative business models may all provide them with broad development space. However, it is difficult for students to accurately predict when these opportunities will appear and whether they can seize these opportunities. This sense of uncertainty about the future makes them feel confused and helpless in learning and career planning.

#### 2.3. Interpersonal Relationship Problems

# 2.3.1. Tense Classmate Relationships

In the dynamic college years, students spend an extended period living and studying with their classmates. Undoubtedly, good classmate relationships are essential for their mental health<sup>[13]</sup>. Harmonious interactions create a positive learning environment, enabling students to develop and progress with mutual support. When facing difficulties, the care from classmates provides warmth and strength to overcome challenges. However, reality isn't always perfect. Due to personality differences, conflicts may occur among pharmacy students. Some are outgoing and enjoy communication, while others are introverted and prefer solitary study. These differences can lead to misunderstandings and frictions in daily life and study. Moreover, competition pressure is a significant cause of tension. The intense academic competition in pharmacy leads to rivalry in grades, scholarships, and postgraduate admissions. Some students may use unfair means, like cheating or refusing to cooperate in groups, which damages trust and causes conflict. When such tension exists, students' mental health suffers. They may experience negative emotions like anxiety, depression, and loneliness, along with physical symptoms such as insomnia and loss of appetite. These issues not only hinder learning and quality of life but also have a negative impact on future development.

# 2.3.2. Inharmonious Teacher-Student Relationships

In the course of students' learning and growth, the relationship between teachers and students undoubtedly plays a vital role. For students majoring in pharmacy, there may be poor communication between them and teachers during their professional learning. For example, they cannot accurately understand the main points explained by teachers when discussing professional knowledge, or they cannot get timely and effective response from teachers when expressing their doubts. In addition, it may be because they are not adapted to the teaching methods. For example, the teaching methods of some theoretical courses are more traditional and lack of interaction, which is difficult to stimulate students' learning interest. In the experimental course, the teacher's guidance is not clear enough, which leads to the perplexities of students in the operation process. All these factors may cause the teacher-student relationship to become unharmonious. Once the relationship between teachers and students is not harmonious, it is very likely to affect the enthusiasm of students to learn, so that they lack motivation in the face of professional learning, and even have a tired mood. At the same time, it will also cause adverse effects on students' mental health, such as causing anxiety, low self-esteem and other negative emotions,

so that students in study and life to bear greater psychological pressure<sup>[14]</sup>.

#### 2.3.3. Insufficient Social Skills

Pharmacy students typically allocate a substantial amount of time and energy to professional learning. They engross themselves in voluminous professional textbooks and engage deeply in diverse laboratory researches and practices. Consequently, their participation in social activities is relatively limited. Under such circumstances, they may encounter a dearth of adequate opportunities to cultivate and enhance their social skills<sup>[15]</sup>. For instance, when interacting with individuals of varying personalities, they might experience communication hurdles due to their ineptitude in expressing their viewpoints. In team collaborations, they may fail to effectively harmonize the opinions of all stakeholders, thereby impeding the progress of cooperation. This is highly likely to result in an insufficiency of social skills. The deficiency in social skills renders students prone to encountering various difficulties and problems during interpersonal interactions. For example, when confronted with novel social settings, they may become nervous and feel at a loss. When handling interpersonal relationship conflicts, they may lack appropriate resolution strategies. The lack of social skills also exerts a significant impact on students' interpersonal relationships. Simultaneously, it also has a detrimental effect on the mental health of students. Prolonged social difficulties can render students susceptible to feelings of loneliness and inferiority, and may even precipitate psychological issues such as anxiety and depression, thereby posing substantial impediments to their learning and life.

