



Study on the Influencing Factors of College Students' Intention to Change Majors Based on Professional Commitment

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Abstract. At present, it is very common that the phenomenon of students' professionalism transfer in universities. In this study, to deeply explore the influence factors of university students' intention of transfer professionalism, a new survey scale was designed based on the survey scale of university students' professionalism commitment and the actual situation. Through the questionnaire survey, 615 valid questionnaires were collected, the data was analyzed by SPSS software, and the factors with strong correlation were selected and analyzed with binary Logistic regression. Results show that the origins of students and professionalism transfers have no significant correlation with university students' intention of transfer professionalism under the effect of other factors. Learning self-efficacy, standard, and professional with consistency have significant correlation with university students' intention of transfer professionalism. Learning efficiency, normative consciousness, and professional consistency are negatively correlated with university students' intention of transfer professionalism. Among them, the normative consciousness has the greatest influence on the university students' intention of transfer professionalism, the learning efficiency is the second, and the impact of the examination is the least. The grade factor is positively correlated with the university students' intention of transfer professionalism.

Keywords: Professional commitment · Professional intention · Study efficiency · Normative consciousness

1 Introduction

University education is an important period for students to receive high-level education, conduct professional study and training, and improve their thinking ability and comprehensive quality. Through professional study and training, college students deeply explore professional knowledge and skills, and then determine the direction of future career development. However, the phenomenon of professional dislocation caused by the college entrance examination application and admission mechanism is relatively common among college students. As a result, some college students do not understand their chosen major, their interest in learning is not high, and their professional identity is

low, which further leads to their intention to change majors. In particular, in 2005, China promulgated the "Regulations on the Management of Students in Ordinary Institutions of Higher Education", which clearly stated that "students can apply for changing majors in accordance with school regulations". This opens the door for college students to choose a major for the second time. However, in reality, most college students still have unclear goals and do not understand the chosen major. In the end, just like choosing a major for the first time, choosing a major based on one's own interests, suggestions from family members, or the so-called "hot and cold" majors loses the real meaning of changing majors. After these college students changed their majors, they did not fundamentally enhance their sense of identity with their majors. Therefore, an in-depth study of the factors that affect the intention of college students to change majors is beneficial to avoid blindly changing majors, promote the rationality and scientificity of college students' professional education, and improve the quality of teaching and personnel training.

2 A Review of Research in China and Foreign Countries and Regions

2.1 Research on the Concept of Professional Commitment

The concept of professional commitment comes from organizational commitment and professional commitment, and it is the extension of organizational commitment and professional commitment in the professional field [1]. Aranya believes that professional commitment is the degree of personal identification with the profession and the intensity of involvement [2]. Lachman research shows that professional commitment is the belief and acceptance of the goals and values of the profession, and the willingness to devote a great deal of effort to the profession, with a strong requirement to maintain membership in the profession [3]. Morrow defines professional commitment as: Loyalty and identification with one's profession [4].

The research on professional commitment in China started late, but it has also achieved many results. Experts and scholars have defined the concept of professional commitment from different perspectives, mainly based on the recognition degree of college students to the major, the degree of students' willingness to actively and actively work, and so on. Lian Rong defines professional commitment as the positive attitude and behavior of college students who agree with their major and are willing to make corresponding efforts [5]. Liu Hanmei further explores on the basis of previous research, and finally puts forward that the professional commitment of college students is a kind of positive attitude and behavior that college students highly recognize and love their majors, and make corresponding efforts to achieve good professional results [6].

2.2 Research on the Content of Professional Commitment

By systematically sorting out the relevant literature on college students' professional commitment, the current research on college students' professional commitment can be roughly classified into three categories:

2.2.1 Research on the Dimensions of Professional Commitment Professor

Lian Rong and his pupils draw on the professional commitment scale and use the interview method to compile a representative “college student professional commitment survey scale”, and summarize the four dimensions of professional commitment through empirical analysis [5]. Xue Feng compiles the “Professional Commitment Questionnaire for College Students Majoring in Physical Education”, and conducts empirical research and analysis of its own influencing factors of professional commitment. It can be concluded that the psychological structure of professional commitment of sports majors consists of three dimensions, including emotional commitment, economic commitment and normative commitment [7].

