An Analysis of the Impact of Time Anxiety on the Professional Growth of Young Teachers in Primary and Secondary Schools in Xining City

Yunkai Wang[1,a], Quan Zhou[1,b], Yaping Liu[2,c], Shuang Zhang[3,d,*]

[1]School of Management, Beijing Union University, Datun Street, Chaoyang District, Beijing, China
[2]School of International Education, University of Chinese Academy of Social Sciences, Beijing, China
[3]Institute of Human Resource Management, Beijing Union University, Beijing, China
[a]wykk1215@163.com, [b]zzqq0504@163.com, [c]s20241120103@ucass.edu.cn,
[d]hgtzhangshuang@buu.edu.cn
*Corresponding author

Abstract: *In the fast-paced life of current society, time anxiety has gradually evolved into a common psychological phenomenon. Starting from the perspective of "loss and gain" dichotomous path, based on the theory of time perception, career theory and resource preservation theory, the article takes young primary and middle school teachers in Xining City, Qinghai Province as the research object, and constructs a model of the influence mechanism of time anxiety and work input on career growth based on the survey of the current situation of teachers' time anxiety and career growth, and analyzes the influence mechanism of time anxiety and work input on the career growth of young primary and middle school teachers in Xining City. Based on the investigation of the current situation of teachers' time anxiety and professional growth, we introduced work input and school support, constructed a model of time anxiety's influence on professional growth, and analyzed the influence of time anxiety and work input on the professional growth of primary and middle school young teachers in Xining City, as well as the moderating role played by school support in it. The results show that time anxiety has an inverted U-shape effect on the career growth of young teachers in primary and secondary schools in Xining City, work input has a significant positive effect on the career growth of young teachers in primary and secondary schools, and school support negatively moderates the inverted U-shape relationship between time anxiety and career growth.*

Keywords: *Young Elementary and Middle School Teachers, Time Anxiety, Professional Growth, Work Engagement, School Support*

1. Introduction

In the fast-paced life of the current society, time anxiety has gradually evolved into a common psychological phenomenon. Teachers, as the backbone of the education system, bear important teaching and educating duties, but with the increasing pressure and challenges faced by teachers in their work, the problem of time management of teachers has become particularly prominent.2024, the government work report puts forward "Reducing the Non-Teaching Burden of Primary and Secondary School Teachers" as one of the tasks of the government work in 2024, which aims to reduce the burden of primary and secondary school teachers in a practical way, focusing on creating a good educational and teaching atmosphere for primary and secondary school Teachers to create a favorable atmosphere for education and teaching, so that the daily work of teachers and their professional growth to form a good relationship of mutual promotion.

Time anxiety, as a psychological phenomenon, refers to an individual's worry and nervous feelings about the underutilization of time. From a psychological point of view, Chen Changkai[1]defines it as "a state of nervousness about planning time rationally, making the best use of time and not wasting time, and the resulting behavioral manifestations and tendencies. In addition to the passivity of having to speed up due to time constraints, it also contains an active nature that generates tension and anxiety due to the necessity of rational planning and use of time". Teacher groups, especially young teachers, often suffer from the pressure of work tasks, the squeeze of time, and the weight of students' needs, and are more likely to develop a sense of time anxiety. The "explicit time system" derived from the clock time has a great influence on teachers' daily behavior, which directly affects the development of teaching and

learning. This situation leads to a poor subjective experience of working time and limits the space for teachers to grow on their own, thus leading to incongruities and contradictions between teachers' daily work and their professional growth.

Xining City, as an important city on the Tibetan Plateau, in which primary education has always received much attention. Young teachers are the backbone of the teaching force in primary and secondary schools, and they provide solid support for the vitality and innovation of the whole education system, and their professional growth is crucial to the sustainable development of education. Therefore, a study of young teachers in primary and secondary schools in Xining City to clarify the degree of time anxiety and its impact on teachers' professional growth can not only provide a basis for making timely adjustments to the actual situation in Xining City and creating a positive interaction between young teachers' daily work and their professional growth, but also provide a reference for other regions.

In summary, this paper takes young teachers in primary and secondary schools in Xining City as the research object, and on the basis of investigating and grasping the current situation of their time anxiety and professional growth, it explores the impact of time anxiety on their professional growth and analyzes the internal mechanism in depth. At the same time, this study also hopes to draw more attention to the issue of time management in teachers' professional development and to promote the continuous progress and development of the education field.

