

Original Research Article

Analysis of the impact of humanities and social science employment anxiety on doctoral study delay*Wenxian Cheng, Wentao Xu* [^{*}Corresponding Author]*Anhui University of Finance and Economics, Bengbu, Anhui, 233030, China*

Abstract: The phenomenon of delayed graduation of doctoral students is becoming more and more prominent, which attracts the attention and attention of the whole society. However, from the psychological level of college students, especially the impact of employment anxiety of humanities and social sciences on the delayed graduation of doctoral students. Research on employment anxiety, academic papers, incentive mechanism, mid-term assessment and other aspects, and conclude that employment anxiety is affected by the number of academic papers published and presents the “threshold effect” in economics, and “breaking five only”, especially “only papers”, can significantly reduce the extended number of years. The mid-term assessment method and the interaction of supervisors are the catalyst for the postponement of doctoral students. Under the background of the general reduction of school funding for most doctoral students after the delay, the employment anxiety of doctoral students is further intensified. In view of this, it is necessary to strictly implement the mid-term assessment of doctoral students with “only paper”, and the system design should highlight the basic academic standard of doctoral students. It is necessary to form a good degree of guidance, improve the support for the whole process of doctoral academic development, and effectively improve the quality of doctoral training.

Keywords: Humanities and social sciences; Employment anxiety; Delayed graduation; Threshold model

1. Problem statement

As the highest level talents in academic education in China, the quality of doctoral students has been widely concerned by all walks of life. In 2019, the Ministry of Education issued the notice on further standardize and strengthen the management of graduate training, domestic universities to strengthen the doctoral assessment management and degree awarding management, key examination doctoral during the school academic level, papers and subject participation as the core indicators, there are also some colleges and universities will advanced course exam scores as one of the mid-term assessment standards, to determine whether students are suitable to study for a doctorate. With the expansion of the overall scale of doctoral student enrollment, coupled with the improvement of the school's mid-term assessment standards, the elimination rate of the last place will increase, and the difficulty of doctoral students to graduate on time will be significantly increased. In recent ten years, according to relevant statistics, the overall graduation rate of doctoral students has increased from 10% to 20%, and by 2020, the graduation rate of doctoral students has exceeded one third and is increasing year by year. According to the classification of disciplines, humanities and social sciences, especially law and economics, have been seriously delayed. From a global perspective, the humanities and social science PhD delay graduation is still grim, such as the American association of graduate school (The Council of Graduate Schools) the latest data, the humanities PhD period more than six years still not finished more than 70%, social science proportion of 60%, but the natural science and engineering more than six years unfinished academic doctoral proportion fell to 53%. Therefore, the phenomenon of postponing the graduation of humanities and social sciences doctoral students is more prominent, which should be paid great attention to by the academic circles.

Under the dilemma of improving the quality of doctoral training and reducing the negative impact of delayed doctoral graduation on society, what is the reason for the delay of doctoral graduation? How to deeply analyze and alleviate the delay of doctoral students. From the perspective of the subjective motives of doctoral students, the delay of graduation has a negative impact on personal employment and income. Doctoral students hope to complete their studies as soon as possible and are not willing to postpone their studies. From the national level, the current employment situation of undergraduate and graduate students is not optimistic, and the employment pressure is large. The idea of this paper is whether the external employment pressure can produce employment anxiety to a certain extent through the subjective motivation of doctoral students, and then alleviate the social phenomenon of doctoral students delaying graduation. First, Bowie et al^[1](2020), Vreeland, and Bidwell^[2] It is believed that the academic task of the doctoral students directly affects whether the doctoral students can graduate on time. The research believes that if the doctoral students are required to publish a certain level of journal papers, the delayed graduation rate of the doctoral students will be increased. Some studies have shown that strict graduation requirements can even make doctoral students unable to graduate, and doctoral students who do not need to publish papers have significantly shorter academic years^[3] (Nerad Cerny ,1993) .Secondly, whether the department has a sound financial aid system will also affect the academic period of doctoral students. And Hoffer and Dugoni^[4](2001) believes that if the doctoral stage is provided with perfect funding incentives, it will significantly reduce the delay of doctoral students, because the funding encourages high-quality research output and reduces the risk of doctoral graduation delay. Whether there is a course qualification examination in the mid-term doctoral examination will also affect the length of doctoral study. Qing Yang^[5](2021). It is believed that the course qualification examination will affect the diversion of the bottom place in the mid-term assessment of doctoral students. Some doctoral students with low scores in the examination may face the phenomenon of secondary assessment, which may further extend the length of study, and the secondary assessment may not be able to continue to study for the doctoral degree. The survey sample of this study shows that a J university has started to implement some course qualification examinations for doctoral students in 2018. Compared with previous doctoral students who have not implemented the mid-term qualification examinations, the number of years of doctoral students in the same major has increased significantly. Finally, the frequency of communication between doctoral supervisors and students will also affect the delay of doctoral students. Gold e^[6] (1995) and Kluever^[7](1995). Related studies show that if the frequency of communication between teachers and students increases and in-depth discussion on academic hotspots begins, it is helpful to the doctoral research output and reduce the delay of doctoral graduation. Monsour^[8](1991) Research shows that doctoral supervisors are the academic “leaders” of doctoral students, and the lack of academic exchanges between teachers and students and feedback channels for student problems will cause doctoral students to be unable to obtain frontier academic documents and effectively solve student problems, induce doctoral students to “work behind closed doors” and produce poor quality of academic achievements. Further studies show that^[9](Huston, 1997), poor academic results will lead to doctoral students to lose academic motivation and delay thesis writing, resulting in the delay of doctoral graduation.

To sum up, from the perspective of doctoral students’ subjective motives, delayed graduation will have a negative impact on employment and personal income, and doctoral students rationally choose to finish their studies on time. From the macro level, major factors such as academic paper publication requirements, funding incentive mechanism, course qualification examination and interaction between teachers and students will all

affect whether doctoral students delay their graduation. Doctoral students are faced with prominent academic pressure and social life pressure. Under the background of the increasingly severe employment situation in China, doctoral students have employment anxiety to a certain extent. Therefore, whether the employment anxiety can be transmitted to the subjective motivation through the macro-level influencing factors, so as to reduce the delay of doctoral students. From the existing research results, the above mechanism of action is not clear. This study intends to take the doctoral students of humanities and social sciences as the observation object, study the sample range is controlled in domestic J universities, and use the panel threshold model to explore the impact of employment anxiety on the delay of doctoral students under the influence of various influencing factors.