#### 3. Expectations of Pharmacy Students

#### 3.1. Professional Development Prospect

#### 3.1.1. Industry Development Trend

Pharmacy students are passionate about their major and eager to understand the medical industry's development trend. In this rapidly evolving era, they strive to keep up with industry development by mastering the latest information through channels like academic lectures, professional journals, and industry forums<sup>[16]</sup>. They hope their knowledge and skills can meet industry needs, so they study hard, participate in practical activities, and seek cooperation with enterprises to understand job requirements. Through continuous efforts and exploration, they aim to lay a solid foundation for their future careers. Aware of the medical industry's responsibility for people's health, they strive to have solid professional qualities and ethics, and contribute to the industry with firm beliefs and enthusiasm.

# 3.1.2. Career Advancement Opportunities

Students have longing and anticipation for the future, hoping for more career advancement opportunities<sup>[17]</sup>. They view a career as a way to realize life's value and aim to grow from newcomers to outstanding figures. To achieve career goals, they understand the need for continuous effort. Through continuous learning like participating in training courses, pursuing higher degrees, or independent study, they hope to broaden knowledge and understand industry trends. They also recognize the importance of improving comprehensive qualities such as communication, teamwork, and leadership skills to become well-rounded professionals. They firmly believe that only by enhancing professional level and comprehensive qualities can they stand out in workplace competition and obtain better prospects. They envision using solid knowledge and excellent abilities to take on important responsibilities and create value. With determination and perseverance, they bravely move towards their career goals, looking forward to shining on the career path.

# 3.1.3. High Professional Recognition

Pharmacy majors deeply hope their major is widely recognized and respected by society. They see it as having an important mission in safeguarding human health. After years of study with countless efforts, they want society to recognize the value of the major and their efforts in ensuring drug safety and promoting innovation. They expect to utilize their professional advantages in the pharmaceutical industry, whether in research labs, production workshops, or clinical service posts, to solve practical problems and provide better medical services. They are eager to contribute to society and let people feel the importance of the major. They are determined to improve its social status, understanding that a higher status can attract more talents and promote industry development. They actively participate in social practice activities to popularize knowledge and showcase the major's charm<sup>[18]</sup>. Through practical actions, they aim to enhance its social image, hoping it becomes a highly respected and popular major, playing a greater role in social progress and human health.

## 3.2. Practical Opportunities

#### 3.2.1. Rich Experimental Courses

Students, desiring professional knowledge and future career development, are eager for more experimental courses. They view these as extensions and verifications of theory, and crucial for improving skills and practical abilities. Hands-on experiments help them understand pharmacy principles and methods, master instrument usage, and cultivate a scientific attitude and innovative thinking. They hope experimental courses are closely integrated with actual work, simulating operations in drug research, production, and quality control. This would expose them to future work challenges in advance, enabling them to understand processes, master techniques, and be familiar with standards. They want to accumulate practical experience and prepare for future careers. To achieve this, they expect the school to strengthen cooperation with enterprises, invite professionals to teach or guide experiments, and have opportunities for internships or visits. They believe such integration can better help them master knowledge and skills, improve employability, and lay a solid foundation for career development<sup>[19]</sup>.

#### 3.2.2. More Internship Opportunities

Students are passionate and ambitious, hoping for a perfect innovation and entrepreneurship platform. This platform is seen as a world of possibilities, allowing them to exert their innovative abilities and entrepreneurial spirit. They look forward to transforming ideas into practical achievements and pioneering their future. They anticipate close cooperation with classmates and teachers on this platform. Collaborating with classmates brings diverse thinking sparks and mutual encouragement. Working with teachers provides professional guidance and experience sharing. They believe teamwork can lead to more influential projects. They are determined to contribute to the pharmaceutical industry. Understanding its importance to people's health, they hope to inject new vitality through new drug research, process improvement, and service model innovation. They aim to promote industry development and contribute to improving people's health with their wisdom and efforts.

#### 3.3. Personal Growth

#### 3.3.1. Comprehensive Quality Improvement

Pharmacy students, with high expectations for the future, hope to comprehensively improve their comprehensive qualities during college. Ideological and political quality is fundamental, aiming to establish correct outlooks and beliefs through learning and activities. Professional ethics quality is crucial, understanding norms via case analyses and exchanges. Cultural quality is a pursuit, broadening horizons through literature and activities. Physical quality is a focus, maintaining health through exercise. To achieve these goals, they are eager to participate in various activities and trainings, such as club activities for organizational skills, academic competitions for professional improvement, volunteer services for responsibility, and professional trainings for overall development, making preparations for future careers<sup>[20]</sup>.

