

Correlation analysis of the Causes of College Teachers' Professional Psychological Pressures

Li Ting

Abstract:

In modern times, due to rapid significance given to learning outcomes, colleges and universities in China have set higher standards for the eligibility and recruitment of university teachers. The increasing teaching workload, mandatory research publications, low or inefficient school administration, stringent promotion regulations, and low salary are a few pressures on university teachers who already endure huge pressures of work, family, and society. This research study is an attempt to deal with these pressures and attempt a solution. Questionnaires were used to investigate teachers who were 40 years age and below in a Chinese university. Findings show that teachers' professional psychological stress in a university has significant differences in gender, age, marriage, teaching age, subject category, monthly salary level, and number of children. Multiple regression analysis shows that role responsibilities, job security, and interpersonal relationships have significant predictive effects on college teachers' psychological response and physiology. Likewise, role responsibilities, job security, and scientific research have substantial predictive effects on college teachers' behavioral responses. This research also put forward relief measures for college teachers' professional psychology by constructing a people-oriented school management system, establishing an effective promotion evaluation system, establishing a fair and reasonable salary level and distribution system, and teachers themselves should learn to manage professional psychological pressure.

Keywords: College Teachers, psychological pressure, Physiological Stress, Correlation Analysis, Multiple Regression Analysis

With the rapid development of the Chinese economy and the gradual improvement of higher education quality, colleges and universities have set higher standards for the eligibility and recruitment of university teachers. The tremendous pressures that university teachers endure at work, with family, society, and other aspects have severely affected their physical and mental health, teaching quality, and long-term growth in varying degrees. In these circumstances, it is important that academic circles must conduct research over the current situation, and examine the causes and influence of university teachers' work pressure. It is also important to find effective ways to solve these pressures.

A good and strong mental health of teachers is the basic requirement in teaching, research, and moral education. A good mental health of teachers is of great significance for research, education and teaching because it is the basis for honest demonstration and professional practice (HE Shun-chao, 2017). In (Rahill & Stephanie, 2018), the author investigated parents' and teachers' views on quality, comprehensibility, and usefulness of school psychological reports. The survey results show that both parents and teachers believe that psychological reports are more focused on test scores than information that helps to understand the child or help intervene in development.

In (Froiland, 2019), the author found that the teacher-student relationship is positively related to the psychological needs for autonomy, affinity, and ability. In turn, meeting psychological needs is positively correlated with happiness. In (Türkan Argon, 2017; Tallapragada & Hallman, 2018; Miljenic, 2018; Freire Seoane et al., 2019; Peng & Chen, 2019; Demirci et al., 2019; Muposhi, 2019; Meyer & Habanabakize, 2019; Moolman & Jacob, 2019), the author uses the relational screening model to conduct research, using the perceived organizational support scale and psychological contract violation scale data collection tools. In (Horgan, 2018), the author explored the influence of decompression methods on the subjective and objective pressure indicators in pre-service teachers' micro-teaching process.

The mental level examination showed that the sense of calm increased over time; this showed that the participants were more satisfied with the micro-teaching situation through repeated practices (Nyavanga., 2017; Paadi et al., 2019; Garcia-Rubio et al., 2019; Cifci & Dikmenli, 2019). In (Pin-Pin, 2017), the author analyzes teacher-induced psychological disorder manifestations and found that the main reason for teacher-induced psychological disorder in special children is the teacher's misconceptions or behaviors, punishment methods,

criticism methods, and their psychological problems. Teachers' learning support and ability support are significantly positively correlated with psychological literacy but not significantly positively correlated with academic performance (Xu, 2018). In (Mingjun, 2018), (Li, 2018) (Fang, 2019) the author compares Chinese and American higher education psychologists' professional qualities in terms of admission qualifications, post-employment promotion, and career development. The results show that there is a big difference between the two. In (Yao, 2020), the author studied the impact of principal-teacher management communication on teachers' psychological empowerment, emotional commitment, and job performance. In (HONG Ming, 2018) the author investigated the relationship between psychological capital and professional teacher maturity and the mediating role of professional responsibility. Professional commitment partially regulates the relationship between psychological capital and the maturity of teachers' professional attitudes. In (Chao, 2018), the author explores group counseling's influence on teachers and students' relationship in junior high schools and provides references for health counseling and intervention in middle schools. Active psychological group counseling has a specific effect on improving the teacher-student relationship in junior high schools and improving student-student relationships (Zikan, 2017).

Harmony in a psychologically and emotionally stable workplace provides a revolutionary guarantee for balance theory, which also provides an understanding of individual behavior's rationality and the attribution of errors and success in the context of organizational psychology (ZUBENSCHI., 2017). In (Jing-Ya, 2018) (Ponterotto, 2017) the author explored second births' pressure on professional women and its influencing factors. Factors such as the fertility of the second child and the husband's high education can alleviate professional women's stress. In (Couhet, 2017), the author synthesized the theoretical basis of psychosocial rehabilitation, psychological disability, and rehabilitation, and constructed a psychological rehabilitation plan. The results show that interventions require multidisciplinary participation and diversity of activity proposals (Hardiman, 2018). Medical staff in the Intensive Care Unit (ICU) is often under tremendous psychological and physical occupational pressure. (Jiskoot, 2017) The author believes that individual differences in personality factors are the main variables that seriously affect the occupational stress response of ICU medical staff (Elena-Luminița Bouleanu, 2017). In (Jiong-Mei, 2017) college

managers' professional psychological pressure is widespread in a transitional society. The study found that the stressor structure was mainly composed of work-related stress, interpersonal relationships, role conflicts, career development, and organizational scale. Mental health and social support can positively predict adult help-seeking behavior.

In (Wei, 2017), the author studied Huang Yanpei's professional ethics education thoughts, explored the problems in vocational, psychological education in higher vocational education, and got necessary enlightenment. In (Wen-Juan, 2017), the author explored the relationship between college students' psychological capital and professional values. The psychological capital of college students has a specific predictive effect on professional matters. In (Humphreys, 2017), the author starts with three aspects: career value orientation, career psychological drive, and self-adaptation, and proposes a gyro model of career psychological characteristics. Research results can help sci-tech journal editors improve their professional abilities and professional qualities and are conducive to discovering and cultivating artisan editors of sci-tech journals (Gang, 2017) (Quyun, 2018). In (Yan-Song, 2017), the author's results show that the combination of physical exercise and psychological training is an effective way to improve students' psychological quality. The author suggests that the flight academy should adopt various "physiology and psychology" training in military physical education (Li N. , 2017).