2. Research technique

From the perspective of subjective motivation, the individual’s willingness is low, and most doctoral students are often limited by external conditions, unable to obtain the degree on time, and forced to postpone. From the perspective of external conditions for doctoral graduation, they mostly focus on the macro influence factors, so how employment anxiety acts on individuals through the macro influence factors, so as to affect the delay of doctoral students. In this paper, J J, a double first-class university in northwest China, uses the data of the campus recruitment platform and the proportion of the number of fresh graduates in the number of new jobs to calculate the employment difficulty index. Then, according to this method, China’s regional employment difficulty index can also be calculated. The employment difficulty index of northwest China, where the double first-class university J is located, is 4.18, which is only second to northeast China, which has the highest employment difficulty (6.87). If it is concentrated among doctoral students in J universities, the employment difficulty index of science and engineering is 1.89, while the employment difficulty index of humanities and social sciences is 3.08, which is much higher than the employment difficulty of science and engineering. Using the data of campus recruitment platform, it is basically the same. The employment rate of doctoral students in science and engineering is 99.4%, while the initial employment rate of doctoral students in humanities and social sciences is 96.7%.

Therefore, compared with science and engineering doctoral students, and the employment anxiety will be more serious than that of science and engineering doctoral students. From September 2018 in this study, questionnaires were randomly distributed to J universities for sampling survey. By September 2020, a total of 320 related design questionnaires were issued, and 297 were collected, with a recovery rate of 92.8%. All the recovered questionnaires are valid. According to the classification of humanities and social sciences disciplines, the recovered questionnaire is shown in the following Table 1.

Table 1. Distribution and recovery of doctoral questionnaires in humanities and Social Sciences.

	history	philosophy	literature	economics	management	education	law	art	tote
Issue number	26	30	29	91	86	18	29	11	320
Recycling number	24	28	26	88	84	14	24	9	297
percent recovery	92.3%	93.3%	89.7%	96.7%	97.7%	77.8%	82.7%	81.8%	92.8%

Questionnaire design needs to cover the humanities and social sciences PhD delay graduation macro level influencing factors, in the design of the questionnaire need to further examine employment anxiety through the macro factors on subjective motivation intrinsic mechanism and process, and using inductive analysis method to

explore the sample data general rule, thus reveals the different conditions of employment anxiety on the doctor of schooling.

Table 2. Outline of the interview in humanities and Social Sciences.

Macro dimension	metric	Summary of interview content
Academic papers published ask	upgrade	How many core papers have your supervisor improved over the graduate school requirements?
	normal standard	How many core papers did your supervisor graduate from according to the requirements of the graduate school?
Funding incentive mechanism	academic scholarship (First class; second class)	Did you get a first-class academic scholarship or a second-class academic scholarship during your doctoral study?
	Whether the tutor supports individual supporting funds (Yes; no)	Does your doctoral supervisor support your personal funds to support part of the scholarship?
Interim assessment: course qualification examination	This major has implemented the qualification examination	Does your major take the doctoral course qualification examination? Did you pass?
	This major has not implemented the qualification examination	Is the focus of the mid-term assessment of your PhD on publishing academic papers?
Teacher-student interaction	Conduct regular academic meetings	Doctoral supervisors can broaden students' research ideas through academic meetings; academic help for students; monthly interactions.
	No academic meeting were held	In which method do doctoral supervisors conduct academic exchanges? Does your tutor hold academic activities within the faculty? How effective is it? Monthly interaction times.

From the interview questionnaire preliminary situation, number 201901-20 part 202008 interviewed doctoral students, the supervisor raised the doctor graduation threshold, such as 202005-ECO-4, students “ my doctoral supervisor clear requirements, need to publish more than six CSSCI or SSCI source journals to apply for a doctorate, I now academic pressure is very big, and employment prospects is not very good, employment pressure is bigger, the key is now bad article hair, difficult, only delay graduation.”No.202003-LAW-1, interviewed student:” My doctoral supervisor does not give him personal supporting funds, only the school basic grants and scholarships, I am a full-time student, married and have two children, only my wife works full-time outside, the family income is very tight. Therefore, in the teacher does not give their personal funding case, I did a part-time, academic research time is compressed, at present, only apply for deferred graduation “, etc., the author is the interview results, from the interview conclusion, macro dimension factors bring different aspects of pressure, after the superposition of employment pressure, employment anxiety impact on doctoral delay is uncertain problems. If the supervisor unilaterally raises the publication requirements, even the employment anxiety may not be able to reduce the chance of doctoral graduates delaying graduation. Therefore, the research needs to discuss the problem of employment anxiety under the background of macro dimension.

Combined with the above, the same professional doctoral division, doctoral supervisor academic papers published requirements are also different, which caused the doctoral delay graduation individual heterogeneity difference, this study adopts panel threshold model, the model can be identified through technical operation individual threshold value, to use their own advantages of individual heterogeneity threshold range analysis.

Further analysis, employment anxiety under what circumstances can alleviate the delay of doctoral students graduation problem. Secondly, how many core papers can doctoral supervisors reduce? Employment anxiety pressure can relieve the delay of doctoral studies? Finally, can the funding of doctoral supervisors, mid-term assessment and teacher-student interaction alleviate the delay of doctoral students?

In the study, the number of core papers required to be published by the doctoral supervisor was set as the threshold variable (q_{it}). Using the Hansen^[10](1999). In the threshold regression, the “grid search method” is used to determine the candidate value of the threshold value (r), and then grid the candidate threshold value at the level of 0.25%, and conduct the regression respectively, to obtain the candidate value of the smallest sum of squares as the regression to estimate the true threshold value. The single-threshold model is set as follows:

$$y_{it} = \beta_1' x_{it} I(q_{it} \leq r) + \beta_2' x_{it} I(q_{it} > r) + \mu_i + e_{it}$$

From the perspective of J University, a double first-class university in Shaanxi Province, the university is a strong representative. It is supervised by the Ministry of Education. It is the first batch of national double first-class universities and C9 University Alliance. According to the questionnaire data collected from this time, the average years of study of doctors of humanities and social sciences, especially management, is 6 years, the years of study of economics is 5 years, and the median is 4.8 years. The total number of delayed doctoral students is 97.6% of fresh doctoral students, among which 31% of doctoral students are delayed for one year and 46% of doctoral students are delayed for two years. Therefore, most doctoral students in J university postpone their graduation, and the delay of two years is more common. From the perspective of discipline, because the management discipline requires to publish articles in the international first-class journals, so the delay of graduation is more serious. In terms of gender ratio, the extension rate of female PhD is higher than male PhD. From the perspective of funding incentive mechanism, the situation of doctoral students with high tutor funding is lower compared with the tutor subsidy, and the situation has improved. From the perspective of teacher-student interaction, the sample data reflects that doctoral students with frequent teacher-student interaction are more likely to graduate. From the perspective of doctoral qualification examination, if there is doctoral qualification examination in the mid-term examination, it will aggravate the delay of doctoral graduation. In short, the preliminary judgment from the sample data is basically consistent with the existing literature. Next, it is necessary to deeply investigate whether the requirements of doctoral supervisors on the number of doctoral papers published have a threshold effect on the phenomenon of delayed graduation of doctoral students.

