

Influence of mental health status of university teachers on professional competence

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Abstract

Professional mental health of university teachers is the foundation of psychological education. Universities attach great importance to teachers' educational level and scientific research achievements, pay attention to teachers' instrumental value, and pay little attention to teachers' professional psychology. By investigating the current situation of university teachers' mental health, this study aims to understand the level of university teachers' mental health, explore the factors that influence the level of university teachers' mental health and the relationship with social support and professional competence, and provide reference for promoting university teachers' mental health and enhancing their psychological quality. The results show that there is a significant negative correlation between mental health and competence, a significant negative correlation between mental health and social support, and a significant positive correlation between competence and social support. Competency has a significant mediating effect between college teachers' mental health and social support.

Keywords : University teachers, Mental health, Social support, Professional competence.

Introduction

Psychological education is one of the top ten education systems in universities. Teachers' psychological health is the foundation of psychological education and the core of the system for improving the quality of psychological education. Communication between teachers and students, non-technical and emotional factors make students self-developing. Teachers with higher mental health level have strong prosocial behavior, can analyze problems with a rational and peaceful attitude, and improve students' critical thinking ability. Education is the shaping of human nature and the promotion of life quality [Krejčová, Nováková, Čiženkova, Potyszová, Šinkner, & Klapilová, 2020]. Only when teachers love education, have good occupational mental health and high quality of life can they undertake the responsibility and mission of education.

In recent ten years, the research on teachers' psychology and behavior has many perspectives and rich achievements. At the same time, it is found that teachers' psychological health, teachers' competence and teachers' social support are closely related to teachers' subjective well-being. Then, what is the relationship among teachers' mental health, teachers' competence and teachers' social support? Is teacher competence an intermediary variable in the relationship between mental health and social support? This study intends to explore the

relationship among teachers' mental health, competence and social support, and provide data support for better understanding of the mechanism among them. At the same time, it also hopes to further enrich the relevant research on teachers' competence in China.

Literature review

Research on mental health

The United Nations World Health Organization published a charter in 1949, which pointed out: "Health does not simply mean that there is no disease or weakness in the body, but a complete and complete state of physical, psychological and social adaptation." Domestic research on mental health begins with mental health education in schools. Literature (Marquine & Jimenez, 2020) thinks that mental health can make people in a state of psychological stability, which is the communication between individuals and social environment. It is mainly manifested in whether interpersonal communication can maintain balance and emotional stability, and needs and cognitive state are the embodiment of stable self and personality characteristics.

241 teachers were interviewed or surveyed in the study of Literature (Mahfoudh, Bakhroul, Rassas, Ammar, & Khalfallah, 2019) and the results showed that 187 teachers were mentally healthy, accounting for 77.6%. In addition, 54 teachers in 22.4% of the population suffer from mental illness or have personality problems of different degrees, and these people need psychological counseling and further treatment from psychologists. The analysis of teacher and non-teacher samples in literature (Hyaee-Young, Yun-Kyeong, 2020) shows that teachers are better than non-teachers in mental health status, and they are more adjustable. Literature [Walters, Robinson & Walters, 2019] used SCL-90 to investigate 200 teachers in three rural schools and two urban middle schools, and the results showed that various factors and total scores were higher than the standard.

Competency has the following characteristics:

(1) It is possible to distinguish the outstanding from the ordinary, and there should be significant differences in their performance in competency. (2) It is developmental and dynamic, and the competency is not static, but constantly changing with the change of external requirements for work. (3) targeted and related to a certain work situation or field. (4) Emphasize the characteristics of individuals, and the competence in a certain field of work is the common characteristic of many individuals.

Therefore, not all knowledge, skills and personal characteristics are regarded as competence, but competence has its own unique characteristics, which can only be regarded as competence if it meets these characteristics.

In the field of education, the study of competence is almost synchronized with the study of competence in the field of enterprise management. Literature (Yochana, 2019) thinks that

the most influential in the educational competency movement are competency-based teacher education and people-oriented teacher education. The educational model of "competency-based teacher education" emphasizes training future teachers "what they can do", "what they should do" and "what kind of abilities they should have". Literature (Yamaguchi, Sukhbaatar., & Takada, 2019) points out that the evaluation of teachers' competence is an important category of teacher evaluation, and discusses the connotation, evaluation basis, theoretical basis, evaluation purpose and use of teachers' competence from a theoretical perspective. Literature (Prasetia, Akrim, Sulhati, & Burhanuddin, 2021) studies the competency structure of university counselors through self-designed questionnaire, and concludes that the competency of university counselors consists of 12 dimensions: verbal expression ability, adaptability, principle, psychological counseling ability, etc. There are significant differences in the competence of college students' ideal counselors between boys and girls, between colleges and between grades; Self-evaluation of college counselors' competence is significantly related to students' evaluation.