This research mainly used questionnaires to investigate teachers who are 40 years old and below in one of the Chinese universities. Through data analysis, it was found that 73.2% of teachers have a level of professional psychological pressure above the medium level, and 26.8% of teachers have a medium or below professional psychological pressure. Teachers of different genders, ages, and teaching years have significant differences in different stress response dimensions. Role responsibilities, job security, and academic research were the most predictive of overall stress. Interpersonal relationships, role responsibilities, and job security were the most predictive of psychological reactions. Interpersonal relationships, role responsibilities, and job security were the most predictive of physiological responses. Interpersonal relationships, role responsibilities, and academic research were the most predictive of behavioral responses.

Causes of Professional Psychological Pressure of Teachers in Colleges and Universities and Countermeasures

Teacher Professional Psychological Pressure

1. Professional pressure of teachers

As the name suggests, occupational stress is the pressure that practitioners feel in their careers and can usually be regarded as work pressure. Teacher professional pressure should be the pressure that an individual needs to bear to achieve the goal under specific teacher professional goals, which triggers a series of stress responses in the body. This is based on the teacher's career plan. Teachers' professional pressure is mainly caused by the teacher's own professional goals with the external environment and professional ability. This study believes that when teachers are engaged in education and teaching, the hostile external environment and unfavorable factors and their existing professional skills cannot meet their teacher's goals. There will follow a series of abnormal physical, mental and behavioral reactions.

2. Theory of teachers' professional development

Teacher professional development is understood as teachers' growing from non-professionals to professionals in educational and teaching activities. It is a process of active improvement of teachers' individual and internal professionalization. Teachers' professional development is a dynamic process in the whole teacher's career, and it is continually changing. Most of the teachers in colleges and universities show difficulty adapting, hurriedly, and chaotically, both psychologically and in work performance. If they cannot pass this stage smoothly, it will significantly affect teachers' professional enthusiasm and work status.

Basic Theories Related to Occupational Psychological Stress

1. Herzberg's two-factor theory

Herzberg believes that health care factors can prevent people's dissatisfaction, but they may not motivate employees. If employees are encouraged, they must emphasize their sense of accomplishment, identity, and work value. At the same time, he also found that these two factors also overlap, such as employee wages, which are health care factors but can also achieve motivation. According to Herzberg's two-factor theory, when

we study the problem of teachers' stress, we must find out which external factors of work, namely "health factors," bring pressure to their work and life, and how much influence. "Health factors" can play a role in alleviating the work pressure of teachers. Similarly, we also need to understand which "motivating factors" actually play a role in motivating and mitigating their work pressure, and which "motivating factors" fail to inspire and increase teachers' pressure.

2. Social support theory

According to the idea of social support, college teachers are objects of social support. Their work and life are affected by the main body of social support (government, schools, families, teachers' evaluations from all walks of life, etc.). A large part of teachers' work pressure comes from the influence of the government, schools, and society. As the main body of social support, the government and university administrators formulate policies and systems. They should develop some pressure-reducing management systems from teacher development and recognize their professional value which would result in teachers directly getting benefit from society. The interactive connection between the subject and the object can form a good professional atmosphere for teachers in universities, develop a good interaction between teachers and university administrators, and promote more healthy development.

Investigation Methods of Teachers' Professional Psychological Pressure

Questionnaire Design

Occupational, psychological stress theory laid a theoretical foundation for the compilation of this questionnaire, and the interview content provided a realistic basis for the revision of the questionnaire. This questionnaire refers to the results of other people's research on university teachers' work stress. After sorting and processing, a questionnaire for predicting "professional psychological stress of university teachers" was formed. The questionnaire items were screened and improved through pre-tests.

The prediction questionnaire included three parts. The first part was the survey object's basic information, including ten questions related to gender, age, marriage, number of children, teaching age, professional title, subject category, and monthly salary. The second part was the measuring scale of professional

psychological stressors for college teachers, including 31 items in seven sections, including career development, interpersonal relationships, assessment and promotion, organization management, role responsibilities, job security, teaching, and scientific research. The scale was evaluated using the Likert five-point scale, with 1 representing "very non-conforming", 2 representing "non-conforming", 3 representing "general", 4 representing "conforming", and 5 representing "very consistent". The third part was the professional psychological stress response of college teachers, including 11 items, such as psychological response, physical response, and behavioral response. This scale was evaluated using the Likert five-point scale. 1 means "never", 2 means "rarely", 3 means "sometimes", 4 means "a lot", and 5 means "always".

Survey Object

This research's survey objects were the teachers specialized in teaching and scientific research in a Ningxia University. There were two main reasons for choosing this school: First, Ningxia University qualified as a comprehensive research-oriented school, which had proposed a "three-step" development strategy for school construction, and had striven to build a world-class comprehensive research university. For such a comprehensive university that is developing rapidly, teachers' professional psychological pressure should not be underestimated. The second reason was the broad and balanced development of 12 university disciplines including Liberal Arts, Science, Engineering, and Medicine at this University. The university also had a multidisciplinary and complementary educational environment, which meets the objective conditions required for this research.

Survey Results

The questionnaire was distributed through both online and offline methods. A total of 140 questionnaires were collected through online methods. A few relevant departments were not

involved in the online questionnaires or in the collection of paper-based questionnaires to avoid any possible bias. A total of 120 questionnaires were collected offline making the total of 260 questionnaires through both methods. Three (3) questionnaires were found invalid, leaving a total of 257 valid questionnaires, with a significant recovery rate of 98.8%. The distribution of questionnaire is shown in Table 1. It can be seen that the research sample contains teachers with different demographic characteristics, and the randomness is strong, which guarantees the scientific nature of the research.

Multiple Regression Analysis Model of the Causes and Stress Responses of Teachers' Professional Psychological Pressure

In the multiple regression model of overall stress perception and various occupational, psychological stressor dimensions, irrelevant variables were eliminated. Three variables like role responsibilities, job security, and scientific research were retained. The role responsibility variable and the overall stress perception had a significant regression, and the standardized Beta coefficient was α_1 . The regression of job security variables and general stress perception was significant ($P=0.000$), and the standardized Beta coefficient was β_1 . The regression of scientific variables to public pressure perception was significant ($P=0.013$), and the standardized Beta coefficient was γ_1 . The available regression equation is thus:

Among them, Y_1 is the overall stress perception of the dependent variable, A_1 is the independent variable "role responsibility," A_2 is the independent variable "job security," and A_3 is the independent variable "academic research." The results show that role responsibilities, job security, and scientific research have a significant and positive impact on overall stress perception.