3. Results of the heterogeneity analysis

Foreign literature on why anxiety and other related research has been very mature, mostly from individuals to take a temporary response to stress in the environment changes. In addition, there is the research of emotion regulation relationship as the entry point, and the causes and development of anxiety from the perspective of individual psychology, but there are not many related literature on employment anxiety. Domestic literature on employment anxiety focuses on college students, focusing on how to measure employment anxiety and the causes and countermeasures, and does not deeply explore the impact of employment anxiety on the delay of doctoral students^[11](Zhu Xinyu and Yue Yiquan, 2021).

According to the questionnaire survey, doctoral students are more likely to have employment anxiety if their employment prospects are uncertain under the background of high scientific research pressure and life pressure. Therefore, under the background of scientific research pressure, life pressure and employment pressure, the

mental health problems of doctoral students should be paid high attention to. Among them, the most important thing is whether the employment anxiety can urge doctoral students to graduate as soon as possible under the condition of scientific research pressure, which is the core link of the source of doctoral pressure. In this study, employment anxiety information was collected during questionnaires using semi-structured interviews.

The study found that the employment anxiety of doctoral students was characterized by individual gender heterogeneity. In the study sample, it corresponds to 1-5 grades, 5 indicates the most serious degree of employment anxiety, and 1 indicates no employment anxiety. From the perspective of gender difference, the average employment anxiety of female doctoral students is 4.1761, and the average employment anxiety of male doctoral students is 3.7412, and female doctoral students face a higher degree of employment anxiety. From the perspective of the differences in humanities and social sciences, the employment anxiety degree of doctoral students in philosophy in the university is high, and the average employment anxiety is 4.1961. From the perspective of discipline attributes, the social demand of philosophy is small, and most graduates are concentrated in the education industry. Therefore, it is difficult for philosophy doctoral students to find jobs, and the employment anxiety is more serious. In terms of the identity of students' urban and rural differences, 201 of the sample were from rural areas of China, and the rest came from cities and towns. The employment anxiety of doctoral students from rural areas is 4.0514, which is significantly higher than that of urban registered doctoral students is 3.5716. Therefore, the employment anxiety of doctoral students has obvious individual heterogeneity between urban and rural differences. If the sample household registration is divided into eastern region, northwest region, central region, northeast China and southwest China, the smallest employment anxiety of doctoral students registered in the eastern region is 2.6162, and the employment anxiety of registered doctoral students in northeast China and northwest China is more than 4, facing more serious employment anxiety. The employment anxiety degree of humanities and social science doctoral students is also affected by the economic development degree of the registered area.

Table 3. Test of the threshold effect.

The threshold variable	The threshold type	P price	F price	Number of self-service sampling	The threshold value	confidence interval
q_{it}	A single threshold	0.001	28.97	0	3	[2.1074,4.7867]
	Double threshold 1	0.000	35.37	300	3	[2.1074,4.7867]
	Double threshold 2	0.0013	24.76	300	6	[5.2123,7.1471]
	Triple threshold	0.1761	5,41	300	4	[4.1261,5.3347]

Table 4. Results of the threshold regression.

explanatory variable	model 1	model 2
	q_{it}	q_{it}
X_{it}	0.1214* (1.8761)	3.1517*** (6.4247)
ZZ	-1.8761*** (3.8771)	-0.1671** (2.4971)
Zq	1.1611*** (3.5442)	3.0445*** (4.2127)
SS	-2.1761*** (3.9786)	-1.1516* (1.8243)
constant term	1.0671*** (10.3442)	1.0883*** (9.6621)

According to the estimation results, the threshold value is to publish 3 core journals, using autonomous

sampling of 300, and the corresponding P-value of 0.0 is far less than 0.1. To reject the null hypothesis that the model is linear, there is a threshold effect. When the number of core papers required by doctoral supervisor to publish is less than or equal to 3, the virtual variable is taken as 0. At this time, when the number of core papers required by doctoral supervisor to publish is low, the impact of employment anxiety on the delay of doctoral graduation. When the number of core papers required by the doctoral supervisor to publish is more than 3, the virtual variable is taken as 1, which indicates the impact of employment anxiety required by the doctoral supervisor on the delay of the doctoral graduation. Judging from the empirical results, the empirical conclusion in line with expectations, doctoral supervisor required paper number higher, employment anxiety to delay graduation impact is greater, further shows that doctoral supervisor for doctoral thesis request is higher, employment anxiety will only lead to more mental stress, it caused great influence on doctoral delay graduation, when there is a threshold effect, still need to analysis model whether there is more threshold effect?

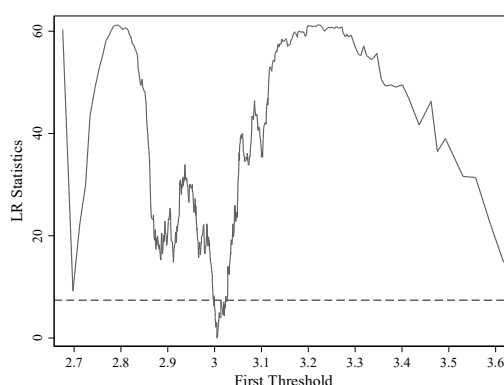


Figure 1. Confidence interval of LR statistics for the first threshold.

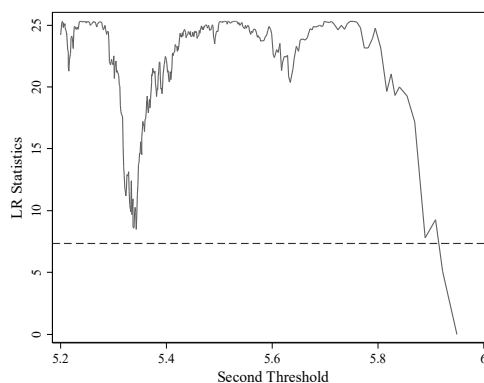


Figure 2. Confidence interval of LR statistics for the second threshold.