2.2.2 Investigation and Analysis of the Status Quo of Professional Commitment Based on a Certain Type of Professional

The researchers describe the current situation of professional commitment of a certain type of (professional) college students. Shu Gang conducted a survey on more than 700 agricultural students at Southwest University, and the results showed that: in the various dimensions of agricultural students’ professional commitment, normative commitment has the highest impact, continuous commitment has the lowest impact, emotional commitment and ideal commitment have a moderate effect on professional commitment. Among them, there is a positive correlation between the place of birth and professional commitment [8]. Zheng Feifei conducts a questionnaire survey on 300 nursing master’s students, indicating that the professional commitment of nursing master’s students in China is at a medium level [9].

2.2.3 Involving Research Related to Professional Commitment

Various researchers study professional commitment from different perspectives. Xu Changyong explores the influence mechanism of professional commitment from the perspective of learning input and learning gain. It is concluded that emotional commitment and normative commitment have a significant positive correlation with learning achievement [10]. Starting from the relationship between college students’ sense of learning efficacy and professional commitment, Jiang Yuting conducts a survey and research on students of a Chinese medicine university. The results show that: all dimensions of professional commitment and sense of learning efficacy were significantly positively correlated [11]. Li Yuanyuan believes that there is a significant positive correlation between learning norm awareness and professional commitment. The internal control dimension of psychological control source has a predictive effect on the level of professional commitment of college students. College students with a higher tendency to internal control will have a higher level of professional commitment [12].

In recent years, scholars have gradually realized the importance of professional commitment to the education and training of college students, and began to expand the research scope of professional commitment from different perspectives. However, there are few related studies on college students’ professional commitment and professional transfer intention. This study attempts to take this as a starting point to explore the factors that affect college students’ intention to change majors based on professional

commitment, in order to enable college students to view the problem of major change in a correct and rational way and avoid blindly changing majors. At the same time, it also provides a certain useful reference for the education management work in colleges and universities, and then improves the quality of personnel training in colleges and universities.

3 Questionnaire Design and Implementation

This research adopts the questionnaire survey method. Based on Professor Lian Rong's "Professional Commitment Survey Scale for College Students", a new questionnaire is designed in combination with the actual research situation, with a total of 36 questions.

Questionnaires were distributed online. This method has the advantages of rapid distribution, high recovery rate, and convenient statistics. In addition, the online questionnaire is mandatory, which avoids the phenomenon that some questions are missed. The questionnaires were issued to students from the 5 majors of the School of Management (replaced with A, B, C, D, and E for each major in the article), involving students of all grades from freshman to senior year. Finally, 615 valid questionnaires were recovered.

4 Data Analysis and Results

4.1 Basic Information of the Questionnaire

By descriptive analysis, the 615 points of valid questionnaires returned are counted, and a statistical table of basic information of investigators is obtained (see "Table 1").

In terms of gender ratio, the proportion of male students in the survey is 22.3%; the proportion of female students is 77.7%. From the perspective of grade distribution: freshmen to seniors accounted for 39.5%, 19.8%, 26.3%, and 14.3% respectively; freshmen were the most, and seniors were the least. From the perspective of the distribution of majors: the number of respondents in A major accounts for about a quarter of the total number, and the distribution level of the remaining four majors is similar. From the perspective of the source of students: the proportion of the surveyed people in the province is 43.7%; the proportion of the surveyed people outside the province is 56.3%; the majority of students are from outside the province. In addition, more than half of the investigators have rural registered permanent residence, accounting for 50.4%; followed by urban 29.1%; students from towns and villages accounted for the least, accounting for 20.5%.

4.2 Reliability Analysis of the Questionnaire

Whether the measurement results are stable and consistent is tested by reliability analysis. Since this questionnaire has only one scale, its stability and consistency are tested by Cronbach's alpha reliability coefficient. If the α coefficient does not exceed 0.6, it is generally considered that the internal consistency reliability is insufficient; when it reaches 0.7–0.8, it means that the scale has considerable reliability, and when it reaches 0.8–0.9, it means that the reliability of the scale is very good.

