Research on influence factors of college students' employment satisfaction based on structural equation model

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Abstract. Based on the questionnaire data of 3241 graduates graduated from universities and colleges in Fujian Province, this research paper empirically analyzes the impact of "innovation and entrepreneurship" education on college students' employment satisfaction by using structural equation model. Which indicates: that the four-dimension factors of innovation and entrepreneurship education, college students' opinions on higher education, employment demand-side factors and human resources have positive effects on graduates' employment satisfaction, but the factor of innovation and entrepreneurship education has the most significant impact. Therefore, it proposes to give the support for college students' innovation and entrepreneurship efforts; perfect the employment and entrepreneurship service system for college graduates; change college students' concept of job hunting and entrepreneurship or otherwise improve college students' employment satisfaction.

1. Introduction
The report to the 19th CPC National Congress highlighted that "employment is the biggest long-term livelihood problems" is pointed out, and the employment problem of college graduates is deemed as a social problem related to social stability, economic development and the long-term political stability of the country. So in the report to the 19th CPC National Congress, it also highlighted that "providing extensive public employment services, opening channels for college graduates and other young people to find jobs or start their own businesses". Government departments at all levels and colleges and universities attach great importance to the employment of college graduates. In recent years, the employment rate of college graduates has been steadily increasing; however, the quality of employment has not improved accordingly. Therefore, it becomes a problem of great concern of the colleges/universities and the government departments to gradually improve the employment quality of graduates. The employment quality of college graduates is reflected in the employment satisfaction of graduates in the most direct way, so, it is of great significance on the research of the employment satisfaction of graduates and its influence factors. In the era of "initiative of encouraging business start-ups and innovation", colleges and universities should carry out "innovation and entrepreneurship education" and cultivate a group of innovative talents with entrepreneurial awareness to meet the current demands of the society for innovative talents, which is of great practical significance to promote the transformation and upgrading of China's economic development mode and improve the employment quality of college
graduates. The number of college graduates is increasing year by year, and the demand for jobs continues to rise, however, the degree of professional recognition of college graduates is low, there is less opportunities of job hunting and unclear orientation of job hunting, which has led to widespread concern about the employment of college graduates. By taking college graduates in Fujian Province as an example and from the perspective of innovation and entrepreneurship education in colleges and universities, this paper discusses the influence factors that affect the college graduates' employment satisfaction, aiming to provide feasible suggestions for relevant departments to improve graduates' employment satisfaction and employment quality.

2. Overview

Many detailed researches on the employment satisfaction of college graduates have been conducted by the scholars. Firstly, in terms of the impact of innovation and entrepreneurship education on employment satisfaction, Changjun YUE (2013) believes that innovation and entrepreneurship education can help cultivate college students' personality and entrepreneurial thinking, improve their comprehensive ability, help them adapt to social development, increase the success rate of job hunting and improve the employment satisfaction [1]; Jingjing GU (2018) believes that "innovation and entrepreneurship education" has a positive and significant impact on increasing the employment satisfaction of college students, and the focus on innovation and entrepreneurship will improve the employment satisfaction of college graduates[2]. Secondly, in terms of school factor, Changjun YUE (2013) believes that no matter what the type of university is and whether it is a key university, there is no significant impact on the evaluation of college students' employment satisfaction [1]; Shanle LI (2017) points out that the degree of professional matching and whether the university belongs to "211 universities", there is no significant impact on the employment satisfaction of college students[3]; While Guanghui WANG (2015) found that the type of university has a significant impact on employment satisfaction[4]. Thirdly, in terms of employment demand-side factor, Jingjing GU (2018) believes that external factors such as employment type, wage income and industry category have a significant impact on the employment satisfaction of college graduates[2]; Changjun YUE (2013) believes that employment demand-side factors such as income level, nature of the company, type of post, location of the company, matching degree between position and specialty and whether the registered permanent residence problem can be solved have a significant impact on employment satisfaction[1]; Xiaoming TU (2007) found that college students' expectations of income and the matching degree between position and specialty have a significant impact on employment satisfaction [5]. Fourthly, in terms of human resources factors, Changjun YUE (2013) points out based on research that those graduates who once served as student leaders in school have higher employment satisfaction, while the influence of educational background on employment satisfaction is not significant [1]; Regarding the influence of educational background on employment satisfaction, Clark (1996) found based on the analysis that the longer the schooling years, the lower the employment satisfaction[6]; Gazioglu, S. and Tansel, A (2006) also believe based on research that there is a negative correlation between education background and employment satisfaction, which means, the higher the education background, the greater the employment expectation[7]. To sum up, relevant researches on the employment satisfaction of college students have been conducted by many scholars from various aspects. Relatively speaking, the employment opportunity of college students is less and the employment situation is grave. Currently, few researches are carried out on the employment satisfaction of college students. In addition, the influence factors of college students' employment satisfaction and relevant improvement path need further research, which is of practical significance for further accurately evaluating the good effects of innovation and entrepreneurship education in colleges and universities currently.
3. Data and methods

3.1. Data collection
During the period from December 6 to December 18, 2019, an online survey was conducted by distributing questionnaire to the graduates of 8 colleges and universities in Fujian Province. 3660 questionnaires were actually collected, of which, 3241 were valid ones, accounting for 88.6%.