This study for three threshold value test, the first and the second threshold effect P value is less than 0.1, there are single threshold and double threshold effect, but the third threshold effect P value is greater than 0.1, so the third threshold effect does not exist, according to the three threshold value model draw the LR statistical image, figure 1 and figure 2 is very regular and intersection with level line, can determine the double threshold value confidence interval respectively, have passed the significance test.

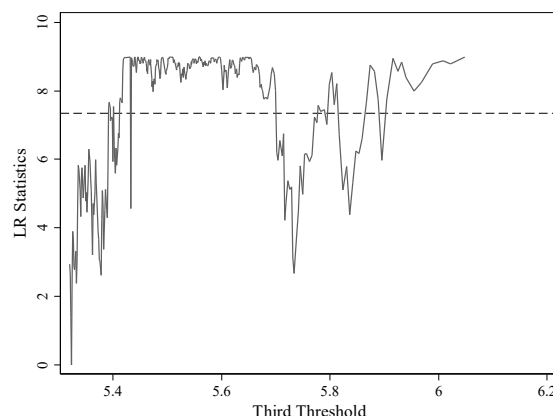


Figure 3. The confidence interval of the LR statistics for the third threshold.

However, Figure 3 is obviously different from Figure 1 and Figure 2, and the confidence intervals of LR statistics in Figure 3 are messy, and the significant critical value cannot be found. Therefore, the third threshold effect does not exist. Using a double threshold model, to increase the robustness of model conclusions, we used bootstrap sampling numbers of 0 and 300. At the bootstrap sampling number is 0, the first threshold value is 3 and the second threshold value is 6, both threshold values passed the significance test. When doctoral supervisor request published core paper number is less than or equal to 3, employment anxiety of doctoral delay effect coefficient is very small, the supervisor on the core number of low requirements, doctoral research pressure less, less likely to academic delay, employment anxiety less impact on doctoral delay graduation. When doctoral supervisor requirements published core paper number between 3 and 6, doctoral students has a certain research pressure, questionnaire research judgment through efforts the vast majority of doctoral students can finish their studies, but there is a larger risk of academic delay, employment anxiety will greatly improve doctoral academic pressure, causing doctoral greater delay graduation risk. This further shows that in the doctoral study stage of humanities and social sciences, due to the difficulty of publishing core papers, there are different degrees of scientific research pressure. If the doctoral supervisor unilaterally increases the number of core papers published, the employment anxiety pressure increases significantly, so that the doctoral students may try to relieve the above pressure by delaying graduation. Therefore, breaking the “five only” thesis, especially the “only thesis thesis”, is very important to reduce the phenomenon of doctoral student graduation delay, which should be paid great attention to.

4. Interpretation of result

As shown in Table 4, employment anxiety increased in both the degree of impact and the significance of the situation when more academic papers were published. In addition, doctoral funding incentive will significantly reduce doctoral delay graduation, especially the doctoral supervisor published lower requirements, improve the doctoral funding system will help doctoral graduate as soon as possible, and doctoral supervisor to student core papers published number more than 6, doctoral funding system can play a role and influence decreased significantly. For doctoral students, therefore, due to the information asymmetry, doctoral supervisor and PhD candidates have incomplete information, research questionnaire also further confirm the empirical conclusion, some doctoral supervisor because unilaterally improve doctoral graduate threshold, require more core papers, even with a more perfect Dr Funding system, but subject to external conditions, such as publishing cycle, paper

quality, scientific research ability, etc., there is great uncertainty. Therefore, it alleviates the positive role that the doctoral funding system can play. As shown in Table 4 the empirical results of the assessment, influence degree from 1.1611 to 3.0445, in the mid-term examination of doctoral qualification examination have important influence on doctoral delay, but if the doctoral supervisor in the background, this kind of doctoral qualification examination has become one of the important reasons for doctoral delay graduation. From the sample of the questionnaire interview, the major adopts the doctoral student qualification assessment, and the doctoral students will spend more time before the mid-term assessment for lesson preparation and review, so as to try to pass the mid-term assessment. If the major does not adopt the mid-term examination such as doctoral qualification examination, then doctoral students can spend more time on the writing and publication of academic papers before the mid-term examination, which helps doctoral students to complete their studies as soon as possible. What is more serious is that not only doctoral supervisors have high requirements for the number of core papers published by doctoral students, but also have strict mid-term assessment content such as doctoral qualification examination, so doctoral students will have great academic pressure and scientific research pressure, which aggravates the delay of doctoral graduation. The interaction between teachers and students significantly reduced the delay of doctoral students, but under the condition of low publication requirements, the interaction between teachers and students is more significant. If the doctoral supervisor requires the core paper to be published low, the frequency of interaction between teachers and students will increase, and academic meetings can create a better research atmosphere for doctoral students, which will help doctoral students to publish papers smoothly and reduce the risk of delayed graduation of doctoral students. On the contrary, if the doctoral supervisor unilaterally raises the graduation threshold and publishes at least 6 core papers, then the doctoral students face great pressure on scientific research and academic. Although the interaction between teachers and students can still significantly reduce the delay of doctoral students, the positive effect of the interaction between teachers and students is reduced due to the large number of papers published. Therefore, from the empirical results, the number of core papers requiring students to publish is the key, and the role of other macro factors such as the delay of doctoral graduation are related to the threshold variable. Core explanatory variable Whether employment anxiety can promote doctoral students to graduate as soon as possible also depends on the threshold variable. When doctoral supervisors unilaterally increase the number of core papers published, employment anxiety can not help doctoral students to graduate as soon as possible, but also aggravate the phenomenon of doctoral students delaying graduation. Therefore, breaking the “five only”, especially the “only thesis” is crucial to reduce the graduation of doctoral students.