2. Rationale and research hypothesis

2.1 Theories of Time Perception

Huang Xiting[2]defined time perception as the subjective perception of the flow and length of time by individuals without relying on any timekeeping tools, and this time perception is gradually formed and developed in the social environment. The theory of time perception refers to people's subjective perception and experience of time, and it focuses on the process of individuals' subjective perception of the passage of time and the length of time[3]. This theory suggests that people's perception of time is not simply determined by the objective length of time, but is influenced by a variety of factors, including emotional state, task type, environmental conditions, and other aspects.

2.2 Career theory

Career theory refers to a series of theories about the various stages and transitions that individuals go through during their career development. These theories attempt to explain the developmental tasks, turning points, and adaptive processes that individuals face during their careers, and how individuals move through the different stages of development to achieve career fulfillment and satisfaction[4]. Schubert's theory of career development suggests that a career is a dynamic and continuous development process, and that individuals go through a growth stage, an exploration stage, a determination stage, and a realization stage in their careers. Under this theoretical framework, individuals need to continuously explore and make decisions about their careers in order to adapt to the changes in the job market and the needs of personal development.

2.3 Sense of Time Anxiety and Professional Growth

In the context of the current education system, which is centered on teaching quality, time anxiety has become a state of anxiety commonly faced and significantly manifested in the work of young teachers in primary and secondary schools. At the same time, teachers' professional development has also attracted much attention. Zhang Xin and Zhang Jiandong[5]found that the impact of time anxiety on teachers' professional growth showed an inverted U-shaped pattern, which was indirectly reflected through the transient mediation of work exuberance, and embodied the principle of "too much is not enough". Based on the above analysis, the following hypotheses are proposed:

H1: There is an inverted U-shaped relationship between time anxiety and professional growth among young elementary and middle school teachers.

2.4 Time Anxiety and Work Engagement

Domestic research on time anxiety is gradually emerging, mainly focusing on the research for the group of young university teachers. Yan Guangcai[6]found that the time needed to deal with tedious

matters has become one of the main sources of pressure faced by university teachers in China, and also one of the reasons that triggered their sense of time anxiety, which led to lower work commitment, poor academic performance, etc., and put forward initiatives to alleviate the time anxiety of university professors in terms of clarifying responsibilities and maintaining the stability of the basic system. Some scholars have pointed out that appropriate anxiety at work can lead to the thought "I need to do something", which can help individuals develop good cognitive and behavioral motivation to solve problems proactively, and when the anxiety level of team members reaches a moderate level, the team will become more integrated and engage in more collective activities[7], therefore, appropriate time anxiety can motivate workers to engage in their work and mobilize their motivation. When time anxiety is excessive, it is threatening. Time anxiety that exceeds one's carrying capacity will trigger emotional exhaustion and cognitive interference, which in turn depletes cognitive resources and leads to a decline in work engagement, which is the depletion path of resource conservation theory.

Therefore, based on the two paths of gain and loss when individuals cope with time pressure, this paper proposes the following hypothesis from the dual-path perspective:

H2: There is an inverted U-shaped relationship between time anxiety and work engagement among young teachers in primary and secondary schools.

2.5 Work engagement and career growth

Professional growth is the core content of career management for young teachers in primary and secondary schools, which is important for improving teaching quality, adapting to educational changes, enhancing professional identity, realizing personal development, and helping students grow. The results of existing studies on the relationship between work engagement and career growth are relatively consistent, i.e., work engagement positively affects career growth. Feng Cong[8]argued that a high level of work engagement can keep teachers' positive work attitudes, so that they can actively internalize themselves, learn new knowledge, complete tasks assigned by universities, and obtain their own professional growth. Chen Juan et al.[9]concluded that there is a significant positive correlation between vocational school teachers' work commitment and their professional growth. Based on the above analysis, this paper makes the following hypotheses:

H3: There is a significant positive effect of work engagement on the professional growth of young teachers in primary and secondary schools.

2.6 Mediating role of work inputs

Work engagement, as a manifestation of work motivation in terms of behavior, usually plays the role of mediating role. According to Yu Guilan et al.[10], work engagement is a positive work state, which plays a mediating role in sense of mission and career success and positively affects career growth. As mentioned earlier, work engagement is a major factor influencing the career growth of young teachers in primary and secondary schools, and work engagement is influenced by time anxiety, this paper further hypothesizes that work engagement plays a mediating role between time anxiety and career growth, i.e., time anxiety affects their career growth by influencing work engagement. In summary, the following hypotheses are proposed in this study.