Table 1

Basic demographic and project statistics of respondents

Project				Project			
		Number	%			Number	%
Gender	Male	150	58.4	Subject	Liberal	54	20.9
	Female	107	41.6		Science	78	30.4
Age	<30	55	21.4		Engineering	94	36.6
	30-35	164	63.8		Medical	31	12.1
	36-40	38	14.8	Type	Teaching	9	3.5
	>40	0	0		Research	36	14
Marriage	Unmarried	67	26.1		Teaching and research	195	75.9
	Married	190	73.9	Unclassified	17	6.6	

Project		Number	%	Project		Number	%
Children numbers	0	120	46.7	Salary	<4000	0	0
	1	107	41.6		4000-5999	126	49
	2	30	11.7		6000-7999	115	44.7
Teaching age	<3	162	63		8000-9999	8	3.1
	3-5	63	24.5		>10000	8	3.1
	6-9	17	6.7	Attitude towards salary	Very satisfied	2	0.8
	10	15	5.8		Quite satisfied	21	8.2
Job title	No post	10	3.9		General	93	36.2
	Lecturer	203	79		Less satisfied	82	31.9
	Associate professor	41	16	Very dissatisfied	59	23	
	Professor	3	1.2				

$$Y_1 = \alpha_1 A_1 + \beta_1 A_2 + \gamma_1 A_3 \quad (1)$$

In the multiple regression model of psychological response and various occupational, psychological stressors, irrelevant variables were eliminated. Three variables of interpersonal relationship, role responsibilities, and job security were retained. The regression of interpersonal relationship variables and psychological response was significant ($P=0.000$), and the standardized Beta coefficient was α_2 . The role responsibility variable and psychological response had multiple regression ($P=0.000$), and the standardized Beta coefficient was β_2 . The regression of job security variables and psychological response was significant ($P=0.000$), and the standardized Beta coefficient was γ_2 . The available regression equation is thus:

$$Y_2 = \alpha_2 B_1 + \beta_2 B_2 + \gamma_2 B_3 \quad (2)$$

Where Y_2 is the psychological response of the dependent variable, B_1 is the independent variable "interpersonal relationship," B_2 is the independent variable "role responsibility," and B_3 is the independent variable "job security." The research results show that interpersonal relationships, role responsibilities, and job security are the most predictive of psychological reactions.

Irrelevant variables were also eliminated in the multiple regression model of physiological response and various occupational, psychological stressor dimensions. Three variables of interpersonal relationship, role responsibilities, and job security were retained. The regression of interpersonal relationship variables and physiological responses was significant ($P=0.000$), and the standardized Beta coefficient was α_3 . The role responsibility variables and physiological responses

regressed significantly ($P=0.000$), and the standardized Beta coefficient was β_3 . The job security variable and the physiological response had a significant regression ($P=0.001$), and the standardized Beta coefficient was γ_3 . The regression equation obtained was:

$$Y_3 = \alpha_3 C_1 + \beta_3 C_2 + \gamma_3 C_3 \quad (3)$$

Among them, Y_3 is the physiological response of the dependent variable, C_1 is the independent variable "interpersonal relationship," C_2 is the independent variable "role responsibility," and C_3 is the independent variable "job security." The results show that interpersonal relationships, role responsibilities, and job security are the most predictive of physiological responses.

The multiple regression model of each behavioral response dimension and professional psychological stressor contained the eliminated irrelevant variables, out of which three variables were namely interpersonal relationship, role responsibilities, and scientific research. Interpersonal relationship variables and behavioral response regression were significant ($P=0.000$), and the standardized Beta coefficient was α_4 . The role responsibility variable and behavioral response regression were significant ($P=0.000$), and the standardized Beta coefficient was β_4 . The response of scientific research variables to behavior regression was significant ($P=0.028$), and the standardized Beta coefficient was γ_4 . The regression equation runs thus:

$$Y_4 = \alpha_4 D_1 + \beta_4 D_2 + \gamma_4 D_3 \quad (4)$$

Where Y_4 is the behavioral response of the dependent variable, D_1 is the independent variable "interpersonal relationship," D_2 is the independent variable "role responsibility," and D_3 is the independent variable "academic

research." The results show that interpersonal relationships, role responsibilities, and scientific research are the most predictive behavioral responses.

Reliability and Validity Test of the Questionnaire

1. Validity test

There were 30 items in the occupational, psychological stressor questionnaire. The CITC purification item was used to test questionnaire's validity and Cronbach α reliability coefficient was used to test its reliability. The KMO value was used to determine the questionnaire's structural validity. Based on the test and analysis of 120 prediction questionnaires, the measured results are shown in Table 2. It can be seen that the Cronbach α coefficient is already large enough at this stage. The KMO value is 0.855, and the statistical significance probability is 0.000, indicating that this scale has good structural validity and is suitable for factor analysis.

2. Reliability test

The exploratory factor analysis was carried out on the occupational, psychological stressor questionnaire. The factors whose initial characteristic value was greater than 1 were selected, and a total of 8 factors were extracted (Table 3). After rotation, the cumulative variance explanation rate was 74.685% > 60%. Therefore, the result of factor analysis was acceptable. As shown in Table 3, after the factor analysis, there are eight levels. In this study, there were 30 good problems of occupational, psychological stressors, of which three items (10/11/12) were classified as factor 1, representing the dimension of job security. Five items (15/16/17/18/19) were classified as factor 2, illustrating the organizational management dimension. Four items (20/21/22/23) were classified as factor 3, representing the academic research dimension. Four items (3/4/5/13) were classified as factor 4, which represents the dimension of interpersonal relationships. Four items (6/7/8/14) were classified as factor 5, meaning the dimension of evaluation and promotion. Four items (27/28/29/30) were classified as factor 6, which represents the dimension of role responsibilities. Two items (1/2) were classified as factor 7, which means the dimension of career development. Four items (9/24/25/26) were classified as factor 8, which represents the teaching dimension. Reliability tests were performed on these eight dimensions and it was found that the Cronbach α values of each measurement were all greater than 0.7, indicating that the questionnaire had high reliability and a stable structure.