4.1. Further exploration of the postponement of the graduation of doctoral students

a) The internal connection between university functions and paper publication

The empirical regression conclusion reflects that the doctoral supervisor has obvious heterogeneity and threshold effect on the number of core papers published by the doctoral students, and the impact of the core explanatory variable employment anxiety on the delay of the doctoral graduation depends on the threshold variable. Why do these factors have an important influence on the postponement of doctoral students? Where is the root cause of the problem? This study believes that this goes back to the core meaning of the university.”The core task of a university is to explore new knowledge and generate knowledge innovation,” Burton Clark said. The Chinese scholar CAI Yuanpei stressed that “the university is the study of advanced knowledge”. Therefore, the function of a university is not only to train undergraduate and graduate students, but also to make

knowledge innovation. Through exploring the academic frontier, to make the breakthrough and innovation of knowledge^[13]. From this perspective, it puts forward high requirements for the academic accomplishment of teachers and postgraduates, and has certain difficulty and complexity for the process of exploring new knowledge. So, PhD students as academic education training the highest level of talents, inevitably to knowledge innovation exploration activities, require profound knowledge reserves and analysis and solve the problem of practical ability, these requirements set a higher threshold, and obtain research direction of academic frontier knowledge must read some related papers, combined with their research direction, the use of new methods and technology related knowledge innovation. If the achievements of knowledge innovation and other activities are to be recognized by the academic community and peers, a certain number of high-level papers need to be published. Therefore, the function of a university is knowledge innovation. For doctors of humanities and social sciences, obtaining a breakthrough direction from reading literature is an effective means to explore knowledge innovation^[14]. From the perspective of the discipline characteristics of humanities and social sciences, knowledge innovation has certain complexity and ambiguity. Only by publishing core papers can we obtain the evaluation and recognition of academic peers, which is the key reason why doctoral supervisors require doctoral students to publish a certain number of high-level papers.

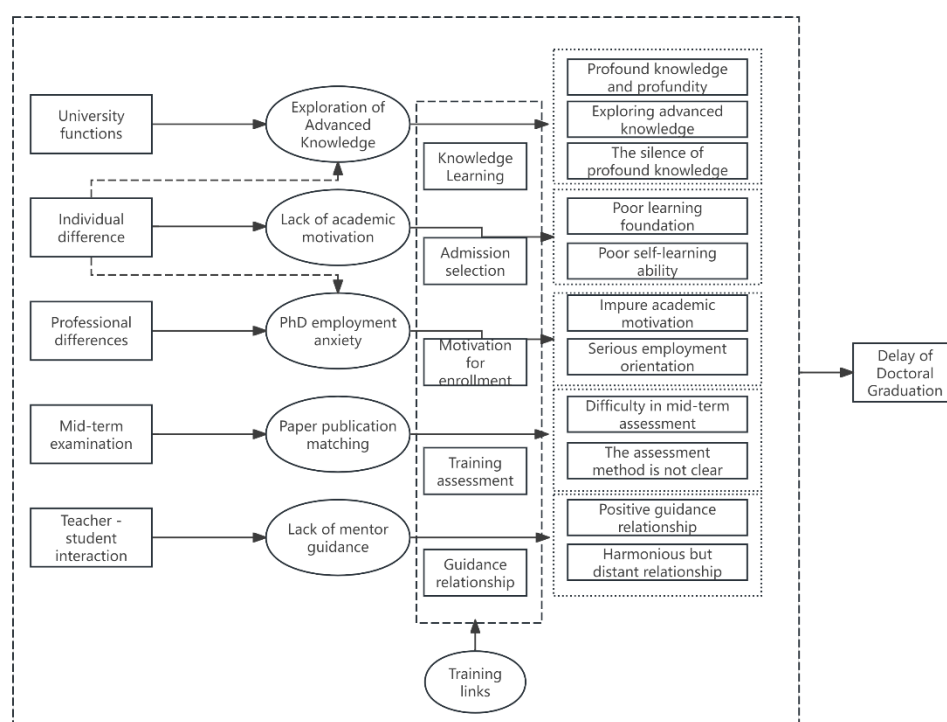


Figure 4. Discussion on the internal factors of doctoral delay.

b) Employment anxiety and lack of academic motivation for humanities and social sciences are important factors for the delay of doctoral graduation

The questionnaire survey on employment anxiety also revealed that the anxiety degree of PhD in humanities and social sciences is highly heterogeneous. In history, philosophy and literature in humanities and social sciences, the employment anxiety degree of PhD students is the highest, while the employment anxiety degree of PhD in economics, management and law is low. From the perspective of academic motivation, the uncertain employment situation will encourage the master's students to continue their PhD studies to ease

employment anxiety. Therefore, many master's students in humanities and social sciences from double first-class universities choose "doctoral protection" or "master and doctoral training" to continue their study, which will produce a lot of master's students with insufficient academic motivation to enter the doctoral training process, resulting in the delay of doctoral graduation. In the questionnaire survey, some interview outline was also designed, excerpted a text: "I am a doctoral student of economics. The * * female doctor in our class obtained the doctoral qualification by applying for examination. However, she basically chose to give up her study due to the lack of academic interest and academic ability." Therefore, the questionnaire survey reflects some practical problems and the content of this research. Employment anxiety has led to some master's candidates who are not suitable for doctoral study to obtain doctoral indicators, but the lack of academic motivation and academic ability causes them to complete the doctoral degree awarding conditions, which is another important factor for the postponement of doctoral graduation^[15]. Therefore, if doctoral supervisors unilaterally increase the number and requirements of core papers published, it will further aggravate the delay of doctoral students with insufficient academic motivation^[16].

c) The mismatch between the mid-term assessment differences and the paper publication requirements is an institutional obstacle for doctoral students to postpone their graduation

From the professional difference in the mid-term assessment of doctoral students, The implementation of the mid-term doctoral student qualification examination has a significant impact on the extension of doctoral students, Due to the differences in the academic motivation and academic ability of doctoral students, If the doctoral stage mid-term examination adopts the qualification examination, For example, economics PhD students, The mid-term qualification examination is usually for advanced macromicroeconomics and advanced econometrics, These three courses have high requirements for the basis of mathematics and economic theory, Doctoral students often need more time for reviewing the three advanced courses, The time spent on paper writing and literature reading will be compressed, There will be a certain degree of mismatch between the mid-term qualification examination and the publication requirements of the paper. If the mid-term examination of doctoral students adopts the qualification examination, doctoral students will invest more time in theoretical study, especially the advanced courses of professional basic theory subjects will have an important impact on the composition of professional knowledge system^[17]. However, there is still uncertainty about the form of mid-term doctoral assessment in the dual first-class universities. The pressure of paper research and subject rankings may encourage universities to expect more high-level papers at the doctoral level. This study believes that the study of advanced theoretical knowledge is particularly important for the establishment of knowledge system. Scientific research papers are cutting-edge and innovative, and the research perspective must focus on academic hot spots, and have limited role in the construction of theoretical knowledge system. Therefore, the doctoral course design should follow a thick foundation and a wide vision. Therefore, under the background of "breaking the five only", the mid-term examination of doctoral students in the form of qualification examination is more and more popular. As doctoral students invest more time in the study of advanced professional basic theoretical knowledge, it has an internal impact on reducing the requirements of paper publication. For example, some professional doctoral students at Tsinghua University and Peking University no longer forcibly emphasize the publication of high-level papers. Basic research and basic theoretical research are crucial for the country to build a high-level of scientific and technological self-reliance and self-improvement. Therefore, the mid-term assessment of doctoral students should be reformed towards the direction of thick foundation and broad vision, reduce the requirements

for the publication of core papers of doctoral students, and break the institutional barriers of doctoral graduation delay^[18].