H4: Young elementary and middle school teachers' work engagement mediates the relationship between time anxiety and professional growth.

2.7 The moderating role of school support

School support refers to the support and assistance provided by the school as a micro-social support subject to promote teachers' professional development. Some research results show that school support is significantly related to teachers' professional development, and that school support includes four factors: institutional support, conditional support, cultural support and evaluation support[11]. The school support referred to in this paper mainly includes targeted training, career planning guidance, mental health counseling and other assistance measures provided to primary and secondary school teachers to promote their professional growth. When young teachers' time anxiety is low, young teachers can apply their free time to self-growth in an organized manner, and the career planning guidance and targeted training provided by the school can stimulate young teachers' enthusiasm for growth and enhance the efficiency of their personal growth, thus promoting the positive role of time anxiety on professional growth; when teachers' time anxiety is too high, young teachers are too busy with complicated When

teachers' time anxiety is too high, young teachers cannot pay attention to their personal career growth because they are busy with complicated work, which affects the process of personal growth, and the mental health counseling provided by the school, as well as the relevant career planning guidance and training, and system adjustments, etc., will significantly dissolve the sense of time anxiety of the teachers, so that they can improve their time management and promote their personal career growth in an orderly manner, thus reversing the negative impact of time anxiety on their career growth. Based on this, this paper puts forward the following hypotheses:

H5: There is a significant moderating effect of school support between feelings of time anxiety and career growth.

Combining the above five hypotheses, the research model of this paper is shown in Figure 1.
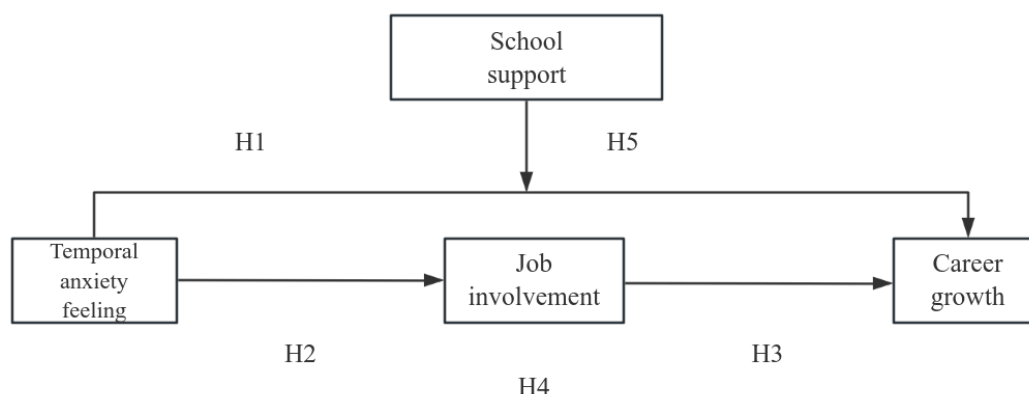

Figure 1 Research model

3. Research design and measurement of variables

3.1 Selection of research subjects

Young teachers in primary and secondary schools in Xining City were selected as the research object in this study, and the data collection was mainly conducted in the form of questionnaire survey. Before the formal questionnaire survey began, interviews and questionnaire trial surveys were conducted with some young teachers, and finally integrated to prepare the Questionnaire on the Career Development Status of Young Teachers in Elementary and Middle Schools. The time of data collection was from January to March 2024, 283 questionnaires were distributed, and after excluding invalid questionnaires, 281 valid questionnaires were recovered, with an effective recovery rate of 99.3%.

3.2 Measurement of variables

3.2.1 Measurement of time anxiety

In this study, the questionnaire was designed according to the existing standardized research scales, and in designing the "Time Anxiety" scale, we referred to the Time Anxiety Scale developed by Chen Changkai, and adapted and simplified the scale based on it. The measure focuses on three key dimensions:working hours, time control, and work pace, with a total of 12 items, such as "Some tasks really take longer than I expected".

3.2.2 Measurement of work inputs

In order to accurately measure the level of work engagement, this study used the Utrecht Work Engagement Scale (UWES), which is widely recognized in the academic community. The scale was developed by Schaufeli and contains three core dimensions of vitality, dedication, and concentration, with a total of nine measurement items, which is designed to comprehensively assess the level of an individual's engagement in his or her work. The UWES was developed by Schaufeli and consists of three core dimensions: vigor, dedication, and focus. For example, one of the questions is: "I am energized at work."