#### 3.3.2. Self-Value Realization

Students, pulsating with anticipation and aspiration for the future, ardently yearn to completely actualize their self-worth in the realms of both learning and life. For them, the attainment of self-worth represents not just a personal endeavor but also a quest for the essence of life. They are impatient to plunge into the vast ocean of knowledge, ceaselessly augmenting their cognitive faculties and thinking capabilities by painstakingly studying professional knowledge and achieving remarkable academic feats, thereby harvesting a distinctive sense of accomplishment. In life, they vigorously partake in diverse social practice activities and volunteer services, with the intention of bestowing warmth and assistance upon others through their actions. Whenever they observe that their efforts can instigate positive transformations in those around them, they are imbued with a profound sense of satisfaction. This sentiment of satisfaction emanates not solely from the acclaim of others but also from their deeply ingrained dedication to kindness and beauty. In their academic pursuits, they are assiduous and industrious, perpetually probing novel learning modalities and trajectories. They are resolutely convinced that as long as they tenaciously persevere in their efforts, they will indubitably be capable of realizing their self-worth in learning and life, procuring a sense of achievement and contentment, making contributions to society, and scripting their own magnificent chapters in life.

# 3.3.3. Mental Health Support

Pharmacy students often encounter numerous challenges in their studies. Academic pressure from

heavy courses, difficult experiments, and a competitive atmosphere can be overwhelming. Near graduation, career choice perplexities is like a fog, making them uncertain about the future. In the face of these difficulties, they urgently need mental health support. They desire professional psychological counselors to help. Counselors with experience and expertise can listen to their troubles, offer understanding and suggestions, whether it's analyzing academic pressure or guiding career choices. They can be a haven for students' souls. At the same time, students expect systematic mental health education courses to teach stress coping methods and emotion regulation skills, enhancing psychological resilience. Through these courses, they can understand mental health importance and master ways to maintain it, facing challenges with a positive attitude. In short, professional counselors and mental health education courses are crucial for pharmacy students facing academic pressure and career perplexities. This support can help them relieve stress, adjust their mindsets, and maintain a healthy and strong heart on their pharmacy journey.

# 4. Existing Ideological Education Paths and Their Effects

#### 4.1. Classroom Teaching

Ideological and political theory courses are an important channel for the ideological education of pharmacy students. Through the study of ideological and political theory courses, students can understand the basic principles of Marxism, the theoretical system of socialism with Chinese characteristics, and other contents, and improve their ideological and political qualities. Integrating ideological and political education elements into pharmacy professional courses can enable students to receive ideological and political education while learning professional knowledge. For example, in the course of medicinal chemistry, the innovative spirit and teamwork spirit in drug research and development can be introduced; in the course of pharmacology, the safety and effectiveness of drugs can be emphasized to cultivate students' professional ethics and social responsibility.

#### 4.2. Social Practice

Organizing pharmacy students to participate in volunteer service activities, such as community free clinics and drug science popularization publicity, can enable students to understand society and serve society in practice and improve their social responsibility and dedication spirit. Carrying out social practice research activities can enable students to gain an in-depth understanding of the current development status and problems of the pharmaceutical industry and cultivate students' problem awareness and innovation ability. At the same time, social practice research can also enable students to better understand social needs and make preparations for their future career development.

#### 4.3. Campus Cultural Activities

Holding academic lectures and inviting experts, scholars, and industry elites to give lectures on campus can enable students to understand the latest trends and development trends of the pharmaceutical industry and broaden their horizons. Pharmacy student associations can organize various activities, such as academic exchanges, scientific and technological innovation, cultural and sports activities, etc., to enrich students' after-school lives and improve their comprehensive qualities. Strengthening the construction of campus culture and creating a positive, harmonious, and civilized campus cultural atmosphere can subtly influence students' ideological concepts and behavior habits and improve their ideological and political qualities.