Table 1. Statistics of basic information of investigators

Basic information	Classification	Frequency	Percentage	Valid percentage	Cumulative percentage
Gender	Male	137	22.3	22.3	22.3
	Female	478	77.7	77.7	100.0
Grade	Freshmen	243	39.5	39.5	39.5
	Sophomore	122	19.8	19.8	59.3
	Junior	162	26.3	26.3	85.7
	Senior	88	14.3	14.3	100.0
Major	A	153	24.9	24.9	24.9
	B	116	18.9	18.9	43.7
Basic information	Classification	Frequency	Percentage	Valid percentage	Cumulative percentage
	C	107	17.4	17.4	61.1
	D	112	18.2	18.2	79.3
	E	127	20.7	20.7	100.0
Origin of students	In Shandong Province	269	43.7	43.7	43.7
	Outside Shandong Province	346	56.3	56.3	100.0
Homeplace	Countryside	310	50.4	50.4	50.4
	Villages and towns	126	20.5	20.5	70.9
	City	179	29.1	29.1	100.0

Table 2. Questionnaire reliability statistics

Cronbach's Alpha	Number of items
.888	31

The reliability analysis of the questionnaire in this study is shown in “Table 2”. The alpha coefficient value of this questionnaire is 0.888, indicating that the reliability of this questionnaire is very good.

4.3 Independent Sample T Test

In order to clarify whether the basic information of the investigators has an impact on the intention of changing majors, and to ensure the reliability of the survey results, in

Table 3. Summary table of independent sample T test results

Classification	Question	t	sig
Gender	Your gender?	.533	.595
Origin of student?	Where are you from?	2.047	.041
Consistency of aspiration	Is your major consistent with your college entrance exam aspiration?	4.620	.000

Table 4. Summary table of one-way ANOVA results

Serial number	Classification	F	Significance
1	Grade	5.834	.001
2	Major	1.495	.202
3	Homeplace	1.080	.340
4	Professional understanding	1.080	.304
5	Primary consideration	1.509	.019
6	Major instruction	3.356	.211

this study, an independent sample T test was performed on the three factors in the basic information (gender, place of origin, and voluntary consistency), and the test results are shown in “Table 3”.

From “Table 3”, it can be seen that the sig value of gender is greater than 0.05, indicating that the difference between genders has no effect on the intention to change majors; the sig values of the consistency of the place of origin and the college entrance examination are less than 0.05, indicating that the two have a significant impact on the intention to change majors.

4.4 One-Way ANOVA

One-way ANOVA is mainly applicable to the situation where there are more than two independent variable options, and the purpose is to analyze whether there is a correlation between the independent variable and the dependent variable. In this study, the six factors of the investigator’s grade, major, home location, professional understanding, primary considerations when changing majors, and major introduction were analyzed by one-way ANOVA. The results are shown in “Table 4”.

Through one-way analysis of variance, it can be concluded that the significance of major, home location, major understanding and major introduction are 0.202, 0.340, 0.304 and 0.211, all greater than 0.05, indicating that the four have no significant impact on the intention to change majors; the significance of grades and the primary consideration factors for students to change majors are both less than 0.05, indicating that the two have a significant impact on the intention to change majors.

Table 5. KMO and Bartlett's test

Kaiser-Meyer-Olkin metric for sampling adequacy.		.948
Bartlett's test for sphericity	Approximate chi-square	6159.429
	df	300
	Sig.	.000

4.5 Factor Analysis

4.5.1 Validity Analysis

Validity refers to the validity of the questionnaire test, that is, whether the measurement results are accurate. The higher the validity, the more accurate the measurement results. Validity analysis was performed on the scale factors by KMO and Bartlett sphericity values to judge whether the scale was suitable for factor analysis. The closer the KMO value is to 1, the higher the validity, and the better the factor analysis effect. As shown in "Table 5", the KMO value is 0.948, which is close to 1, indicating that the validity of the measurement results is very high, and the scale is suitable for factor analysis.