Social support

Social support, as a professional vocabulary, was recorded in related books of psychiatry in 1970s. Literature (Tindowen, 2019) defines social support as "important people who help each other, such as relatives, close friends, family members, etc., and the most prominent help is emotional". Literature (Mercader & Gairin, 2021) holds that social support can promote the development of a society. Literature (Yumiko, et al., 2019) regards social support as a kind of relationship, which can be felt by people and exists objectively, and this existence makes people start to communicate, be cared for, be loved, and give help when people need it.

We can roughly divide the sources of social support into two categories, one is more formal, such as government agencies, institutions, schools providing services, some welfare institutions, and some mutual aid groups; Another kind of source is informal, just like family members, close friends, relatives, colleagues, classmates, and members of some groups with personal participation.

Literature (Mahafuz, Reaz., & Binte, 2019) survey of primary and secondary school teachers found that social support can reduce their job burnout level by relieving stress, which mainly comes from teachers' personal development, family internal contradictions, interpersonal conflicts and so on. Literature (Almaliah-Rauscher, Ettinger, Levi-Belz, & Gvion, 2020) survey shows that college teachers with low scores of relative social support have more job burnout, while those with high scores have less job burnout. Literature (Plessas, Mccomack, & Kafantaris, 2019) survey shows that with the increase of age and teaching years, teachers' support in society will increase accordingly. The research results in reference (Kolandan, & Raman, 2020) show that gender can influence the utilization of support, and objective factors such as educational background, children's status, family status and age can mainly influence the subjective support

of university teachers. The difference of objective support degree of university teachers is reflected in the difference between professional titles and ages.

Research design

1. Research hypothesis

H1: There is a significant positive correlation between professional competence and mental health of university teachers, that is, mental health will increase with the increase of professional competence.

H2: There is a significant negative correlation between social support and mental health of university teachers, that is, mental health will decrease with the improvement of social level.

H3: There is a significant negative correlation between social support and professional competence of university teachers, that is, teachers' pressure will decrease with the improvement of social support level.

H4: Social support plays an intermediary role in the relationship between professional competence and mental health.

2. Research method

2.1 Research objects

In this study, 300 teachers from a certain place were randomly selected by stratified sampling, and 288 valid questionnaires were collected, with an effective recovery rate of 96%. The distribution ratio of teachers' gender, teaching grade, school type and region, educational background and professional title, etc.

2.2 Research tool

(1) Short version of mental health continuum scale

The short mental health continuum scale (adult version), which was compiled by American psychologist Keyes, was adopted. MHC-SF was divided into three subscales, namely emotional well-being, social well-being and psychological well-being. The higher the score, the better the positive mental health. The Cronbach's α coefficient of the short mental health continuum scale in this study was 0.948.

(2) Self-evaluation questionnaire of teachers' competence in school mental health education

The questionnaire for teachers' competence in school mental health education compiled by Chen Hong (2007) of Fujian Normal University contains six factors: effective teaching and consulting ability, professional personality charm, research and guidance ability, work quality, sincere care for students and the ability to seek personal development, with a total of 34 items. Cronbach's α coefficient of the questionnaire is 0.957.

(3) Social support rating scale

The scale adopts the Social Support Rating Scale designed by Xiao Shuiyuan in 1986. The three main dimensions are objective support, subjective support and the utilization degree of social support. There are ten items in total. The total score is the sum of all the questions. The consistency coefficient of the two-month retest total score is 0.92($P < 0.01$), and the consistency of each item is between 0.89 0.94, which shows that the questionnaire has good retest reliability. The scale has good reliability and validity, and can better reflect the level of individual social support.

3. Data reduction

In this study, SPSS22.0 and AMOS17.0 were used to process the data. First of all, SPSS22.0 was used for descriptive statistical analysis, independent sample T-test and variance analysis to test the distribution of teachers' professional competence, social support, mental health total scores and various dimensions in various demographic variables, and the differences were compared and analyzed.

Secondly, correlation analysis is used to test the correlation among teachers' professional competence, social support and mental health, and regression analysis is used to test the predictive function among variables.

Finally, the structural equation model of occupational competence, social support and mental health is established by using AMOS17.0, and the mediating role of social support in occupational competence and mental health is explored and tested.

Result

Evaluation results of college teachers' occupational mental health

Descriptive statistical analysis of college teachers' occupational mental health evaluation results is shown in Table 1.