d) The absence of teacher and student interaction and guidance is the catalyst for the delay of doctoral students

The empirical results show that the interaction and guidance have a negative effect on doctoral delay. When doctoral supervisors have low requirements for the publication of core papers, the degree of interaction between teachers and students will reduce the delay of doctoral studies to a greater extent. Therefore, the conviction and interaction of guided study have a great impact on whether doctoral students can complete their studies on time. Hughes(2003)^[12]It is believed that good mentors pay more attention to cultivating students' academic confidence, which can not only provide professional academic guidance and help, but also provide guidance for students' career planning. This good teacher-student interaction relationship is called "partial positive relationship". According to this study, it is very important for doctoral supervisors to guide and assist doctoral students. Regular teacher-door meetings can stimulate doctoral students to produce more updated academic topics. The difficulties encountered by doctoral students can also be discussed through academic seminars to provide research ideas and methods through teamwork^[19]. On the contrary, if the interaction frequency of teachers and students is low and the absence of doctoral supervisor guidance, this "safe and alienated" guidance relationship is more likely to lead to doctoral students "behind closed doors", which is one of the factors that lead to the delay of doctoral graduation. Through further information mining of the questionnaire sample, the guidance relationship with "partial positive relationship" will also have a profound impact on the employment of doctoral students. For example, the research sample: "After graduation, I joined universities according to the requirements of doctoral supervisor, and I am still an important team member of doctoral supervisor. At present, my supervisor and I have published several papers in high-level journals, and it should be ok to get the title of associate professor" (2021-ECO-21). The "partial positive relationship" guide school can not only provide high-quality employment direction for doctoral students, but also play a positive effect for doctoral students to go to work later^[20]. The guiding relationship of "peace and alienation" makes the academic direction of doctoral students unclear. They will fall into "self-doubt" or "aimlessly", which consumes students' energy and seriously drags down the academic progress. The absence of guidance and the unilateral improvement of paper publication requirements will accelerate students into the state of "psychological anxiety", and be full of uncertainty about academic development and employment prospects. Therefore, the guidance relationship of "security and alienation" aggravates the lack of academic training, psychological anxiety and uncertain employment prospects, the increase of employment anxiety and the loss of academic confidence, which all provide a catalyst for the delay of doctoral graduation.

5. Conclusion and suggestion

The trend of postponing the graduation of doctoral students in humanities and social sciences is more and more common. For the whole society, the postponing of the graduation of doctoral students leads to the insufficient use of human resources and the consumption and occupation of educational resources^[21]It interferes with the index of doctoral enrollment in universities and weakens the overall quality of doctoral students in China, and the whole society should pay close attention to it^[22]. For individual doctoral students, the delay of doctoral study has a negative impact on their economic income and employment. The longer the period of delay, the greater the mental pressure, and some doctoral students even use extreme means to end their lives. Whether

from the perspective of the whole society, or from the perspective of the individual happiness of doctoral students, it is crucial to explore the reasons and the mechanism of the delay of doctoral students. From the perspective of the employment situation of humanities and social sciences, the employment difficulties of college students in the next few years are still prominent. Scientific research pressure and employment pressure are two unavoidable problems of humanities and social sciences, and the impact of employment anxiety on the delay of doctoral students. This study suggests to find breakthroughs from the following aspects:

a) Breaking the "five only", especially the "only paper" can reduce the employment anxiety of doctoral students and promote doctoral students to complete their studies as soon as possible.

The expansion of domestic doctoral enrollment in China puts forward higher requirements for the quality of doctoral training. The Opinions on Deepening the Reform of Graduate Education of the Ministry of Education emphasizes that the investigation of the research ability and quality of doctoral students should be increased, and the research task of doctoral students should be relatively improved. Some doctoral supervisors will put forward high requirements for the number of doctoral core papers published^[23], Humanities and social science doctoral students are facing more and more serious graduation delays, coupled with the uncertain employment prospects, employment anxiety will further increase the proportion of doctoral graduates with delays. Break "only paper" has become one of the important content of alleviate doctoral delay, countries also attention, in October 2020, the State Council issued by the "deepening the reform of the new era of education evaluation overall plan", to break "paper" provides a guidance document, doctoral training quality should be published by the paper to strengthen discipline foundation direction, emphasizes the thick foundation and broad field of vision training system. In December 2020, the Ministry of Education issued by the about breaking philosophy and social science research evaluation in colleges and universities "only paper" bad oriented several opinions, emphasize the humanities and social sciences should focus on social major practical problems, strictly avoid the traditional orientation, write the paper on the motherland, correct view SSCI and CSSCI source function and function, the humanities and social science class Dr Training laid a professional guidance documents. At present, many domestic doctoral supervisors of humanities and social sciences closely combine the quality of papers with the level of journals, and do not view the level of papers correctly. Some doctoral supervisors cooperate with the editorial department of journals to form a regular draft appointment, occupying the pages of the journal, which causes some interference to the authors who contribute freely. In April 2021, the Office of Beijing Natural Science Foundation Commission issued a notice on Several Measures to Break the Bad orientation of "Only papers", proposing to build a perfect peer review system, truly achieve anonymous peer review, continuously optimize the weight of quantitative evaluation indicators, and achieve fairness and justice. Therefore, for doctoral students of humanities and social sciences, breaking "only paper" can further reduce the employment anxiety of doctoral students, accelerate the supervision of doctoral students to complete their studies as soon as possible, which plays an important role in improving the governance ability and level of graduate education, accelerating the modernization of education and building a strong education country.

b) Improve the doctoral student funding system, increase the mid-term assessment efforts, and build a solid professional theoretical foundation