Results and Discussions

Analysis of the Difference in the Causes of Teachers' Professional Psychological Pressure

The data in Figure 1 shows that gender has significant differences in the academic research dimension ($P = 0.007$), and female teachers have a greater sense of research pressure than male teachers. This may be related to the influence of China's traditional social concepts, that is, women should focus on family. Therefore, many female teachers face the pressure of having a family and a career. Due to women's characteristics, family responsibilities were relatively heavy, so it was naturally challenging to devote all their attention to scientific research. At present, colleges and universities have increasingly higher requirements for teachers' scientific research, so female teachers' scientific research pressures are more massive than that of male teachers.

Figure 2 shows a significant age difference in the academic research dimension ($P=0.02$). The post-comparison results show a significant difference in academic research pressure between teachers under 30 and those aged 30-35, $P<0.05$, suggesting that teachers at 30-35 age are more stressed than teachers under 30 age. There is a significant difference in academic research pressure between teachers under 30 and teachers aged 36-40, $P<0.05$, suggesting that teachers between 36-40 years old are more stressed than teachers under 30 years old. Teachers after the age of 30, as they grow older, face life pressures such as getting married having children, raising children, and repaying housing loans and facing pressures such as personal development and promotion of professional titles. Only by improving one's academic level, obtaining scientific research projects, and obtaining more high-quality scientific research results can one gain an advantage in promoting professional titles and increasing economic income. Therefore, the older the teacher becomes, the heavier is the pressure of scientific research.

Figure 3 shows that marriage has significant age differences in the organizational management dimension ($P=0.029$) and scientific research dimension ($P=0.049$). In these two dimensions, the pressure of married teachers is greater than that of unmarried ones. This is because married teachers face not only pressures of teaching and scientific research but also face some social and familial pressures such as children going to school and caring for their families. In such a situation, if the school administration is more cumbersome, it will cost teachers

a lot of time and energy, making it more difficult for them to balance their time. Married teachers face more financial pressures than unmarried ones for one more reason: their scientific research is directly related to their professional titles,

and professional titles are linked to income, so their research pressure gets naturally more massive.

Table 2.

Validity test of occupational, psychological stress questionnaire

NO.	Total correlation	Cronbach's Alpha	NO.	Total correlation	Cronbach's Alpha	NO.	Total correlation	Cronbach's Alpha
1	0.424	0.934	11	0.554	0.933	21	0.576	0.932
2	0.533	0.933	12	0.582	0.932	22	0.579	0.932
3	0.324	0.936	13	0.496	0.933	23	0.673	0.932
4	0.536	0.933	14	0.634	0.931	24	0.61	0.932
5	0.436	0.934	15	0.669	0.931	25	0.418	0.934
6	0.493	0.933	16	0.645	0.931	26	0.564	0.932
7	0.56	0.933	17	0.622	0.932	27	0.651	0.931
8	0.529	0.933	18	0.567	0.932	28	0.537	0.933
9	0.561	0.932	19	0.651	0.932	29	0.631	0.932
10	0.495	0.933	20	0.674	0.931	30	0.561	0.932
Cronbach α					0.935			
KMO					0.855			
Approximate chi-square					2522.609			
Df					435			
Sig.					0.000			

Table 3

Load matrix of occupational, psychological stressor factors after rotation

Project	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Interpretation rate of each factor (%)	11.068	10.537	10.356	10.327	9.861	8.302	7.198	7.035
Root value	3.32	3.161	3.107	3.098	2.958	2.491	2.159	2.111
Cronbach α	0.944	0.874	0.912	0.816	0.859	0.827	0.738	0.738

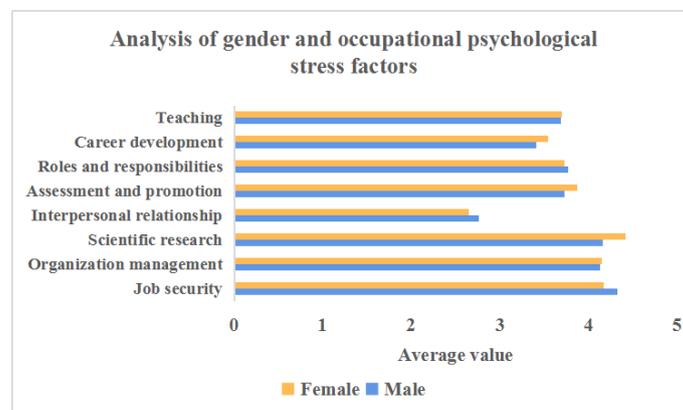


Figure 1 Analysis of gender and occupational, psychological stress factors

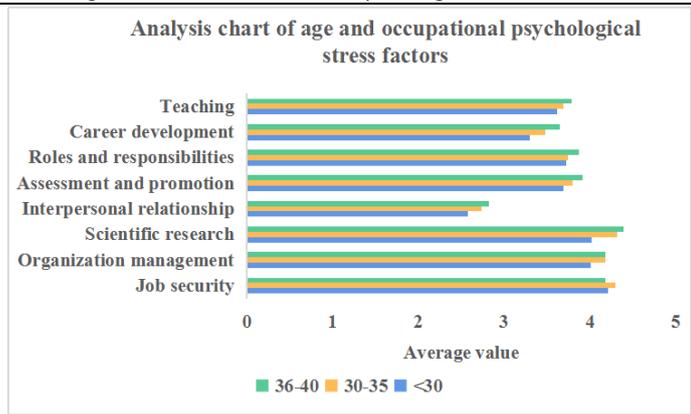


Figure 2 Analysis of age and occupational, psychological stress factors

Figure 4 reveals that there is a significant difference in the number of children in the academic research dimension ($P=0.049$). The post-comparison results show that teachers without children and teachers with one child have significant academic research pressure, $P<0.05$ and teachers with one child have more significant academic research pressure than teachers. Because raising children requires a lot of energy and money, and

doing scientific research well can enhance the professional value of teachers and increase their income. However, raising children will take up research time so teachers with children are under more significant pressure on scientific research. This result also confirms that married teachers' scientific research pressure is often more significant than that of unmarried teachers.