3.2.3 Measurement of career growth

For measuring the professional growth of young teachers in primary and secondary schools, this study selected the Career Growth Scale developed by Weng[12]and other scholars, which aims to comprehensively assess the professional growth of individuals. The scale covers the three core measurement dimensions of career goal progress, professional competence development, and organizational reward growth, and contains a total of 10 specific items. These items specifically and clearly reflect various aspects of career growth, such as "My current job has brought me closer to my career goals", providing an effective tool for assessing an individual's career growth.

3.2.4 Measurement of school support

This paper's questionnaire on the measurement of school support status was developed with reference to existing research, including four dimensions: institutional support, conditional support, cultural support and evaluation support, to understand the status of school support received by young teachers in primary and secondary schools in terms of the feeling of support in terms of incentives such as targeted training and recognition of outstanding teachers.

All items were positively scored, and a Likert 5-point scale was used to measure the items in the second, third, and fourth parts of the questionnaire, with "1" indicating "not at all consistent," "2" means "relatively non-conforming", "3" means "unsure", and "4" means "Comparatively compliant" and "5" means "Fully compliant".

4. Empirical analysis

4.1 Descriptive statistics and correlation analysis

In this paper, we used SPSS26.0 tool to analyze the correlation among the relationships among time anxiety, career growth, work commitment and school support of young teachers in primary and secondary schools in Xining City, and conducted a stratified regression with time anxiety as the independent variable, career growth as the dependent variable, work commitment as the mediator variable, and school support as the moderating variable to verify the relevant hypotheses.

Correlation analysis is to study the relationship between quantitative data, i.e., whether the data are related or not, how closely the data are related, etc. The tool was used to calculate and output the mean, standard deviation of the variables and correlation coefficients between the variables, and the obtained results of the analysis are shown in Table 1. The results of the correlation analysis were as expected and provided support for the subsequent regression analysis and hypothesis testing.

Table 1: Correlation analysis

variant	sense of time anxiety	devote one's energies to work	Professional growth	School Support
sense of time anxiety	1			
devote one's energies to work	0.051	1		
Professional growth	0.252***	0.297***	1	
School Support	-0.213**	0.125	-0.147*	1
average value	3.315	3.579	2.966	3.447
(statistics) standard deviation	0.922	0.764	0.809	0.822

Note: *, **, and *** indicate significant at 0.1, 0.05, and 0.01 levels, respectively.

4.2 Reliability test

Table 2: Results of the confidence test

meters	Number of questions	Cronbach's alpha coefficient
sense of time anxiety	12	0.941
devote one's energies to work	9	0.902
Professional growth	10	0.932
School Support	8	0.871

A reliability test was conducted on the 281 questionnaires collected to verify the reliability of the data, and the results of the test are shown in Table 2. The Cronbach's alpha coefficient of the Time Anxiety Scale is 0.941, the Cronbach's alpha coefficient of the Work Commitment Scale is 0.902, the Cronbach's alpha coefficient of the Career Growth Scale is 0.932, and the Cronbach's alpha coefficient of the School Support Scale is 0.871, which are all over 0.8, indicating that each questionnaire is reasonably designed with a reliability level is high.

The results of the validity test are shown in Table 3, the KMO values of the Time Anxiety, Work Engagement, Career Growth, and School Support scales are 0.959, 0.927, 0.941, and 0.884, respectively, which are greater than 0.7; and the significance of Bartlett's Test of Sphericity values are all less than 0.001, which indicates that the validity of the four scales are better, and can be further analyzed.

Table 3: Validity test results

meters	Number of questions	KMO value	(number of) degrees of freedom (physics)	significance
sense of time anxiety	12	0.959	66	0.000
devote one's energies to work	9	0.927	36	0.000
Professional growth	10	0.941	45	0.000
School Support	8	0.884	28	0.000

4.3 Regression analysis

To further investigate the relationship between the variables, this section used SPSS 26.0 to test the effects of time anxiety on professional growth, the mediating effect of work commitment in it, and the moderating effect of school support among young teachers in primary and secondary schools in Xining City using hierarchical regression.