4.5.2 Factor Analysis

Validity analysis tests the validity of the scale and does not explain the specific circumstances of the scale. The independent variable factors in the scale were further subjected to factor analysis ("Table 6"), and four factors (Factor1, Factor2, Factor3, and Factor4) were extracted and renamed according to the commonality of each factor: four dimensions of learning efficacy, affective tendency, normative awareness, willingness to continue.

4.5.3 Correlation Test

On the basis of factor analysis, correlation analysis was carried out on the extracted four factors to test whether there was a correlation between them and the dependent variable. The test results are shown in "Table 7". It can be seen that the four factors do not all have an impact on the dependent variable, only learning efficacy, normative awareness and intention to change majors are highly correlated and significantly significant.

4.6 Binary Logistic Regression Analysis

Combining the results of independent samples T test, one-way analysis of variance and correlation test, it can be concluded that the main factors affecting the intention to transfer majors include: grade, origin of student, consistency of aspirations, primary considerations for major transfer, learning efficiency and normative awareness. This study further used the binary Logistic regression method to analyze the influence of the above six factors on college students' intention to change majors. The results are shown in "Table 8".

Table 6. Rotation component matrix a

	Ingredients			
	1	2	3	4
Can your current major truly stimulate your potential and achieve the best results?	.732	.280	.181	.196
In your spare time, do you often read books related to your major or discuss major topics with your classmates?	.713	.197	.014	-.056
You do not change majors, mainly because you think the employment situation of your major is good?	.678	.047	.170	.150
Does the major you study provide you with enough space for self-development to realize your self-worth?	.666	.353	.149	.220
Can you maintain the best excitement for any information related to this profession?	.653	.360	.227	.136
Are there many opportunities for further study related to your current major?	.653	.067	.240	.122
Does your major help you realize your dreams?	.581	.269	.188	.346
You paid a lot to get into your current major, so you won't change majors?	.562	.142	.082	.285
How many opportunities are there for advancement in jobs related to your major?	.554	.049	.328	.149
After graduation, will you work in a professional counterpart?	.505	.180	.366	.191
Do you like the challenges and difficulties in your profession, as well as the joy and sense of accomplishment after overcoming it?	.209	.664	.200	-.010
Are you willing to participate in any practice related to your major?	.242	.595	.369	-.038
Are you willing to put all your effort into learning your major?	.119	.542	.383	.099
Are you passionate about your major?	.370	.538	.090	.457
Can your major give full play to your strengths?	.290	.516	.070	.474
What would you do to improve your professional learning?	.096	.516	.320	.065
Is your major beneficial to your further studies, such as postgraduate entrance exams?	.427	.465	.082	.138
The country needs all kinds of professional talents, and young people are obliged to learn a good major?	.097	.176	.798	.098
Do you think that if young people want to have a skill, they should learn their major?	.166	.148	.667	.060

(continued)

Table 6. (continued)

	Ingredients			
	1	2	3	4
University is a place for cultivating professional talents, and every college student should learn his own professional and strive to become a qualified, outstanding professional?	.166	.165	.623	-.043
	Ingredients			
	1	2	3	4
Do you think that you should work on a profession, learn a profession, and love a profession?	.228	.251	.546	.211
The major you have learned plays an important role in national construction. For the future of the country, should you learn it well?	.374	.231	.502	.244
If you switch to other majors, you may have better prospects for development?	-.134	.280	-.089	-.732
Under no circumstances will I change majors?	.224	.289	.081	.662
Are you very willing to tell others what major you are studying now?	.328	.294	.166	.439

From the Table 8 analysis, it can be concluded as the following:

- It can be concluded from the table that the Sig values of the factors to be considered first for the place of origin and the major transfer are 0.448 and 0.964, respectively, both greater than 0.05. Therefore, under the influence of other factors, there is no significant correlation between the origin of students and the primary consideration of changing majors and the intention of college students to change majors. The Sig values of learning efficacy, normative awareness, professional consistency and grade are all less than 0.05, indicating that the four are significantly correlated with college students' intention to change majors.
- The B values of learning efficacy, normative awareness and professional consistency are all negative numbers, indicating that there is a negative correlation between learning efficacy, normative awareness and professional consistency and intention to change majors. The B values of normative awareness, learning efficacy and professional consistency were -0.914, -0.553 and -0.529, respectively. Normative awareness has the greatest impact on the intention to change majors, sense of learning efficacy is the second, and the consistency of application aspirations has the least impact.
- The B value of the grade factor is 0.460, which is greater than zero. It is concluded that the grade factor is positively correlated with the intention to change majors, that is, the higher the grade, the stronger the intention to change majors.