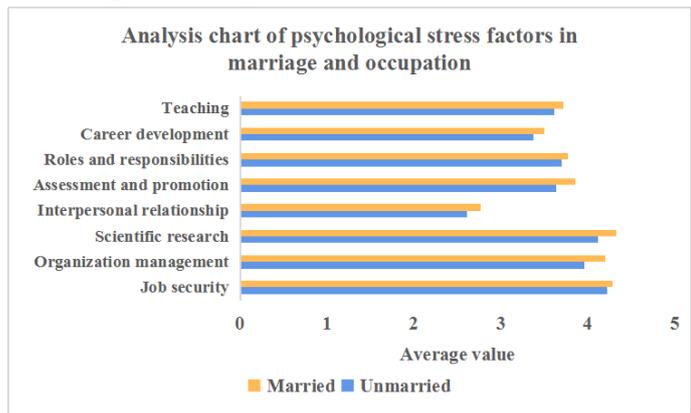


Figure 3 Analysis of psychological stress factors in marriage and occupation

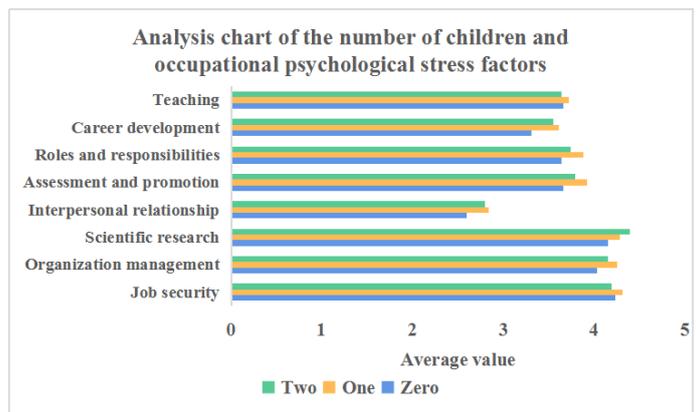


Figure 4 Analysis of the number of children and occupational, psychological stress factors

Figure 5 shows that teaching experience has significant differences in academic research dimensions ($P=0.037$), assessment and promotion dimensions ($P=0.032$), and career development dimensions ($P=0.047$), which also require post-

hoc comparison. The post-comparison results show that in terms of academic research, there is a significant difference in scientific research pressure between teachers with less than 3 years of teaching experience and those with 6-9 years of teaching

experience, $P < 0.05$. Moreover, teachers with a teaching experience of 6-9 years are more stressed in scientific research than teachers with a teaching experience of fewer than 3 years, and there is no significant difference between the other age groups. In terms of professional development, there is a significant difference between teachers with a teaching experience of fewer than 3 years and teachers with a teaching experience of 10 years and above, $P < 0.05$. Moreover, the professional development pressure of teachers with a teaching age of 10 years and above is significantly higher than that of teachers with a teaching experience of fewer than 3 years, and there is no significant difference between teachers of other age groups.

Figure 6 shows that the subject category has significant differences in the role and responsibility dimension ($P = 0.031$),

which requires post-comparison. The post-comparison results show that: in the extent of role responsibilities, there is a significant difference between science teachers and engineering teachers: $P < 0.05$, and the pressure of the role responsibilities of science teachers is greater than that of engineering teachers. There is a significant difference between science teachers and medical teachers, that is, $P < 0.05$. Moreover, science teachers' roles and responsibilities are greater than those of medical teachers, and there are no significant differences among other subjects. This may be because many science teachers undertake the teaching of public courses. Facing students' expectations from different colleges, teachers do not want to disappoint students, so they feel relatively more pressure on their roles and responsibilities.

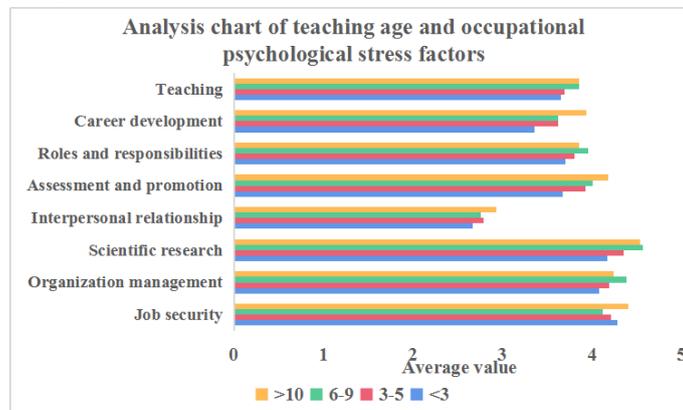


Figure 5 Analysis of the factors of teaching experience and professional psychological stress

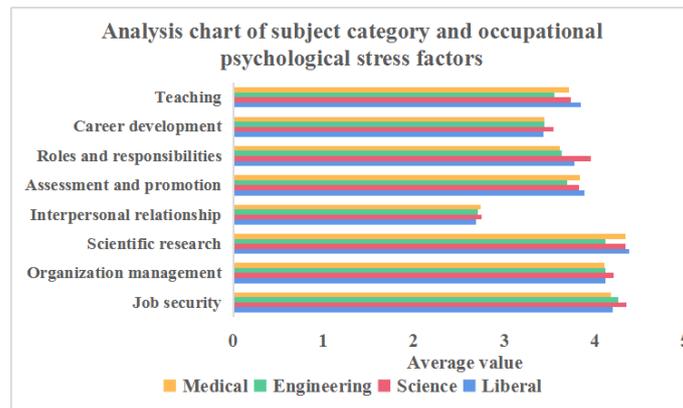


Figure 6. An analysis chart of subject categories and occupational, psychological stress factors

Figure 7 shows that there are significant differences in monthly salary levels in academic research dimensions ($P = 0.045$), job security dimensions ($P = 0.000$), and organizational management dimensions ($P = 0.01$), which require post-comparison. The results of the post-comparison show that in terms of academic research, there is a significant difference between teachers with a monthly salary of 6000-7999 yuan and teachers with a monthly salary of 8000-9999 yuan,

$P < 0.05$. Also, teachers with a monthly salary of 8000-9999 yuan feel more pressure on scientific research, and there is no significant difference in scientific research pressure among teachers with different salary levels. This may be because when teachers' salary level is raised by one group, the school's requirements for their scientific research increase. In terms of organizational management, there are significant differences between teachers with a monthly salary of 8000-9999 yuan,

4000-5999 yuan, 6000-7999 yuan, and more than 10,000 teachers, that is, $P < 0.05$. Also, teachers with a monthly salary of more than 10,000 yuan have the most pressure on the teacher's organization and management of tea Teachers with a monthly salary of 8,000-9999 yuan have the least stress on teachers' organization and management. This may be because most

teachers face living pressures such as housing loans, marriage, and childbirth, and low incomes cannot guarantee their lives. Moreover, they have invested a lot of capital after long-term education and learning. Still, the worker's pay and return are far from proportional, leading to heavy job security pressure.

