

Research on Influencing Factors of College Students' Career Planning Behavior

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Abstract: Based on the current situation and aspirations of 919 college students' career planning, SPSS statistical software was used to analyze the career planning behavior of college students and its influencing factors. The study found that demographic variables such as gender, grade and major can affect the career planning behavior of college students. The career planning of female students is more specific than that of male students, the career planning of senior students may be less specific than that of junior students, and the career planning of liberal arts students is more specific than that of science students. In addition, college students' career planning behavior is affected by the career development direction, career planning abundance and understanding of job-hunting process, and these three variables will positively affect college students' career planning behavior. The above conclusions can provide reference significance for college career planning and guidance, provide beneficial enlightenment for students' career journey, and help college students determine their career goals and successfully enter their desired industries and positions.

Keywords: career planning behavior; Influencing factors; Difference analysis; Linear regression analysis; empirical research; scale

1 Introduction

1.1 Research background and purpose

In recent years, in order to promote the economic transformation, China has expanded the enrollment of undergraduates year by year, but more and more college students need employment every year. The academic advantage of college students has gradually weakened, The number of people employed has been declining every year, and many college students are facing the problem of unemployment upon graduation. Analyzing the reasons for this phenomenon, the change of market supply and demand is on the one hand, and more importantly, college students lack of understanding of their own cognition and lack of understanding of career cognition and planning. Therefore, it is necessary to grasp the situation of college students' career planning behavior, analyze its influencing factors, and use career planning theories and methods to enhance college students' career planning awareness, set future career goals, and promote college students' successful employment.

Although some achievements have been made in the research of college students' career planning, there are still controversies in the influencing factors. Most foreign studies are based on the situation in developed countries, which is difficult to be directly applied to China.

However, most of the domestic research is theoretical or case analysis, lacking the support of a large number of empirical data. In this paper, empirical research is carried out through data obtained from questionnaire survey, and the factors affecting college students' career planning are explored through data measurement analysis. The research results obtained based on the data have certain reliability and robustness.

1.2 Literature review

There are many researches about college students' career planning behavior and its influencing factors at home and abroad, and many conclusions have been drawn by scholars. Zheng Xiangjiang et al. pointed out that there are differences of graduate students' career planning behavior in different grades, and the second year of graduate students is a key year for career planning^[1]. Jiang Ming Lun et al. pointed out that college students generally believe that career planning is important, but lack relevant knowledge, nearly half of college students have no clear career planning behavior, and the factors that affect whether college students have clear career planning behavior include career planning richness, professional satisfaction, career development direction, etc^[2].

Gan Shou Guo et al. pointed out that college students who know more about themselves that career planning is more important, and different animal preferences of students reflect their different personality pursuits. For example, students who hope to become political figures prefer animals such as tigers, horses and monkeys. Students who want to be entrepreneurs prefer animals such as bears and cats. Students who wish to become managers prefer animals such as dogs^[3]. Ban Lan Mei et al. pointed out that social factors would affect college students' career planning behaviors, and the career actions of rural college students were significantly higher than those of urban college students^[4]. Orpen^[6] believes that systematic career planning is conducive to a successful career. Flum^[7] et al. believe that whether college students have a clear career planning behavior will affect their employment and career development.

College students' career planning refers to establishing clear career development goals, formulating detailed study plans, and taking specific actions according schedule through scientific analysis of the characteristics of self and social environment, so as to achieve career development goals through their own efforts^[1]. Career planning can promote college students' employment and career choice, and has a long-term impact on future career development^[2]. A clear career planning can improve individual job satisfaction and salary treatment^[8].

1.3 Research hypothesis

The following research hypotheses were made by consulting existing research conclusions:

H₀: Compared with male students, female students' career planning is more specific.

H₁: During the undergraduate period, the career planning behavior of the upper grade is more specific and unambiguous compared to the lower grade.

H₂: Compared with the science and engineering majors, the career planning of the liberal arts majors is more specific and definite

H₃: x_1 (career development direction) will affect y (the career planning of college students).

H₄: x_2 (internship experience) will affect y .

H₅: x₃(career planning abundance) will affect y.

H₆: x₄(understanding of job search process) will affect y.

H₇: x₅(personal development space) will affect y.

H₈: x₆(academic performance in school) will affect y.