# 4.4. Mental Health Education

Providing professional psychological counseling services can help pharmacy students solve psychological perplexities and problems, relieve stress, adjust their minds, and maintain a good mental health state. Offering mental health education courses can teach students mental health knowledge and skills and improve their mental health awareness and self-regulation ability<sup>[21]</sup>.

#### 5. Deficiencies in the Existing Ideological Education Paths

#### 5.1. Lack of Targeted Educational Content

The current ideological education content is often relatively broad and lacks specificity. There is no in-depth analysis and research on the psychological perplexities and expectations of pharmacy students, making it difficult to meet the actual needs of students.

# 5.2. Single Educational Method

The existing ideological education paths mainly adopt traditional methods such as classroom teaching, social practice, and campus cultural activities, and the educational methods are relatively single. They lack innovation and attractiveness and are difficult to stimulate students' learning interests and participation.

# 5.3. It Need to Strengthen the Teaching Staff

The professional qualities and teaching levels of the ideological education teaching staff need to be improved. Some teachers lack an understanding of the pharmacy major and find it difficult to organically integrate ideological and political education with professional education. At the same time, the number of teaching staff is relatively insufficient and difficult to meet the needs of students.

# 5.4. Imperfect Educational Evaluation Mechanism

The current ideological education evaluation mechanism mainly relies on examination results and students' behavior performance, and the evaluation method is relatively single. There is a lack of a comprehensive evaluation of students' ideological qualities and mental health status, making it difficult to accurately reflect the actual effects of ideological education.

# 6. Measures to Improve the Ideological Education Path

## 6.1. Strengthen the Targetedness of Educational Content

Understanding the psychological perplexities and expectations of pharmacy students is crucial for effective ideological education<sup>[22]</sup>. Educators should use methods like questionnaires, interviews, and symposiums to enter students' inner worlds, listen to their perplexities in areas like academic pressure, career planning, and interpersonal relationships, and understand their future expectations. Teachers should base on students' actual needs, formulate targeted ideological education content to ensure it touches their hearts and solves real problems. Combining the characteristics of the pharmacy major and integrating ideological and political education with professional education is key to cultivating highquality talents. Professors should incorporate ideological and political elements in professional course teaching, guide students to recognize the major's mission in safeguarding health and promoting social development. Through sharing advanced deeds and exemplary figures in the industry, they should cultivate professional ethics and establish a scientific attitude, sense of responsibility, and dedication. They should also strengthen social responsibility education so students understand their role in providing safe drugs and promoting the pharmaceutical cause. Paying attention to students' mental health and strengthening mental health education is significant for their growth. Schools should establish and improve the mental health education system, equip professional teachers, offer courses and lectures, and provide counseling services. They should discover and solve psychological problems in a timely manner. Through activities like psychological expansion training and salons, they can improve students' psychological qualities and self-regulation abilities. They can help students cope with stress, regulate emotions, and maintain a positive attitude, providing a psychological guarantee for students' study and life.

#### 6.2. Innovate Educational Methods

Adopting diverse educational methods is crucial for enhancing ideological education effectiveness. Case teaching uses real examples to trigger deep thinking. Group discussions encourage active expression, broadening understanding through idea exchanges. Role-playing helps students experience

responsibilities and challenges, enhancing empathy and social responsibility. Field visits offer intuitive learning experiences, stimulating interests and participation. Leveraging modern information technology opens new channels and spaces. Online courses break time and space limitations. Online learning platforms provide resources and interaction opportunities. WeChat official accounts disseminate ideological education content conveniently and timely, enhancing coverage and influence. Carrying out experiential education activities is powerful. In summary, by using diverse methods, modern technology, and experiential activities, multidimensional and all-round ideological education can stimulate interests and participation, expand channels and spaces, improve effectiveness, and lay a solid foundation for cultivating all-round socialist builders and successors.