4.3.1 Main effects tests

Table 4: Results of main and mediating effects analysis

variant	Professional growth				devote one's energies to work	
	Model 1	Model 2	Model 5	Model 6	Model 3	Model 4
distinguishing between the sexes	0.054 (0.134)	0.029 (0.078)	0.157 (0.130)	0.094 (0.127)	-0.223 (0.137)	-0.251* (0.130)
age	0.008 (0.094)	-0.045 (0.092)	-0.041 (0.092)	-0.081 (0.090)	0.199** (0.096)	0.139 (0.093)
marital status	-0.358* (0.193)	-0.334* (0.185)	-0.292 (0.186)	-0.282 (0.180)	-0.228 (0.197)	-0.200 (0.187)
Status of children	0.269 (0.202)	0.213 (0.194)	0.324* (0.193)	0.241 (0.188)	-0.045 (0.206)	-0.109 (0.196)
highest level of education	0.075 (0.116)	0.051 (0.112)	0.073 (0.112)	0.042 (0.108)	0.063 (0.119)	0.036 (0.113)
sense of time anxiety	0.167** (0.071)	0.126* (0.072)		0.128** (0.067)	0.039 (0.072)	-0.008 (0.069)
Time anxiety squared term		-0.270** (0.078)		-0.191** (0.080)		-0.307*** (0.079)
devote one's energies to work			0.335*** (0.083)	0.259*** (0.085)		
F-value	5.370***	6.730***	7.49***	7.41***	1.52	3.64***
Adj. R²	0.164	0.230	0.225	0.277	0.023	0.121
VIF	1.048	1.037	1.069	1.201	1.048	1.096

Note: * denotes $p<0.1$, ** denotes $p<0.05$, *** denotes $p<0.01$; values in parentheses are standard errors, same below.

Linear regression analysis was conducted with time anxiety as the independent variable and career growth as the dependent variable, and the results are shown in Table 4. The results of model 1 show that time anxiety has a significant positive effect on career growth ($\beta=0.167$, $p<0.05$), and in order to further explore whether there is a nonlinear relationship between time anxiety and career growth, this paper adds the squared term of time anxiety into the regression equation.

To avoid the effect of multicollinearity, the squared term of time anxiety was centered before adding

it. According to Model 2 in the table, β 2 =-0.270 and significantly negative (p<0.05), it was initially determined that there is a significant inverted U-shaped effect of time anxiety on career growth. Further, this paper used Utest command of Stata to conduct the inverted U-shaped relationship test, and according to the test results (t=1.78, p<0.05), it was again verified that the inverted U-shaped relationship of time anxiety on career growth was established, and that the critical value of time anxiety was 3.548. When the level of time anxiety was lower than 3.548, the sense of time anxiety was able to promote the career growth, and when it broke the critical value, it can again hinder career growth. Therefore, there is an inverted U-shaped relationship between time anxiety and career growth and hypothesis H1 is supported.

Meanwhile, in order to test hypothesis 2, this paper takes time anxiety and its squared term as independent variables, and work input as dependent variable, as the results of model 4 show that the squared term of time anxiety has a significant negative effect on work input (β=-0.307, p<0.01), so there is a significant inverted U-shape effect of time anxiety on work input, and hypothesis H2 is established.

4.3.2 Mediated effects test

Second, the relationship between work engagement and career growth was verified, and the results of Model 5 showed that work engagement had a significant positive effect on career growth (β=0.335, p<0.01), and Hypothesis H3 was valid. Further, Model 6 adds work input to Model 2, and the results show that the coefficient of work input is significantly positive (β=0.259, p<0.01) and the coefficient of the squared term of time anxiety (β=-0.191, p<0.05) is reduced and significant, suggesting that work input acts as a partial mediator, and Hypothesis H4 is supported.

4.3.3 Moderating effects test

The moderating role of school support between time anxiety and school support was tested utilizing the following steps. First this paper centered the independent variable time anxiety and the moderator variable school support to avoid the effect of multicollinearity; then time anxiety, the squared term of time anxiety, school support, the interaction term between time anxiety and school support, and the interaction term between the squared term of time anxiety and school support were put into the model for regression layer by layer as the independent variables, and occupational growth was put into the model as the dependent variable.