This study reveals the perfect doctoral funding system can significantly reduce the doctoral delay degree, the current university doctoral funding policy can only cover the doctoral delay after a year or so, most doctoral students after the delay, poor income, there are different levels of employment anxiety, part of doctoral took the

part-time, this will cause doctoral research dispersion, promote more serious academic delay, moreover, gave up the doctorate, caused a great waste to education resources. The Notice of the Ministry of Finance and the Ministry of Education on Further raising the national Grant subsidy standard for doctoral Students emphasizes that the national grant subsidy standard for doctoral students will rise from 12,000 yuan to 15,000 yuan per year, and the local university doctoral students will be no less than 13,000 yuan per year. However, this standard is far lower than the national per capita disposable income standard, compared with the developed countries, the United States doctoral average annual funding of \$30000, at the same time of additional medical and education benefits, British doctoral living grant 16000 to 20000 pounds, and eligible can apply for free tuition fees at the same time. Therefore, at present, there is a big gap between China's doctoral subsidy standard, both compared with the national per capita disposable income and the doctoral subsidy standard of western countries. According to the national financial situation, we should timely improve the living subsidy standard of doctoral students and cover the whole cycle of doctoral study. At present, there are blurred boundaries between the mid-term assessment reform and the publication of academic papers in research colleges and universities. Some majors of humanities and Social sciences have implemented the course qualification examination. Before the mid-term examination, doctoral students need to complete the examination of advanced courses of their major, and then they can continue to apply for the doctoral degree. Therefore, the overall direction of this kind of mid-term assessment reform is good, which has a solid professional theoretical foundation, changing the embarrassing dilemma of previous doctoral students who can only write papers and lack of professional quality. Since doctoral students have invested a lot of time in the course qualification examination in the early stage, the publication requirements for core papers should be reduced. However, from the survey sample situation, some majors are not willing to reduce the publication requirements of their papers, which seriously aggravates the phenomenon of the delay of doctoral students' graduation. Therefore, strengthen the mid-term assessment, implement the doctoral course qualification examination in a thick and basic training way, reduce the number of core papers published, effectively improve the quality of doctoral training, and reduce the delay of doctoral study^[24]. According to the research situation, humanities and social science class need a long time of knowledge accumulation and the depth of the thinking of problems, "fast food" scientific research does not conform to the discipline characteristics of humanities and social sciences, must break the "only paper, only CSSCI and SSCI" academic ethos, actively adopt recognize read and "application" doctoral admissions reform, using one-stop through system training mode, break the traditional examination selection mode, let Dr curriculum, doctor qualification examination and shunt out close cooperation^[25] If the doctoral qualification examination fails to pass, it should be eliminated from "doctoral to master", so that the highest degree of the doctor can truly become the knowledge-based professional senior talents in the research field, win the praise of employers, and improve the reputation and quality of the doctor.

c) Strengthen the frequency of teacher-student interaction, improve the guidance relationship, and improve the quality of guidance

This survey shows that the academic interaction and guidance degree between doctoral supervisors and doctoral students significantly affects the degree of academic delay of doctoral students. Therefore, the formation of a good guidance degree, to "respect teachers" interactive atmosphere between teachers and students has a great impact on the doctoral students^[26]. At present, from the perspective of the survey sample, the contradiction of guidance studies is still relatively prominent, which is manifested as: first, unequal rights, most doctoral

students can only complete the corresponding scientific research tasks and paper publication according to the requirements of the supervisor, without taking into account the individual differences of doctoral ability^[27]. Even if the academic requirements of the tutors are too high, they often can only take the attitude of forbearance. This unequal academic power will also breed all kinds of teacher ethics problems. In the process of doctoral training, doctoral supervisors should not only be given the corresponding power of enrollment, academic training plan formulation, dissertation guidance, but also emphasize the supervision of power, violate teachers' ethics, and should take a "zero tolerance" attitude and one vote veto. Second, the phenomenon of guidance is more prominent. Some doctoral supervisor in administrative positions in the school, this kind of "may" makes doctoral supervisor must take part of the time for administrative and all kinds of academic conference, seriously squeeze the guidance doctoral time, this case may be by doctoral guidance team to other teachers for management, guidance absence and lack of interaction, make doctoral academic career more confused^[28]. The survey sample shows that some teachers and doctoral students cannot see their supervisors for a year. Third, the guidance style mismatch. Mainhard According to the "interference" and "close" relationship to doctoral supervisor guidance style is divided into eight types, the types at both ends (extreme harsh and indulgence) more likely to form guidance style mismatch, this kind of mismatch consequences easy to encourage "peace and alienation" guide the formation of the relationship, make the doctoral student to give up and PhD communication and feedback, it has a significant impact on doctoral academic delay^[29]. To this end, in 2020, the Ministry of Education issued the Code of Conduct for Graduate Tutors' Guidance (No.12,2020), emphasizing the code of conduct that graduate supervisors should be followed by. According to the characteristics of graduate training, universities should improve the relevant system that restricts the behavior of tutors."The central committee of the communist party of China under the State Council on comprehensively deepening the reform of the new teachers team construction opinion" the Ministry of Education and other seven departments on strengthening and improving the opinions of the construction of ethics strengthen to clear constraints doctoral supervisor academic abuse of power, the behavior of the interests of students, especially the recent some typical ethics strengthen cases focused on the doctoral supervisor and the doctoral guide relationship, this should be vigilant and attention. Fourth, strictly implement the separation of evaluation and appointment of doctoral supervisors. The selection criteria and assessment methods of doctoral supervisors should be based on the characteristics of the discipline, and the "one-size-fits-all" selection mechanism should be avoided, and key support should be given to young people who devote themselves to scientific research and vitality. When adopting the training mode of doctoral supervisor group, detailed training agreements should be formulated to clarify the responsibilities and authority of each teacher in the supervisor group, and avoid the phenomenon of overlapping responsibilities and unclear responsibilities. It is suggested to form the responsibilities of doctoral student recruitment and guidance by signing an agreement or contract. In the process of appointing doctoral supervisors, we should listen to the opinions of doctoral students. In this study, some problems were found in the process of sorting out the research samples. For example, the doctoral supervisor is in charge of more horizontal projects. Although the project funds are relatively abundant, the correlation with the topic selection and direction of doctoral research is poor, which seriously consumes the research time of doctoral students. Therefore, in the assessment process of doctoral supervisors, we should pay attention to listen to the evaluation and feedback of doctoral students^[30]For irrelevant horizontal projects, the evaluation criteria should be lowered, the academic standard should be highlighted, and a comprehensive network of comprehensive doctoral academic development support should be established to

effectively improve the quality of doctoral training.