#### 6.3. Strengthen the Construction of the Teaching Staff

Strengthening the training and exchanges of ideological education teaching staff is crucial for improving education quality. Regular professional training enables teachers to learn new educational concepts, methods, and counseling techniques to enhance their professionalism. Active teaching exchange activities allow sharing of experiences and learning from successful cases to improve teaching levels. Encouraging teachers to understand pharmacy knowledge and industry trends is significant. Only with a profound understanding of the major can they better integrate ideological and political education with professional education. By participating in seminars, enterprise research, and communicating with professionals, teachers can keep up with industry developments. In teaching, they can combine ideological and political content with professional knowledge to guide students in establishing correct outlooks and responsibilities, cultivating talents with solid skills and noble qualities. Introducing teachers with pharmacy backgrounds and ideological education experience enriches the teaching staff. They are familiar with the major's knowledge and requirements and can conduct effective ideological education. They bring new perspectives and methods, promoting teaching innovation. They also play an exemplary role, driving others to improve and contributing to students' growth. In conclusion, by strengthening staff training and exchanges, encouraging understanding of pharmacy knowledge and trends, and introducing appropriate teachers, we can build a high-quality teaching staff and provide a strong guarantee for ideological education and the all-round development of pharmacy students.

# 6.4. Improve the Educational Evaluation Mechanism

Establishing a scientific and reasonable educational evaluation index system is crucial for comprehensively and accurately assessing students. This system should encompass all important aspects of students. It should deeply consider their ideological qualities, including political awareness, moral concepts, and social responsibilities, to ensure they have correct values and good moral characters. Additionally, the evaluation of students' professional knowledge and skills must not be overlooked, covering their mastery of theoretical knowledge, proficiency in experimental operations, and ability to solve practical problems. Adopting diverse evaluation methods can reflect students' learning effects more objectively and comprehensively. While examination results are an important indicator, they cannot be the only criterion. Daily performance, such as classroom participation, assignment completion, and group discussion contributions, reflects students' learning attitudes and efforts. Practical activities like internships, research projects, and social practices can test students' ability to apply knowledge. Selfevaluation helps students reflect on themselves and discover their strengths and weaknesses. Evaluations from others, including teachers, classmates, and internship units, provide objective views from different perspectives. Strengthening the feedback and application of educational evaluation results is crucial for continuously improving education quality. By timely analyzing results, problems such as inappropriate teaching methods, unreasonable curriculum content, or issues in students' ideological qualities or mental health can be identified. Educators can then promptly adjust methods and content, optimize curriculum settings, and enhance the pertinence and effectiveness of ideological education.

# 7. Summary and Outlook

The psychological perplexities and expectations of pharmacy students are undeniably crucial and significant foundations for research on the ideological education pathway. During the study of pharmacy, students frequently encounter numerous distinctive psychological perplexities, including anxiety stemming from academic pressure, uncertainty regarding future career development, and a sense of discouragement due to the highly challenging nature of professional knowledge. Simultaneously, they possess specific expectations, yearning to achieve success in the professional realm, aspiring to

contribute to the pharmaceutical cause of society, and anticipating more practical opportunities to enhance their professional skills. Through in-depth and meticulous analysis of the psychological perplexities and expectations of pharmacy students, we can more comprehensively and precisely apprehend their specific requirements and unique characteristics. This not only enables us to gain profound insights into the inner worlds of students but also furnishes extremely valuable reference bases for constructing more scientific and efficacious ideological education pathways.

The current ideological education approaches have indeed yielded certain outcomes in enhancing students' ideological and political qualities, fostering professional ethics, and augmenting social responsibilities. Via the instruction of ideological and political theory courses, the organization of social practice activities, and the exemplification of role models, students' political awareness, moral concepts, and social responsibilities have been advanced to a certain degree. Nonetheless, it is undeniable that the existing ideological education pathways also possess some deficiencies. For instance, the educational content might lack specificity and fail to comprehensively consider the particular requirements of pharmacy students; the educational methods could be relatively conventional and challenging to arouse students' learning interests and enthusiasm; the construction of the teaching faculty may necessitate reinforcement, with some teachers lacking pharmacy professional backgrounds and practical experiences; the educational evaluation mechanism may not be sufficiently refined to comprehensively and objectively assess students' learning achievements and ideological qualities.