Table 5: Results of moderating effects analysis

variant	Professional growth	
	Model 2	Model 7
distinguishing between the sexes	0.029	0.048
	(0.078)	(0.129)
age	-0.045	-0.034
	(0.092)	(0.091)
marital status	-0.334*	-0.356*
	(0.185)	(0.185)
Status of children	0.213	0.155
	(0.194)	(0.193)
highest level of education	0.051	0.036
	(0.112)	(0.110)
sense of time anxiety	0.126*	0.135*
	(0.072)	(0.070)

Time anxiety squared term	-0.270**	-0.193**
	(0.078)	(0.087)
School Support		-0.262**
		(0.122)
Time Anxiety x School Support		0.125*
		(0.072)
Time anxiety squared term x school support		0.173**
		(0.081)
F-value	6.730***	5.53***
Adj. R²	0.230	0.253
VIF	1.037	3.172

Model 7 As shown in Table 5, the interaction term between the squared term of time anxiety and school support on career growth was significant (β=0.173, p<0.05) after adding moderating variables and interaction terms to Model 2. Further, examining the relationship between the independent and dependent variables at low and high levels of the moderator school support, the inflection point of the inverted U-shaped curve shifted to the right as school support increased and the threshold for time anxiety increased. Therefore, school support significantly moderates the relationship between time anxiety and career growth in an inverted U-shaped curve, and hypothesis H5 is tested.

5. Conclusion

As the phenomenon of time anxiety among young teachers has become more and more prominent, related issues have gradually received academic attention, but the research on young teachers in primary and secondary schools is slightly insufficient. In this paper, we take young teachers in primary and secondary schools in Xining City as the research object, and investigate the relationship and influence mechanism among four variables: time anxiety, career growth, work commitment and school support. The following main conclusions were obtained:

First, the phenomenon of time anxiety tends to be generalized among young teachers in primary and secondary schools in Xining City, and the overall mean value of time anxiety is greater than 3.315, which is at the level of medium anxiety, and there is a significant difference in terms of marital status, the status of having or not having children, and the highest level of education.

Secondly, time anxiety has an inverted U-shaped effect on the professional growth of young teachers in primary and secondary schools in Xining City, and work input plays a mediating role in the relationship between time anxiety and professional growth; there is also an inverted U-shaped curve relationship between time anxiety and work input, and work input has a significant positive effect on the professional growth of young teachers in primary and secondary schools. Too low or too high a sense of time anxiety is not conducive to professional growth, when the sense of time anxiety is too low, teachers will lack of motivation and tend to "lie flat", moderate time anxiety will stimulate the teachers' work vitality, improve the degree of commitment to work, and thus promote professional growth, while excessive time anxiety will reduce the degree of commitment to work, thus hindering professional growth. Excessive time anxiety reduces engagement and hinders professional growth.

References

[1] Chen Changkai. Time Anxiety: The "Chinese Experience" in the Midst of Dramatic Social Changes [D]. Nanjing: Nanjing University, 2013.
[2] Huang Xiting. A cognitive study of temporal information processing[J]. Journal of Southwest Normal

University (Natural Science Edition),1993(02):207-215.

[3] Lu Jianfei,Jiang Lin. Research on the impact of choice set size on consumer regret emotion based on time-perception perspective[J]. Shandong Social Science,2014(10):166-171.

[4] Liu Xinyuan,Hou Jianmin,Meng Wei,et al. Exploration of talent cultivation of ice and snow sports majors in vocational education under the theory of borderless career[J]. Vocational Technology, 2024,23(02):92-98.

[5] Zhang Xin,Zhang Jiandong. A study on the inverted U-shaped relationship between time anxiety and career growth of young teachers in higher education - the role of work exuberance and growth demand intensity[J]. Journal of Northeastern University (Social Science Edition),2023,25(05):49-59.

[6] Yan Guangcai. Time Anxiety and Academic Governance of University Teachers[J]. Educational Research,2021,42(08):92-103.

[7] Mao, Jianghua, et al. "Team job-related anxiety and creativity: Investigating te am-level and cross-level moderated curvilinear relationships[J]." Journal of Organiza tional Behavior 42.1 (2021): 34-47.

[8] Feng Cong. A study on the impact of work environment on career growth of young teachers in local universities: the mediating role of work input [D]. Hebei University,2022.

[9] Chen Juan,Chen Min,Guo Jiajia. Research on the relationship between teachers' work input and professional growth in vocational schools[J]. Higher Vocational Education (Journal of Tianjin Vocational University),2018,27(04):18-21.

[10] Yu Guilan,Wang Jing,Yao Junmei. The effect of calling on subjective career success-with work commitment as a mediating variable[J]. Social Science Front,2017(09):61-70.

[11] Sun Ting. Research on school support for the professional development of young teachers in rural elementary school [D]. Liaocheng:Liaocheng University,2023.

[12] Weng Qingxiong,Xi Youmin. Career growth of corporate employees:Scale development and validity test[J]. Management Review,2011,23(10):132-143