2 Questionnaire design

2.1 Respondent

College students from Renmin University of China were randomly selected to participate in the survey, A total of 1000 questionnaires were distributed online, 986 were actually recovered, 67 invalid questionnaires were eliminated, and 919 valid questionnaires were finally recovered, with an effective recovery rate of 93.2%. Please see Table1 for the details of the survey objects.

2.2 Survey methods

The questionnaire of college students' career planning designed by the School of Labor and Personnel of Renmin University of China was used. The survey contents included the basic information of the subjects, the starting point of voluntary filling, the confusion of career planning, the plan after graduation and the career planning scale. The scale included four dimensions of career cognition, personality pursuit, salary treatment and professional performance. Subjects rated 16 items on a scale of 1 "strongly disagree" to 5 "strongly agree".

Table1 The details of the survey objects.

		number	proportion (%)
sex	male	369	40.2
	female	550	59.8
professional classification	science	173	18.8
	humanities	187	20.3
	engineering course	203	22.1
	social sciences	315	34.3
	Arts and Sports	30	3.3
	rests	11	1.2
grade	freshman	116	12.6
	sophomore	252	27.4
	Junior	415	45.2
	Senior	88	9.6
	postgraduate	44	4.8
	doctoral student	4	0.4

3 Statistical information and analysis

This part mainly analyzes students' self-understanding and career planning awareness. It uses data from two aspects: college entrance examination decision maker and major choice basis to

reflect students' self-understanding degree, and uses data from three aspects: career planning course, career planning confusion and graduation plan to reflect students' career planning awareness. The results show that most students can better understand themselves, more than 30% of college students have not contacted the career planning course, and more than 30% of college students are confused in determining the direction of career development.

3.1 Students' self-understanding

From the statistical results of college students who decide their college entrance examination wishes. It can be seen that 60% of college students decide to wish by themselves, 30% of college students decide to wish by their parents, and the remaining 10% of college students decide to wish by their teachers or other factors. The above data reflect that most college students can take the initiative to make decisions for their future education and career paths, and have a clear self-understanding.

From the statistical results on the basis of college students' major selection. It can be seen that 30% of college students choose their major according to their interests, 10% of college students choose their major according to their ability advantages, 10% of college students choose their major according to their career goals and personality characteristics, and 30% of college students choose their major according to the market employment. The above data reflect that most college students have a clear understanding of their interests, abilities, personalities, career goals, potential and other aspects, and can match these messages with the requirements of different majors and employment prospects.

3.2 Career planning awareness

According to the statistical results of career planning courses, 60% of college students have listened to some career planning courses, more than 30% of college students have not listened to career planning courses, and less than 10% of college students have listened to many career planning courses. The above data shows that only a very small number of college students have a clear understanding of career planning, and the vast majority of college students are not clear or do not know anything about it. Therefore, counseling college students' career planning is an important part of college students' work.

From the statistical results of career planning confusion, it can be seen that 40% of college students are confused in determining the career direction, more than 30% of universities are confused in understanding themselves, and more than 20% of college students are confused in the career path of their own major. The above data shows that career direction, career path and understanding themselves are the three major disturbing factors in the process of college students' career planning. Colleges need to set up career planning courses and strengthen the depth of career planning guidance for these three disturbing factors.

From the statistical results of the intention after graduation, more than 40% of the universities plan to take the postgraduate entrance examination or the doctoral examination, more than 20% of the universities plan to work, more than 10% of the university students plan to go abroad, only 2.5% of the university students plan to start a business, and more than 10% of the universities are in the state of pending. The above data shows that most students have the idea of continuing to study, few college students have the idea of starting a business, and some students are in the state of undecided. Colleges and universities need to strengthen the strength

of career planning guidance, encourage college students to start a business, and help students determine their future plans in time.

4 Scale statistical processing

4.1 Item analysis

The adaptability test of the scale was carried out, and whether the item-by-item analysis was available. The total score of the scale was arranged in ascending order, with the first 27% as the low group and the last 27% as the high group. The difference between the high group and the low group on each item was verified by independent sample t-test. The results showed that each item reached the significance level of 0.05, and the scale had 16 items.

4.2 Reliability test

SPSS software was used to test the reliability of the career planning scale for college students. Cronbach α coefficient and split-half coefficient were selected to investigate the reliability of the scale. According to the analysis results, the Cronbach α reliability coefficient of the College Students' Career Planning Scale was 0.885, and the split-half reliability coefficient was 0.939. The above data showed that the reliability of the scale was overall good.