Table 1. Descriptive statistics of occupational mental health test for college teachers

Field	Minimal value	Maximum value	Mean value	Standard deviation
Professional ethics	42	166.2	130.201	12.991
Professional ability	22	85.1	64.138	7.714
Professional emotion	13	48.9	33.682	5.127
Occupational adaptation	15	55.7	41.896	4.874
Occupational mental health	100	357.9	375.016	28.146

In this study, only 18 college teachers of 288 subjects were all teachers who took part in work earlier, and their professional mental health level was significantly lower than that of teachers with other academic qualifications. Teachers with bachelor degree have the highest

level of professional mental health, which is significantly better than teachers with other qualifications; The professional mental health level of doctoral teachers is slightly lower than that of master's teachers, and the difference is not significant.

A study on the correlation between professional competence and mental health level of university teachers

From Table 2, it can be seen that six dimensions of university teachers' professional competence and test pressure, students, self-development, family interpersonal relationship, workload and professional expectation are significantly negatively correlated with dimensional life ($P < 0.01$). The mental health level of university teachers is negatively correlated with the dimensions of self-development, workload and career expectation of teachers' professional competence ($P < 0.01$).

Table 2. Research results of professional competence and mental health level of university teachers

Project	Life	Work	Self	Society	Mental health
Examination pressure	-0.166**	-0.041	-0.006	-0.018	-0.066
Student Ego	-0.136**	-0.049	-0.019	-0.077	-0.081
development	-0.314**	-0.107	-0.035	-0.125	-0.169**
Family interpersonal relationship	-0.221**	-0.013	-0.021	-0.022	-0.055
Working load	-0.238**	-0.028	-0.087	-0.028	-0.057**
Job expectancy	-0.447**	-0.133*	-0.093	-0.174**	-0.241**
Teachers' professional competence	-0.251**	-0.059	-0.017	-0.073	-0.117

Note: * $p < 0.05$, ** $p < 0.01$

Research on the relationship between professional competence and social support of university teachers

It can be seen from Table 3 that there is a significant negative correlation between the professional competence of university teachers and social support ($P < 0.01$). That is to say, the six dimensions of college teachers' professional competence and test pressure, students, self-development, family interpersonal relationship, workload and career expectation are significantly negative with the three dimensions of social support, subjective support, support utilization and objective support ($P < 0.05$).

Table 3. Research results of university teachers' professional competence and social support

Project	Subjective support	Support utilization	Objective support	Social support
Examination pressure	-0.144**	-0.288**	-0.101**	-0.219**
Student	-0.163**	-0.328**	-0.159**	-0.289**
Ego development	-0.231**	-0.381**	-0.139*	-0.337**
Family interpersonal relationship	-0.228**	-0.327**	-0.133*	-0.347**
Working load	-0.179**	-0.197*	-0.174**	-0.217**
Job expectancy	-0.253**	-0.332*	-0.254**	-0.306**
Teachers' professional competence	-0.218**	-0.379**	-0.183**	-0.336**

Regression analysis of social support on college teachers' mental health

In order to further compare the prediction of mental health by social support, we use mental health as an independent variable and professional competence as a dependent variable for forced entry regression analysis. The results are shown in Table 4.

Table 4. Regression analysis of social support on college teachers' mental health

Dependent variable	Independent variable	<i>R</i>	<i>R</i> ²	Revise <i>R</i> ²	<i>F</i> value	<i>B</i> value	<i>Beta</i> value
Professional competence	Mental health	0.266	0.071	0.065	18.214***	0.874	0.253

The results show that occupational competence can predict 7.1% variance of mental health, and its standardized regression coefficient is 0.266.

In order to further compare the prediction of mental health by various factors of social support, a stepwise multiple regression analysis was conducted with mental health as independent variable and social support and various factors as dependent variables. The results are shown in Table 5.

Table 5. Regression analysis of social support dimensions on college teachers' mental health

Dependent variable	Independent variable	<i>R</i>	<i>R</i> ²	Revise <i>R</i> ²	<i>F</i> value	<i>B</i> value	<i>Beta</i> value
Support utilization	Mental health	0.332	0.116	0.107	29.714***	4.716	0.327

The results show that the utilization of support has entered the regression equation. For mental health, this factor can predict its variance of 10.7%, and its standardized regression coefficient is 0.332.

An analysis of the mediating role of social support of university teachers between professional competence and mental health

Correlation coefficient shows that there is a significant correlation among teachers' mental health, competence and social support, and the premise of mediating effect analysis is satisfied. Table 6 shows the regression results of college teachers' competency to mental health.