6. Acknowledgements

This fund project: (1) 2022 “graduate education innovation plan” research project of Anhui university of finance and economics in 2022, project number: cxjhjyyb2219; (2) general project funding of national social science fund, project number: 20BJL070.

References

- [1] Bowie, Zhang Xinyue, Wu Jiaqi. Empirical study of the factors affecting the delayed graduation of doctoral students [J]. Jiangsu Higher Education, 2020 (07): 31-38.
- [2] VREELAND R S, BIDWELL C E. Classifying university departments: an approach to the analysis of their effects upon undergraduates' values and attitude [J]. Sociology of Education, 1966: 237-254.
- [3] NERAD M, CERNY J. From facts to action: expanding the graduate division's educational role [J]. New Directions for Institutional Research, 1993(80): 27-39.
- [4] HOFFER T B, DUGONI B L. Doctorate Recipients from United States Universities: Summary Report 2000 [J]. Survey of Earned Doctorates, 2001: 21-27.
- [5] Qing Yang. — The reasons and mechanism of humanities and social sciences [J]. Higher Education Research in China, 2021 (7): 90-97.
- [6] GOLDE C M. Early and late doctoral student attrition: Descriptions of the graduate education process [C]. Orlando : annual meeting of the Association for the Study of Higher Education, 1995: 2-5.
- [7] K LUEVER R. ABDs and graduates from a college of education: Responsibility, barriers and facilitators [C]. San Francisco : annual meeting of the American Educational Research Association, 1995: 11-19.
- [8] MONSOUR M, CORMAN S. Social and task functions of the dissertation partner: One way of avoiding terminal ABD status [J]. Communication Education, 1991, 40(2): 180-186.
- [9] HUSTON J L. Factors of success for adult learners in an interactive compressed video distance learning environment [M]. Lexington: University of Kentucky, 1997: 32-39.
- [10] HANSEN B E. Threshold effects in non-dynamic panels: Estimation, testing, and inference [J]. Journal of econometrics, 1999, 93(2): 345-368.
- [11] Zhu Xinyu, Yue Yiquan. Employment anxiety and social work intervention of college students [J]. Research on Western Development, 2021 (2): 27-43.
- [12] HUGHES R, PACE C R. Using NSSE to study student retention and withdrawal [J]. Assessment Update, 2003, 15(4): 1-2.
- [13] Li Yonggang, Fang Yali. Customs clearance challenge: a qualitative study on the reasons for the delayed graduation of engineering doctoral students in research universities [J]. Journal of Hangzhou Normal University: Social Science Edition, 2022, 44 (3): 84-91.
- [14] Qing Yang. Analysis of the causes of delayed graduation for PhD students in Humanities and Social Sciences — From the perspective of advanced knowledge logic generation [J]. Fudan Education Forum, 2022, 20 (2): 56-65.
- [15] Yao Hao, Ma Lichao. The impact of challenging-obstructive research stress on graduate anxiety: the mediation of achievement motivation and self-efficacy [J]. Higher Education Research in China, 2021 (5):

79-85.

- [16] Li LAN, Xie Yongsheng. Questionnaire survey and analysis of academic papers are required when applying for a degree [J]. Academic Degree and Postgraduate Education, 2015 (6): 60-64.
- [17] Liu Lanying. On the reconstruction of the doctoral course structure of Humanities and Social Sciences in China [J]. Academic Degree and Postgraduate Education, 2019 (07): 43-48.
- [18] Li Jingyue, Zhang Xiaomei, Huang Fugui and so on. Analysis and countermeasures research on the phenomenon of “graduation difficulty” for doctoral students [J]. Journal of Jimei University (Education Science edition), 2017,18 (06): 50-57.
- [19] Min Wei, Li Yonggang. Are “good scholars” being “good mentors”?—— The influence of supervisor academic status on the effectiveness of science and engineering doctoral students [J]. Academic Degree and Postgraduate Education, 2018 (08): 25-32.
- [20] CAI Fen, Jiang Yue. Summary of research on innovation ability of doctoral students in China [J]. Modern Education Science, 2020 (02): 119-125.
- [21] Gao Rui, Zhang Weiwei.—— Quality analysis from the perspective of “double first-class” university construction [J]. Academic Degree and Postgraduate Education, 2020 (03): 39-45.
- [22] Huang Haigang, Jin Yi.lead to Ph. D: empirical research on the motivation of doctoral students in China —— On the significance of academic motivation on the quality of doctoral students [J]. Fudan Education Forum, 2016,14 (05): 59-66.
- [23] Li Chengfeng, Chen Hongjie. Will the dissertation topic selection affect the doctoral students to graduate on schedule?—— Based on the analysis of the national PhD graduate exit survey data [J]. Higher Education Research in China, 2020 (07): 26-32.
- [24] Huang Junping, Chen Qiuyuan.—— Take the investigation on the situation of Postdoctoral students in Peking University as an example [J]. Academic Degree and Postgraduate Education, 2013 (07): 50-55.
- [25] Xue Xinxin, Hu Lifang. Independent learning in graduate courses: Connotation, function and practical strategy [J]. Graduate Education Research, 2020 (04): 35-40 + 97.
- [26] Gao Yao, Chen Hongjie, Wang Dongfang. How high is the graduation rate of doctoral students —— An empirical study based on the 2017 National Exit survey data [J]. Graduate Education Research, 2020 (01): 42-51.
- [27] Hao Tongliang, Yang Yumeng, Sun Wei. Doctoral scientific research projects participate in the empirical research on the impact of scientific research innovation ability [J]. Exploration of Higher Education, 2020 (09): 50-57.
- [28] Qian Changping, Xu Yulan. The “Buddhist Department” mentality of deferred doctoral students: generation, performance, and diagnosis and treatment path [J]. Academic Degree and Postgraduate Education, 2021 (01): 78-83.
- [29] Li Zongbo, Dai Yuanju, Han Xueliang, etc. Impact of challenging-hindering research stress on knowledge sharing behavior: the mediating role of research role identity [J]. Chinese Journal of Clinical Psychology, 2018,26 (02): 363-366.
- [30] Sun Junhua, Wang Xia. Study on the psychological stress status, stressors and influencing factors of doctoral students —— Based on the survey data of five universities in Jiangsu province [J]. Academic Degree and Postgraduate Education, 2021 (07): 50-58.