4.3 Validity test

Construct validity is to investigate the dimension division of the scale, and exploratory factor analysis is selected to test the validity of the scale. Firstly, whether the scale data are suitable for factor analysis was determined. The test results are shown in Table 2. The KMO of the scale data is $0.914 > 0.9$, and the P of Bartlett's sphericity test is < 0.001 , indicating that the scale data are very suitable for factor analysis. Then, SPSS software was used to extract factors for the first time, the principal component analysis method was default, and the eigenvalues greater than 1 were selected. From the analysis results, we can see that a total of 4 factors were extracted, and the cumulative variance contribution rate was 76.82%.

If the common degree is less than 0.4, it means that the factor cannot explain the original data; if the common degree is greater than 0.5, it means that the factor can explain the original data. Based on this standard, Q68 whose common degree is less than 0.4 is eliminated, and four factors are extracted again, and the cumulative variance contribution rate is 80.67% and $> 80\%$, which is ideal. Combined with the content of each item, factor 1 is named as professional cognition, factor 2 is named as personality pursuit, factor 3 is named as salary treatment, and factor 4 is named as professional performance. The eigenvalues, contribution rates, and cumulative contribution rates of each factor are shown in Table 3.

Table2 Adaptability Test

KMO and Bartlett's test		
KMO sampling appropriateness quantity.		0.914
Bartlett's test of sphericity	approximate chi-square	17950.493
	degree of freedom	120
	P-value	< 0.001

Table3 eigenvalues, contribution rates, and cumulative contribution rates of each factor

factor	eigenvalue	contribution rates (%)	cumulative contribution rate (%)
professional cognition	8.038	53.585	53.585
personality pursuit	1.399	9.330	62.915
salary treatment	1.376	9.173	72.088
professional performance	1.287	8.580	80.668

5 Data analysis

5.1 Status analysis

SPSS 26 was used for statistical analysis of the scale data. Since career planning behavior, career cognition, personality pursuit, salary treatment and professional performance are all continuous numerical variables, descriptive statistical analysis and one-sample t-test are selected to investigate the status quo of these variables, and the analysis results are shown in Table 4.

As can be seen from the table, the average values of the two variables of professional cognition and professional performance are 2.95 and 2.97, and the standard deviations are 1.1 and 0.86. The two variables have $P < 0.05$, which means that there is no significant difference between the average values of the two variables and the test value 3 (neutral), indicating that the professional cognition and professional performance of college students are at an average level. The average values of the two variables of personality pursuit and salary treatment are 3.83 and 3.29, and the standard deviations are 0.87 and 0.82, respectively. The two variables have $P < 0.05$, which means that the average values of the two variables are significantly higher than the test value by 3 points, indicating that the college students' personality pursuit and salary treatment are in the upper middle level. The average value of career planning behavior is 2.74, and the standard deviation is 1.17, with $P < 0.05$, which means that the average value is significantly lower than 3, indicating that the career planning behavior of college students is at a lower middle level.

Table4 Current Statistics Table

	number	mean \pm SD	test value	T	P
career cognition	9	2.95 \pm 1.10	3	-1.388	0.165
personality pursuit	2	3.83 \pm 0.87	3	29.160	<0.001
salary treatment	2	3.29 \pm 0.82	3	10.505	<0.001
professional performance	2	2.97 \pm 0.86	3	-0.893	0.372
career planning behavior	1	2.74 \pm 1.17	3	-6.842	<0.001

Note: Because this is a 5-point Likert scale, a score of 3 represents neutrality, so the test value is 3

5.2 Difference analysis

Gender was taken as the independent variable, and career planning behavior, career cognition, personality pursuit, salary treatment and professional performance were taken as the dependent variables to conduct independent sample t-test. The test results are shown in Table 5.

It can be seen from the table that the scores of female students' professional cognition are significantly higher than those of male students, and the scores of male students' personality pursuit and professional achievement are significantly higher than those of female students. As is show in Table5 that the career planning behavior score of female students is higher than that of male students, which indicates that the career planning behavior of female students is more explicit than that of male students, and the research hypothesis H_0 holds.