Table 6. Regression results of college teachers' competence to mental health

Dependent variable	Independent variable	<i>Beta</i>	<i>R</i> ²	ΔR^2	<i>F</i> value
Competency	Mental health	-0.412	0.178	0.183	121.032***
	Psychotic	-0.271	0.189	0.184	126.741***
Personal traits	Sensitive interpersonal relationship	-0.177	0.227	0.195	69.013***
	Sensitive interpersonal relationship	- 0.223	0.154	0.154	88.745**
Pay attention to students	Obsessive-compulsive disorder	- 0.181	0.133	0.147	49.017***
	Psychotic	- 0.236	0.147	0.127	84.823***
	Stubbornly biased	- 0.158	0.149	0.139	46.983***
Professional accomplishment	Psychotic	- 0.422	0.174	0.178	110.876***
Interpersonal communication	Psychotic	- 0.289	0.132	0.146	85.011***
	Stubbornly biased	- 0.251	0.144	0.151	44.374***
Establish relations	hostile	0.166	0.154	0.149	31.617***
	Anxious	- 0.231	0.087	0.091	48.967***
Career preference	Psychotic	- 0.274	0.154	0.163	95.376***
	Depressed	- 0.145	0.164	0.159	51.087***
Respect or understand others	Sensitive interpersonal relationship	- 0.233	0.147	0.148	98.620***
	Psychotic	- 0.176	0.153	0.160	53.117***

The data in Table 6 shows that from the aspects of teachers' mental health and teachers' competence, interpersonal sensitivity and obsessive-compulsive disorder jointly explain the variance of 15.4% of personal traits; Psychosis and paranoia explain 13.9% variation of students together. Psychosis explained the variance of professional accomplishment by 17.8%. Psychosis, paranoia and hostility explain the variance of interpersonal communication by 13.2%. The explanation of anxiety on establishing relationship reached 9.1%. Psychosis and depression can explain the 15.9% variance of occupational preference; Interpersonal sensitivity and psychosis can explain the 16.0% variance of respecting or understanding others. From the overall analysis of teachers' mental health and teachers' competency, mental health can explain the variance of teachers' competency by 18.3%.

Based on the theoretical hypothesis, taking teachers' professional competence as an independent variable, mental health as a dependent variable and social support as an intermediary variable, the measurement model is tested. The structural equation model shows that the fitting indicators are:

$$\frac{\chi^2}{df} = 3.661$$

$$CFI = 0.917$$

$$TLI = 0.904$$

$$RMSEA = 0.077$$

$$AIC = 287.974$$

$$BIC = 384.103$$

And all path coefficients are statistically significant ($P < 0.01$), so the measurement model can be accepted. As shown in Figure 1, social support plays a completely mediating role between professional competence and mental health.

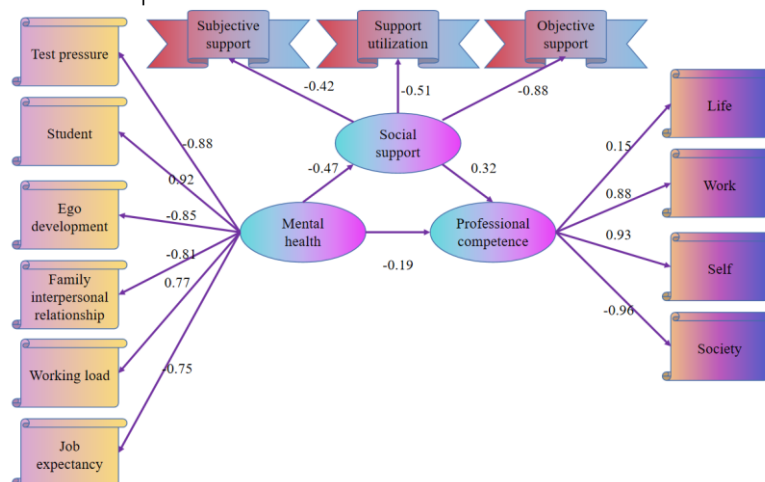


Fig. 1 Mediating role of professional competence, mental health and social support of university teachers

Discussion

1. The occupational mental health assessment scale for university teachers has good applicability

This study abandoned the practice of simply introducing foreign scales, based on the reality of Chinese universities, constructed the theory of professional mental health of university teachers from bottom to top, and formed the corresponding evaluation scale based on the theory. Through the joint efforts of the members of the research group, under the guidance of social survey experts, 300 university teachers were investigated by using the national standard census method, breaking through the limitation of sampling in some areas.

The evaluation results of 300 university teachers show that the evaluation scale is suitable for the analysis of Chinese university teachers. The analysis of item analysis, factor analysis, reliability, construct validity and criterion-related validity shows that the scale has good psychometric characteristics. The four dimensions of the evaluation scale significantly affect the quality of life of university teachers and its sub-dimensions, which shows that the scale has a good distinction between university teachers with different health conditions.