Future research ought to concentrate on intensifying the relevance of educational content. Pharmacy colleges and universities are obligated to comprehensively apprehend the psychological perplexities and expectations of pharmacy students. By integrating the characteristics of the pharmacy profession and the demands of the industry, they can formulate educational content that is more congruent with the actual situations of students. Moreover, it is essential for them to innovate pedagogical approaches. The application of modern information technologies, such as online courses, online learning platforms, and virtual reality, can diversify teaching modalities and augment students' engagement and learning achievements. Additionally, pharmacy colleges and universities need to reinforce the construction of the teaching faculty. This can be achieved by recruiting teachers possessing pharmacy professional backgrounds and experience in ideological and political education, implementing teacher training and exchange programs, and enhancing teachers' professional competencies and teaching proficiencies. Finally, they should refine the educational evaluation mechanism. The establishment of a diversified evaluation index system, which comprehensively takes into account students' performances in ideological and political qualities, professional knowledge and skills, practical capabilities, and innovative spirits, is crucial for bolstering the effectiveness and pertinence of ideological education.

In conclusion, through in-depth research on pharmacy students' psychological perplexities and expectations, enhancing educational content relevance, innovating methods, strengthening teaching staff construction, and improving the evaluation mechanism, we can better cultivate pharmaceutical talents with strong professional ethics and social responsibilities. Future ideological education path exploration should continue to strive to offer more high-quality services for pharmacy students' growth and development.

# Acknowledgment

The authors acknowledge this paper is supported by the special teaching reform topic of Pharmacy in Jiangxi University of Chinese medicine in 2024 (No.24YXJG-YB009) Funding, and the special project on student subsidize education of Jiangxi University of Chinese Medicine in 2023 (No.2152400106) Funding.

# References

- [1] Rehman, W., Thanganadar, H., Idrees, S., Mehmood, A., Fahad, K. A., Hanan, A. A., Rajpoot, P. L., & Mustapha, M. (2024). Knowledge and perception of Health medication adherence applications among pharmacists and pharmacy students in Jazan, Kingdom of Saudi Arabia. PLoS One, 19(8),1-13.
- [2] Kinny, F., Bushra, A. S., Dabidian, A., Laeer, S., & Obarcanin, E. (2024). Development of a Theoretical Continuous Glucose Monitoring Module for Pharmacy Students: Preparing Pharmacists for the Future. Pharmacy, 12(5), 154.
- [3] Hasan, H. E., Jaber, D., Khabour, O. F., & Alzoubi, K. H. (2024). Ethical considerations and concerns in the implementation of AI in pharmacy practice: a cross-sectional study. BMC Medical Ethics,