Table5 Results of independent samples t-test for gender differences

	male(N=369)	female(N=550)	T	P
career cognition	1.87±0.63	3.67±0.68	-41.261	<0.001
personality pursuit	3.91±0.87	3.78±0.86	2.305	0.021
salary treatment	3.28±0.86	3.29±0.8	-0.180	0.857
professional performance	3.05±0.89	2.92±0.84	2.251	0.025
career planning behavior	1.81±0.59	3.53±0.65	-41.892	<0.001

Univariate analysis of variance was carried out with grade as the independent variable and career planning behavior, career cognition, personality pursuit, salary treatment and professional performance as the dependent variable. The results are shown in Table 6. It can be seen that several dependent variables have significant differences in grade. Furthermore, the specific analysis of the above several dependent variables in which grades have significant differences.

The P of the variance homogeneity test of the four dependent variables professional cognition, personality pursuit, salary treatment and professional performance is greater than 0.05, so Bonferroni multiple comparisons is selected. It can be seen that the professional cognition score of senior students is significantly higher than that of junior students, the salary treatment score of junior students is significantly higher than that of sophomore students, and the personal pursuit score of master students is significantly higher than that of sophomore students.

The P value of the variance homogeneity test of variance of career planning behavior is less than 0.05, so Tamheini multiple comparison is selected. As is show in Table 6, it can be seen that the career planning behavior score of sophomore students is significantly higher than that of junior students, indicating that the clarity of career planning behavior of upper grade students may be lower than that of lower grade students, so the research hypothesis H_1 does not hold.

Table6 Results of one-way ANOVA for grade differences

	freshman	sophomore	junior	senior	master	P
career cognition	2.78±1.1	2.94±1.15	2.88±1.1	3.37±0.95	3.22±0.81	<0.001
personality pursuit	3.82±0.84	3.75±0.87	3.82±0.87	3.99±0.81	4.17±0.93	0.030
salary treatment	3.26±0.79	3.16±0.83	3.36±0.82	3.39±0.84	3.11±0.78	0.018
professional performance	3.12±0.95	2.88±0.82	2.92±0.84	3.15±0.88	3.22±0.92	0.003
career planning behavior	2.78±0.92	3.1±0.88	2.63±1.14	3.11±1.1	2.91±0.88	<0.001

One-way ANOVA was conducted with the major as the independent variable and the above five dependent variables. The results are shown in Table 7. It can be seen that there are significant differences in career planning behavior, career cognition, personality pursuit and

the score of major. Continue to analyze which majors have significant differences in career planning behavior, career cognition, personality pursuit and the score of major.

As shown in Table7, the scores of personality pursuit of arts and sports students are higher than those of engineering students, the scores of professional achievement of arts and sports students are higher than those of engineering students, and the scores of professional achievement of science and engineering students are higher than those of social science students, and the scores of professional achievement of social science students are the lowest. The career cognition score of social science students is significantly higher than that of engineering students and art and sports students.

The career planning behavior score of sociology students is higher than that of engineering students, so the research hypothesis H₂ holds.

Table7 Results of one-way ANOVA for major differences

	science	humanities	engineer	sociology	arts& sport	P
career cognition	2.69±0.96	3.13±0.97	2.58±1.33	3.27±0.97	2.4±1.07	<0.001
personality pursuit	3.78±0.88	3.89±0.8	3.62±0.92	3.91±0.85	4.27±0.74	<0.001
salary treatment	3.28±0.78	3.18±0.89	3.32±0.79	3.32±0.83	3.57±0.75	0.099
professional score	3.07±0.83	2.92±0.97	3.1±0.8	2.79±0.8	3.56±0.88	<0.001
planning behavior	2.59±0.92	2.98±1.01	2.44±1.21	3.17±0.94	2.57±0.82	<0.001

5.3 Linear-regression analysis

The above difference analysis shows that there are significant differences in college students' career planning behaviors in terms of gender, grade and major. Therefore, it is necessary to take gender, grade and major as control variables to accurately obtain the relationship between career planning behavior and its influencing factors. Due to the small number of master's degree and doctor's degree participants, too few samples will lead to errors, so only four undergraduate grades are selected as control variables. The statistical method to study the influencing factors is regression analysis, and the dependent variable is continuous numerical variable (5-level Likert scale score), so linear regression analysis model is selected.