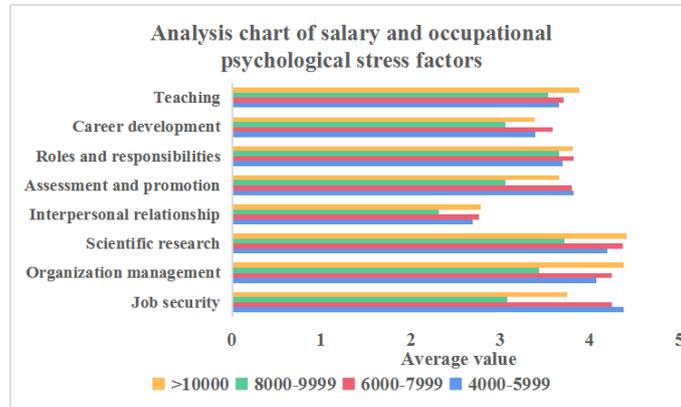


Figure 7 Analysis of salary and career psychological stress factors

Analysis of Differences in Occupational Psychological Stress Response

Figure 8 shows that gender has significant differences in physiological response dimensions ($P=0.026$) and behavioral response dimensions ($P=0.000$). In these two dimensions, men's stress response is greater than that of women. Compared with female teachers, male teachers show more apparent physical

discomfort symptoms and excessive behavioral responses when facing professional psychological pressure. This may be related to the teacher's personality or because most male teachers face the critical task of supporting their families. When the income is low and the professional title is short, they will be under excessive pressure. When coping with anxiety is insufficient, they cannot control their behavior and emotions well, showing higher physiological and behavioral responses.

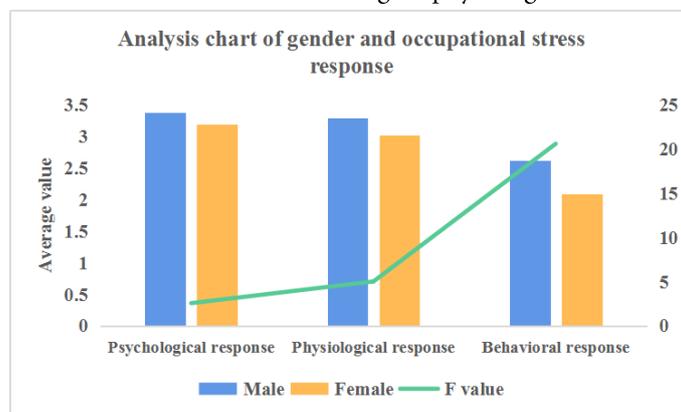


Figure 8 Analysis of gender and occupational, psychological stress response

Figure 9 shows a significant age difference in the psychological response dimension ($P=0.008$) of age, which requires a post-hoc comparison. The post-comparison results show significant differences between teachers under 30, teachers between 30-35 and 36-40, $P < 0.05$, and teachers aged 30 and under have the weakest psychological stress response. This may be because teachers under the age of 30 are in the initial stage of work, and the work's pressure is not obvious. When teachers get older, they have accumulated a certain amount of

work experience, have a certain ability to cope with pressure, and can independently solve problems in teaching and research, so they will not show obvious behavioral and physiological responses. However, the narrow space for promotion will still haunt them for a long time, so such teachers' psychological reaction is still relatively strong.

Figure 10 shows that the teaching age has a significant difference in the psychological response dimension ($P=0.031$), and it is compared afterward. The post-comparison results

show that in this dimension, teachers with more than 10 years of teaching experience are significantly different from those with less than 3 years of teaching experience, and teachers with more than 10 years of teaching experience have more robust

psychological responses. This result is the same as the psychological response of teachers of different ages showing significant differences. The specific reasons are also similar, so no straightforward explanation is given here.

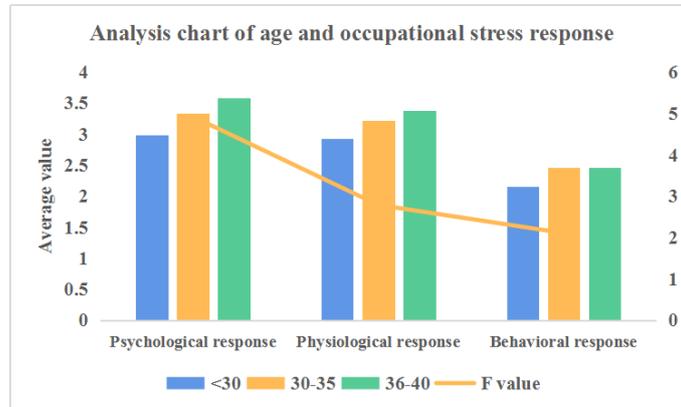


Figure 9 Analysis of age and occupational, psychological stress response

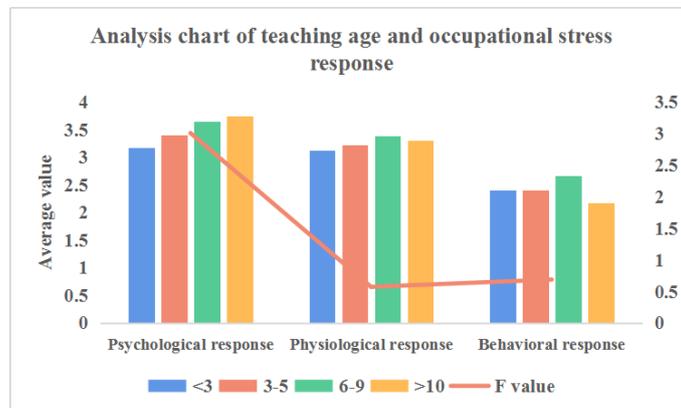


Figure 10 Analysis of the relationship between teaching age and professional psychological stress

Multiple Regression Analysis of Teachers' Professional Psychological Pressure

The multiple regression analysis results in Figure 11 show that the independent variables' explanatory power on the total score of work stress reached a significant level, explaining 42% of the variance change ($R^2=0.420$, $F=15.247$, $p<0.001$). The independent variables have the greatest explanatory power for the workload dimension, explaining 48.9% of the variance change ($R^2=0.489$, $F=19.798$, $p<0.001$). The second is the job security dimension, which explains 43.3% of the variance change ($R^2=0.433$, $F=15.973$, $p<0.001$). The next is the interpersonal relationship dimension, which explains 34.3% of the variance change ($R^2=0.343$, $F=11.235$, $p<0.001$). The last dimension is the teaching guarantee dimension, which explains 19.7% of the variance change ($R^2=0.197$, $F=5.813$, $p<0.001$).