Table 7. Correlation test summary table

		Learning efficiency	Emotional tendencies	Normative awareness	Willingness to continue	Are you planning or considering changing majors in college?
Learning efficiency	Pearson correlation	1	.000	.000	.000	.203
	Significance (two-sided)		1.000	1.000	1.000	.000
	N	615	615	615	615	615
Emotional tendencies	Pearson correlation	.000	1	.000	.000	.030
	Significance (two-sided)	1.000		1.000	1.000	.450
	N	615	615	615	615	615
Normative awareness	Pearson correlation	.000	.000	1	.000	.366
	Significance (two-sided)	1.000	1.000		1.000	.000
	N	615	615	615	615	615
Willingness to continue	Pearson correlation	.000	.000	.000	1	.027
	Significance (two-sided)	1.000	1.000	1.000		.503
	N	615	615	615	615	615
Are you planning or considering changing majors in college?	Pearson correlation	.203**	.030	.366**	.027	1
	Significance (two-sided)	.000	.450	.000	.503	
	N	615	615	615	615	615

Significance (two-sided) significantly correlated at the 0.01 level.

Table 8. Binary Logistic regression analysis results

	B	S.E.	Wals	df	Sig.	Exp (B)
Sense of learning efficacy	-.553	.103	28.626	1	.000	.575
Normative awareness	-.914	.109	69.700	1	.000	.401
Consistency of major	-.529	.216	6.014	1	.014	.589
Origin of student	-.147	.194	.576	1	.448	.863
Grade	.460	.091	25.779	1	.000	1.584
Primary consideration	.006	.141	.002	1	.964	1.006
Constant	-1.259	.362	12.119	1	.000	.284

5 Discussion

In order to further understand the influencing factors of college students' intention to change majors, combined with the results obtained from the questionnaire analysis, some college students were interviewed by means of in-depth interviews. Through the interview, it can be learned that the freshmen have a longing for the university, and have a sense of freshness and curiosity about everything. With the increase of grades, the more professional knowledge they come into contact with, the more problems they encounter, and the psychological confusion and confusion gradually appear, and then the major the student learned would be doubted. In this case, some students can take the initiative to seek the help of teachers and further clarify their learning goals through the guidance of teachers; however, most students are subconsciously misled by the high school teachers who say that there is no pressure in college. When they are really facing employment, the higher the grade, the more aware of the shortcomings of their professional knowledge, and the stronger the tendency to want to change majors. The above reasons lead to the phenomenon that the higher the grade, the stronger the intention to change majors.

From another perspective, it is found that a considerable number of college students have a strong sense of norms, and the traditional Chinese education and teaching model has instilled deep-rooted ideas in students: students should study hard, and learning is the biggest task for students. Students with poor academic performance are affected by the good learning atmosphere around them, and they will also study hard. This satisfies the students' sense of learning efficacy, further prompts them to study harder, and finally improves the overall learning efficacy of students to a certain extent. Therefore, schools should strive to strengthen the construction of a good style of study and provide students with a good learning atmosphere.

6 Conclusion

From what has been discussed above: the origins of students and professionalism transfers have no significant correlation with university students' intention of transfer professionalism under the effect of other factors. Learning self-efficacy, standard, and professional with consistency have significant correlation with university students' intention

of transfer professionalism. Learning efficiency, normative consciousness, and professional consistency are negatively correlated with university students' intention of transfer professionalism. Among them, the normative consciousness has the greatest influence on the university students' intention of transfer professionalism, the learning efficiency is the second, and the impact of the examination is the least. The grade factor is positively correlated with the university students' intention of transfer professionalism. In addition, schools should strive to strengthen the construction of excellent style of study and provide students with a good learning atmosphere.

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