The linear regression results are shown in Table 8, from which the following two conclusions can be drawn. The adjusted R-square is 0.90, which means that the influence of the independent variables participating in this regression analysis on the dependent variable reaches 90%, that is, the regression model can better explore the influencing factors of career planning behavior. Second, the linear regression model is significant, with P<0.001, which means that at least one of the above independent variables can significantly affect the dependent variable. Furthermore, combining the regression coefficients and P in Table 8, it can be concluded that:

x₁ will have a significantly positive impact, so the research hypothesis H₃ is established, and the influence coefficient is 0.115. The quantitative relationship between the dependent variable and x₁ is as follows: for every 1 increase in x₁, the dependent variable increases by 0.115 points. x₃ will have a significantly positive impact, so H₅ is established, and the influence coefficient is 0.362. x₄ will have a significantly positive impact, so Hypothesis H₆ is established, and the influence coefficient is 0.511. In addition, x₂, x₅ and x₆ are not the

influencing factors of the dependent variable. Hypotheses H₄, H₇ and H₈ are not valid, and their P values are all greater than 0.05. Finally, The linear regression equation is shown in equation (1).

$$y = -0.202 + 0.115 * x_1 + 0.362 * x_3 + 0.511 * x_4 \quad (1)$$

It can be seen from Table 8 that the VIF of the independent variables are all less than 10, indicating that the model satisfies no collinearity. The DW of the model is 1.942, and the value is very close to 2, indicating that there is no serial correlation in the sample data. The residual of the data is drawn into a histogram, and the contour of the residual histogram is basically consistent with the normal curve, so it can be judged that the residual follows the normal distribution. To sum up, the linear regression model meets the three conditions of no collinearity, no serial correlation and the normal distribution of residuals, that is, the linear regression equation is accurate and reliable, and truly reflects the causal relationship between independent variables and dependent variables.

Table8 Linear regression analysis results

			Unstandardized coefficient	P	VIF
constant quantity			-0.202	0.029	
Independent variable	x ₁		-0.006	0.557	1.048
	x ₂		0.115	<0.001	5.533
	x ₃		0.362	<0.001	6.22
	x ₄		0.511	<0.001	6.252
	x ₅		0.016	0.148	1.061
	x ₆		-0.015	0.148	1.038
control variable	gender	male			
		female	0.003	0.809	1.21
	grade	freshman	0		
		sophomore	0.139	<0.001	2.246
		junior	0.155	<0.001	3.344
		senior	0.019	0.204	2.154
	major	science	0		
		humanities	0.002	0.874	1.677
		engineer	-0.01	0.449	1.742
		sociology	-0.01	0.503	1.973
	arts& sport	0.001	0.91	1.165	
The adjusted R squared			0.9		
DW			1.942		
P			<0.001		
dependent variable y is career planning behaviors					

6 Conclusion and suggestion

6.1 Conclusion

Using SPSS software analysis, it is found that the career planning behavior is affected by gender, grade and major. Excluding the interference of gender, grade and major, the career

planning behavior (y) is also affected by the career development direction (x_1), the richness of career planning (x_3) and the understanding of the job search process (x_4). The score on career planning behavior of female students is higher than male students. The score on career planning behavior of the upper class were generally higher than the lower class, but the score of the junior class is lower than the sophomore class, which is related to the intense academic pressure of juniors. The score on career planning behavior of liberal arts majors is higher than that of science and engineering majors. Furthermore, the causal relationship between y and x_1 , x_3 and x_4 can be expressed by equation (1).

6.2 Suggestion

The analysis results show that college students' career planning behavior is generally lower than the middle level, so it is necessary for universities to set up career planning courses, focusing on solving the puzzles of college students in the three aspects of career direction, career channel and understanding themselves. In view of the influencing factors of career planning behavior, the following suggestions are put forward for the career planning guidance of college students.

The whole process of employment guidance^[5]. The establishment of a comprehensive career planning guidance system for college students, the system throughout the four years of college, the educational content of the system with the university stage by stage. For freshmen, universities offer interest-guided courses to help students understand their hobbies and strengths. For sophomore students, universities conduct career assessment to understand the career direction students are interested in through questionnaire survey or online assessment, and provide targeted career-oriented courses, including career market analysis, industry prospects and career development paths, to help students understand the career development direction and the job search process.

For junior students, on the one hand, the school provides students with courses such as resume making and interview skills, and on the other hand, it should pay attention to the academic pressure and employment psychological pressure of junior students, so as to help them relieve their anxiety of employment and adjust their mentality in time. For seniors, universities invite companies and employers to come to campus for recruitment, providing seniors with the opportunity to communicate with companies and employers face to face. At the same time, universities are faced with the failure of recruitment and promotion of senior students, the school should do a good job in psychological counseling, guide senior students to actively face the reality, establish a positive attitude.

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