The results of the numerous regression study show for each dimension:

Annual income has a significant negative impact on job security dimensions ($B=-1.343$, $p<0.01$). Working years has a significant positive effect on the measurement of job security ($B=0.917$, $p<0.05$). Weekly working hours also have a significant negative impact on the measure of job security ($B=-0.771$, $p<0.05$). The reward system has a very significant positive effect on the extent of job security ($B=2.526$, $p<0.001$). The application subject has a significant positive impact on the job security dimension ($B=0.966$, $p<0.01$). Likewise, marital status too has a significant positive effect on teaching security ($B=0.697$, $p<0.05$). The reward system has a significant positive impact on the teaching guarantee ($B=0.713$, $p<0.01$). The applied topic also significantly impacts the teaching guarantee ($B=0.529$, $p<0.01$).

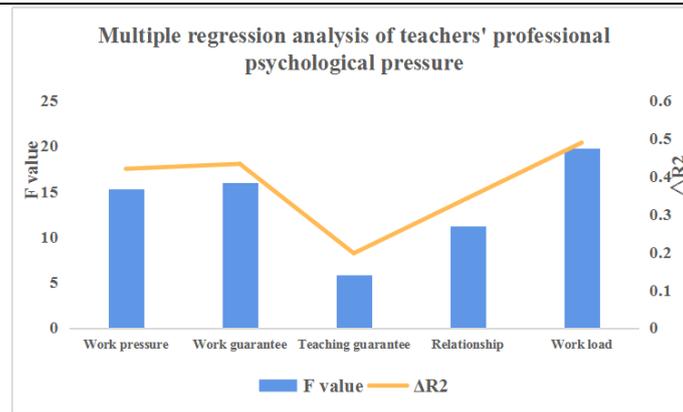


Figure 11 Multiple regression analysis of teachers' professional psychological pressure

Weekly working hours had a significant adverse effect on interpersonal relationships ($B=-0.484$, $p<0.05$). The weekly class hours have a significant adverse impact on the interpersonal relationship dimension ($B=-0.623$, $p<0.01$). The reward system has a very substantial positive impact on the dimension of interpersonal relationships ($B=1.567$, $p<0.001$). Likewise, gender has a significant adverse effect on the extent of workload ($B=-0.620$, $p<0.05$). The job title also has a significant negative impact on the workload dimension ($B=-0.536$, $p<0.05$). Annual income has a significant negative impact on the workload dimension ($B=-0.646$, $p<0.01$). Working years has a significant positive effect on the workload dimension ($B=0.464$, $p<0.05$). The weekly class hours are also significantly negatively impacted the workload dimension ($B=-0.585$, $p<0.01$). The reward system has a very substantial positive impact on the workload dimension ($B=1.878$, $p<0.001$). The application subject also has a very significant positive impact on the workload dimension ($B=0.656$, $p<0.001$).

Conclusion

Through the analysis of differences, it is found that teachers of different genders, ages and teaching years have significant differences in different stress response dimensions. The specific performance concluded from the findings is as follows: Male teachers' physiological and behavioral responses are higher than those of female teachers. Teachers aged 30-35 and teachers aged 36-40 have stronger psychological stress responses than

teachers aged 30 and below. Teachers with more than 10 years of teaching experience have stronger psychological responses than teachers with less than 3 years of teaching. Through regression analysis, it is found that role responsibilities, job security, and academic research have the most predictive effect on overall stress. Interpersonal relationships, role responsibilities, and job security are the most predictive of psychological reactions. Interpersonal relationships, role responsibilities, and job security are the most predictive of physiological reactions. Interpersonal relationships, role responsibilities, and academic research are the most predictive of behavioral responses.

This study was a detailed analysis of the causes of college teachers' professional psychological pressure. These are several causes namely, when school puts forward higher eligibility requirements for teachers or when the teaching workload and research is large. The pressure can occur also when the efficiency of school administrative organization and management is low. There could be problems in the school assessment and promotion mechanism, or in the development of teachers themselves, but definitely the low income causes survival pressure. This research proposes measures to alleviate college teachers' professional psychological pressure from constructing a people-oriented school management system, establishing an effective promotion evaluation system, establishing a fair and reasonable salary and distribution system, and teachers themselves should learn to manage professional psychological pressure.

References

Chao, L. I. (2018). Positive psychological group counseling to promote the teacher-student relationship in junior high school.. *China Journal of Health Psychology*, 26(9), 1386-1390.