2. Relationship between professional competence and mental health level of university teachers

Through correlation analysis, it is found that the six dimensions of university teachers' professional competence, examination pressure, students, workload and career expectation are significantly negatively correlated with dimensional life; Another significant negative correlation is between the mental health level of university teachers and the dimensions of self-development, workload and career expectation of teachers' professional competence. Therefore, it can be shown that teachers' mental health level will decline with the increase of work pressure, so a very important factor affecting university teachers' mental health level is their professional competence. Among them, self-development, workload and career expectation are the most important factors affecting teachers' mental health.

Literature (Nellitawati, 2020) also shows that there is a significant positive correlation between teachers' professional competence and mental health, that is, the greater the professional competence of special post teachers, the higher the degree of mental health. Literature (Zondag, Larsen, Guldal., & Tillaar, 2020) when discussing the mental health of high school teachers, found that the pressure of teachers' profession has a great connection with physical and mental health, which is positively correlated.

3. Relationship between professional competence and social support of university teachers

Through correlation analysis, it is found that there is a significant negative correlation between the professional competence of university teachers and social support, and all the

dimensions between them, which shows that the greater the professional competence of teachers, the less social support they will receive; On the contrary, the degree of social support will increase with the reduction of teachers' professional competence.

In addition to basic teaching tasks, primary school teachers also need to undertake a large number of scientific research projects, meet the standards of performance appraisal, and strive to achieve job promotion, etc. Teachers are under various pressures, which may cause a series of negative emotions and behavioral problems, and even show aggressiveness in social interaction, resulting in teachers' social relations being tense and unable to meet the needs of social support. Literature (Kang, 2019) also shows that there is a correlation between social support and work pressure. Literature (Cekic-Jovanovic, Orevi, 2019) survey found that the more social support teachers have, the less work pressure they have.

4. Social support for the mental health of university teachers

On the whole, there are significant positive correlations between mental health and social support, and there is a significant correlation between social support and mental health. In this study, the correlation between mental health and utilization of support is higher than that between subjective support and objective support. Therefore, no matter how much subjective support or objective support university teachers receive, if the utilization of support is not enough, it may lead to low mental health level. Moreover, the utilization of support can predict mental health to a certain extent, and it also verifies that "university teachers support society."

At the same time, because people with better professional competence are generally optimistic, confident, positive and have better interpersonal relationships, they will also provide some help and support to others, creating conditions for getting more support from others, thus forming a benign circulation system. However, even if the objective social support is normal or high, the university teachers in the low mental health group can feel the support, but because of their low professional competence, they don't believe in their own abilities and don't want to communicate with others, they can't make effective use of the support, and even refuse to support it, which will have a greater negative impact on their professional competence, which will form a vicious circle and affect the improvement of their mental health level.

5. The mediating role of social support of university teachers between professional competence and mental health

It is found that the mental health of university teachers has a significant predictive effect on their competence and social support. However, by integrating mental health and competence into the regression equation of university teachers' social support, it is found that the predictive power of university teachers' mental health on their social support is significantly reduced, while the predictive power of teachers' competence on their social support is very

significant. This will help us better understand the interaction mechanism among university teachers' mental health, competence and social support, open up a new way for us to understand the interaction mechanism of teachers' competence, and further enrich the research on influencing factors of university teachers' social support.

Under stress conditions, social support is linked with physical health, buffering and relieving the negative physical and mental effects caused by stress, stabilizing and improving the physical and mental health of individuals. Therefore, in the face of greater work pressure, university teachers should pay attention to the maintenance of interpersonal relationships, do not hurt family and friends who care about themselves because of negative emotions brought about by pressure, and actively accept their support and help, thus helping to relieve teachers' inner pressure and protect their own mental health.

Conclusion

The research analyzes the relationship among mental health, social support and professional competence, and the main conclusions are as follows:

(1) Teachers' mental health level will decline with the increase of work pressure, among which self-development, workload and career expectation become the most important factors affecting teachers' mental health level.

(2) The relationship between social support and mental health level of university teachers is significantly positive, and teachers' mental health level increases with the increase of social support; On the contrary, the level of mental health will decline with the decrease of social support.

(3) University teachers' professional competence and social support, and all the dimensions between them are significantly negatively correlated.

(4) Social support is an intermediary variable that influences the mental health level of university teachers' professional competence. Therefore, university teachers' professional competence can not only directly predict teachers' mental health level, but also indirectly influence the mental health level through social support.

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