- 25, 1-11.
- [4] Jha, N., Shankar, P. R., Al-Betar, M., Mukhia, R., Hada, K., & Palaian, S. (2022). Undergraduate Medical Students' and Interns' Knowledge and Perception of Artificial Intelligence in Medicine. Advances in Medical Education and Practice, 13, 927-937.
- [5] Wondrasek, A., Fryza, A., Md, A. A., Leong, C., Kowalec, K., & Maruf, A. A. (2024). Knowledge, perceptions, and attitudes toward pharmacogenomics among pharmacists and pharmacy students: A systematic review. Health Science Reports, 7(1), 1844.
- [6] Zhou, T., Cheng, G., Wu, X., Li, R., Li, C., Tian, G., He, S., & Yan, Y. (2021). The Associations between Sleep Duration, Academic Pressure, and Depressive Symptoms among Chinese Adolescents: Results from China Family Panel Studies. International Journal of Environmental Research and Public Health, 18(11), 6134.
- [7] Ayoub, D., & Mohamed, D. N. (2024). The impact of push-pull motives on internal tourists' visit and revisit intentions to Egyptian domestic destinations: the mediating role of country image. Humanities & Social Sciences Communications, 11(1), 358.
- [8] McCabe, C., Smith, M. G., & Ferreri, S. P. (2017). Comparison of Flipped Model to Traditional Classroom Learning in a Professional Pharmacy Course. Education Sciences, 7(3), 73.
- [9] Yuan, X., Wan, J., An, D., Lu, J., & Yuan, P. (2024). Multi-method integrated experimental teaching reform of a programming course based on the OBE-CDIO model under the background of engineering education. Scientific Reports (Nature Publisher Group), 14(1), 16623.
- [10] Legisso, T. Z., Mamo, B. G., Bimrew, A. M., & Fikadu, T. (2023). Blood Pressure Examination Habit and Its Determinants Among Civil Servants in Arba Minch Town: A Cross-Sectional Study-Using Hurdle Poisson Regression Model. Integrated Blood Pressure Control, 16, 1-9.
- [11] Lovén, M., Pitkänen, L.J., Paananen, M., & Torkki, P. (2024). Evidence on bringing specialised care to the primary level-effects on the Quadruple Aim and cost-effectiveness: a systematic review. BMC Health Services Research, 24, 1-20.
- [12] Bal, M., & Alhnaity, R. (2024). A Psychology of Sustainable Career Development: Hypernormalized Ideology or Inherently Sustainable? Sustainability, 16(2), 578.
- [13] Moallemi, Robyn. (2024). "The Relationship between Differentiated Instruction and Learner Levels of Engagement at University." Journal of Research in Innovative Teaching & Learning 17(1),21-46.
- [14] Jüllig, A.K., Hebib, S., Metzker, H., Gruber, E., & Gruber, O. (2024). Task-induced deactivation dysfunction during reward processing is associated with low self-esteem in a possible subtype of major depression. Brain and Behavior, 14(6).1-12.
- [15] Oluwatobi, I. D., Aderinto, N., Dr, Gbolahan, O. D., & Emmanuel, K. D. (2024). A Systematic Review of Virtual Reality vs. Standard Social Skills Training for Improving Social Interaction Skills and Reducing Social Anxiety in Children with Autism Spectrum Disorder (ASD). BJPsych Open, 10, S46-S47. [16] Ruiz-Gonzalez, A. (2024). Ion-Selective Electrodes in the Food Industry: Development Trends in the Potentiometric Determination of Ionic Pollutants. Electrochem, 5(2), 178.
- [17] Abu-Tineh, A., Romanowski, M. H., Chaaban, Y., Alkhatib, H., Ghamrawi, N., & Alshaboul, Y. M. (2023). Career Advancement, Job Satisfaction, Career Retention, and Other Related Dimensions for Sustainability: A Perception Study of Qatari Public School Teachers. Sustainability, 15(5), 4370.
- [18] Yue, Z. (2023). Carry Out Students' Social Practice Activities under the Guidance of Curriculum Ideology and Politics. The Educational Review, 7(7), 982-985.
- [19] Widana Pathiranage, R. W. (2020). Sustainability in Career Development: The Impact of Career Development Culture and Career Support of Senior Management on Career Satisfaction. Emerging Markets Journal, 10(2), 1-9.
- [20] Bifeng, L., & LIN, X. (2017). Research on the Comprehensive Quality Improvement Mechanism of University Librarians in the Digital Environment. Journal of Library and Information Sciences in Agriculture, 29(1), 195-198.
- [21] Qin, Y., Jiang, B., & Qin, C. (2024). Research on the Innovative Mode of Mental Health Education in Colleges and Universities Under the Perspective of Integrated Media. The Educational Review, 8(2), 263-267.
- [22] Chen, S., Ma, Y., & Lian, W. (2024). Fostering idealogical and polical education via knowledge graph and KNN model: an emphasis on positive psychology. BMC Psychology, 12, 1-12.