- Cifci, T., & Dikmenli, Y. (2019). Why Geography Learning: Candidate Teachers' Views for Geography. *Review of International Geographical Education Online*, 9(3), 557-576.
- Couhet, G. ,.-P. (2017). A model of support system for the professional insertion of people with psychological disability. *Sante mentale au Quebec*, 42(2), 105-118.
- Elena-Luminița Bouleanu, & B. (2017). Multidimensional diagnosis of occupational pressure perception for the medical staff of an intensive care unit (icu). . *International conference KNOWLEDGE-BASED ORGANIZATION*, 23(2), 238-244. DOI: 10.1515/kbo-2017-0120
- Demirci, I., Eksi, H., & Eksi, F. (2019). Narcissism, Life Satisfaction, and Harmony: The Mediating Role of Self-Esteem and Self-Compassion. *Eurasian Journal of Educational Research*, 84, 159-176.
- Fang, Y. (2019). Research on teaching skills of coaching teachers. *Heilongjiang Science*, 10(11), 18-22.
- Froiland, J. M. (2019). Teacher-student relationships, psychological need satisfaction, and happiness among diverse students. *Psychology in the Schools*, 56(5), 856-870. <https://doi.org/10.1002/pits.22245>
- Freire Seoane, M. J., Pais Montes, C., & González Laxe, F. (2019). Estrategias del marketing portuario: El caso español. *Cuadernos de Economía*.
- Gang, M. U. (2017). Discussion on the craftsman-type editors of sci-tech journals and their professional psychological characteristics. *Acta Editologica*, 29(3), 293-295.
- García-Santos, D., García-Rubio, J., Reina, M., Pino-Ortega, J., Vaquera, A., & Ibáñez, S. J. (2019). Accelerometry Profile of Basketball Referees during U' 16 Euroasket Women. *Revista de Psicología del Deporte*, 28(3), 53-64.
- Hardiman, M. G.-W. (2018). Professional practice guidelines for occupationally mandated psychological evaluations. *American Psychologist*, 73(2), 186. doi: 10.1037/amp0000170.
- HE Shun-Chao, M. J.-j. (2017). Reinterpretation of teacher's psychological health education from the perspective of professionalization. *Journal of Bingtuan Education Institute*, 27(1), 29-31, +47.
- HONG Ming, L. S. (2018). Education science school, Lingnan Normal University, Education science school, & Guizhou Normal University. (2017). Relationships among higher normal college students' psychological capital, professional commitment and teacher ca.
- Horgan, K. S.-H. (2018). Pre-service teachers and stress during microteaching: an experimental investigation of the effectiveness of relaxation training with biofeedback on psychological and physiological indicators. doi: 10.1007/s10484-018-9401-9.
- Humphreys, L. . (2017). Psychological functioning predicts competence development for postgraduate students of professional psychology. . *Training and Education in Professional Psychology*, 11(1), 49-56. DOI: 10.1037/tep0000139
- Jing-Ya, L. I. (2018). The pressure of second child birth on the professional women with a child: based on the theory of psychological pressure source model. . *South China Population*, 33(3), 43-55.
- Jiong-Mei, Z. .. (2017). Educational administrators' professional psychological stressor in higher learning institutions in a society in transition. *Journal of Anhui university of science and technology(social science)*, 19(2), 88-92.
- Jiskoot, G.,. (2017). A three-component cognitive behavioural lifestyle program for preconceptional weight-loss in women with polycystic ovary syndrome (pcos): a protocol for a randomized control. doi: 10.1186/s12978-017-0295-4.
- Li, C. .. (2018). Research on the eap mechanism of teaching staff at colleges and universities for the improvement of teachers' mental flexibility. *Journal of Hub Polytechnic Institute*, 21(1), 31-34.
- Li, N. (2017). Cultivating college students' professional psychological quality business education present situation and countermeasure. . *Journal of Hubei Correspondence University*, 30(21), 27-29.
- Mingjun, T. ., (2018). Psychological consultation teacher comparison between china and America in higher education. *Journal of Xiangnan University*, 39(3), 107-110.
- Moolman, A. M., & Jacobs, L. (2019). The Financial Effect Of# Feesmustfall On Individual Taxpayers. *International Journal of Economics and Finance Studies*, 11(1), 17-32.
- Muposhi, A. (2019). Emergence Of Green Marketing Capitalism In South Africa: Implications For Green Economy Agenda. *International Journal of Business and Management Studies*, 11(1), 1-15.

- Meyer, D. F., & Habanabakize, T. (2019). An Assessment Of The Value Of Pmi And Manufacturing Sector Growth In Predicting Overall Economic Output (Gdp) In South Africa. *International Journal Of Ebusiness And Egovernment Studies*, 11(2), 191-206.
- Miljenić, O. (2018). Energy Charter Treaty–Standards of Investment Protection. *Croatian International Relations Review*, 24(83), 52-83.
- Nyavanga, E. J. (2017). Factors that contribute to attitudes towards professional psychological help seeking for mental health issues among teacher trainees in kenya. *American Journal of Applied Psychology*, 6(6), 142-146. DOI: 10.11648/j.ajap.20170606.11
- Pin-Pin, C. .. (2017). Teacher-originated psychological obstacle of special children and the way of elimination. *Journal of Baicheng Normal University*, 31(2), 50-53.
- Peng, M. Y. P., & Chen, C. C. (2019). The effect of instructor's learning modes on deep approach to student learning and learning outcomes. *Educational Sciences: Theory & Practice*, 19(3).
- Paadi, K., Barkhuizen, N., & Swanepoel, S. (2019). Exploring The Building Blocks Of An Employee Value Proposition For Graduate Interns. *The International Journal of Social Sciences and Humanity Studies*, 11(1), 51-67.
- Ponterotto, J. G. (2017). Integrating psychobiography into professional psychology training: rationale, benefits, and models. . *training and Education in Professional Psychology*, 11(4), 290–296. DOI: 10.1037/tep0000176
- Quyun, W. , (2018). A study on the measurement tool for the professional psychological quality of preschool education students. *Journal of Anhui Agricultural University(Social sciences Edition)*, 27(4), 135-140.
- Rahill & Stephanie, A. (2018). . Parent and teacher satisfaction with school-based psychological reports. . *Psychology in the Schools*, 55(6), 693-706. <https://doi.org/10.1002/pits.22126>
- Türkan Argon, & S. (2017). Teacher views on organizational support and psychological contract violation. *Journal of Education & Practice*, 8(2), 44-55.
- Tallapragada, M., & Hallman, W. K. (2018). Implementing the National Bioengineered Food Disclosure Standard: Will Consumers Use QR Codes to Check for Genetically Modified (GM) Ingredients in Food Products?. *AgBioForum*, 21(1), 44-60.
- Wei, Y. . (2017). The influential factors of adult's professional psychological help-seeking behavior. *China Journal of Health Psychology*, 25(4), 624-628.
- Wen-Juan, J. (2017). Enlightenment of huang yanpei's professional ethics education ideology to higher vocational professional psychological education. . *journal of Tianjin Vocational Institutes*, 19(4), 35-38.
- Xu, C.,. (2018). The effects of teacher support and psychological suzhi on middle school students' academic achievement. *Psychological Development and Education*, 34(6), 707-714. doi: 10.16187/j.cnki.issn1001-4918.2018.06.09
- Yan-Song, F. ,.-G. (2017). An experimental study on enhancing professional psychological quality for pilots in sports teaching. . *Journal of Military Physical Education and Sports*, 36(4), 38-41.
- Yao, J.,. (2020). Principal–teacher management communication and teachers' job performance: the mediating role of psychological empowerment and affective commitment. . *The Asia-Pacific Education Researcher*, 29(4), 365-375. DOI: 10.1007/s40299-019-00490-0
- Zikan, K., (2017). Peculiarities of psychological competence formation of university teachers in inclusive educational environment. . *Eurasia Journal of Mathematics & Technology Education*, 13(8), 4701-4713. DOI: 10.12973/eurasia.2017.00947a
- ZUBENSCHI, M. (2017). Professional balance and it's psychological valences. *Eastern European journal for regional studies*, 3(1), 1-108.