3.2. Variable selection
According to the above analysis, the influence factors of college graduates' employment satisfaction are divided into four aspects: innovation and entrepreneurship education factor, employment demand-side factor, human resources factor and school education evaluation factor. Among which, the innovation and entrepreneurship education factor specifically includes 5 measurement items: The school's training level of students' employability and entrepreneurial ability, the teaching content and quality level of employment guidance courses offered by the school, the participation of students in innovation and entrepreneurship competitions, the personnel quality and service level of the school's employment guidance team, and the overall satisfaction with the school's employment and entrepreneurship guidance work. The employment demand-side factor specifically includes 3 items: the current type of employment, the level of benefits provided by the company, and the degree of correlation between the specialty and the position. Human resources factor specifically includes 3 measurement items: educational background, professional ranking based on comprehensive evaluation during school, and condition of serving as student leaders during school. The school education evaluation factor includes 7 measurement items: whether you are satisfied with the school curriculum, whether you are satisfied with organization and arrangement of practical teaching contents such as internship and experiment, whether you are satisfied with the learning environment (such as libraries, teaching equipment, etc.) provided by the school, whether you are satisfied with the school spirit and academic atmosphere, whether you are satisfied with the overall teaching arrangement of the school, how important do you think the professional courses you are learning are to your current job, and whether the school attaches importance to the education of professional ethics during the education and teaching. This article mainly describes the employment satisfaction in the following 5 aspects: occupational satisfaction, relationship satisfaction with leaders, relationship satisfaction with colleagues, satisfaction with income level and satisfaction with promotion expectation.

3.3. Descriptive statistics and analysis
According to the simple statistics and analysis of the sample data, the number of male students is 1687, accounting for 52.1%; while the number of female students is 1554, accounting for 47.9%. In terms of academic qualifications, 84.4% of students are undergraduates and 15.5% are graduate students. In terms of experience serving as student leaders, 68.4% once served as student leaders. In terms of political status, CPC members account for 23.8%. Based on the analysis of overall employment satisfaction of the graduates, 15% of them expressed quite satisfaction, 47.9% expressed satisfaction, 33.4% expressed general satisfaction and 3.7% expressed dissatisfaction, which shows that the current employment satisfaction of graduates still needs to be further improved.

Table 1. Simple Descriptive Analysis of Sample Data.

| Variables            | Indicator         | Number of People | Ratio  |
|----------------------|-------------------|------------------|--------|
| Gender               | Male              | 1,687            | 52.1%  |
|                      | Female            | 1,554            | 47.9%  |
| Educational background | Undergraduate    | 2,736            | 84.4%  |
|                      | Master student    | 491              | 15.1%  |
|                      | Doctorate degree  | 14               | 0.4%   |
| Experience as student leader | Not served as a student leader | 1,025 | 31.6% |
| | Served as a student leader | 2,216 | 68.4% |
| Politics status | Member of Communist Party of China | 462 | 14.3% |
| | Probationary Party member | 308 | 9.5% |
| | League member | 2,375 | 73.3% |
| | Common people | 96 | 2.9% |
| | Very satisfied | 485 | 15.0% |
| | Satisfied | 1,554 | 47.9% |
| Overall employment satisfaction | Generally satisfied | 1,081 | 33.4% |
| | Unsatisfied | 95 | 2.9% |
| | Very unsatisfied | 26 | 0.8% |

3.4. Research methods

The structural equation model is adopted to analyze the internal relationship between college students' employment satisfaction and its influence factors. To analyze the correlation among variables by calculating the covariance matrix of variables is deemed as the basic principle of structural equation model. This paper establishes the following equation according to the relationship between college students' employment satisfaction and its influence factors.

Firstly, measurement model:

\[ y = \Lambda_y \eta + \varepsilon \]
\[ x = \Lambda_x \xi + \delta \]

Wherein: \( y \) is an endogenous relationship variable group, i.e. employment satisfaction; \( \Lambda_y \) is a factor load matrix of endogenous observable variables on endogenous latent variables, which reflects the relationship between endogenous observable variables and endogenous latent variables; \( \eta \) is an endogenous latent variable; \( x \) is an exogenous relationship variable group, including innovation and entrepreneurship education factor, school education evaluation factor, employment demand-side factor and human resources factor; \( \Lambda_x \) is the factor load matrix of exogenous observable variables on exogenous latent variables, which reflects the relationship between exogenous observable variables and exogenous latent variables; \( \xi \) is an exogenous latent variable; \( \varepsilon \) and \( \delta \) are the residual terms of the measurement model, i.e. the part fails to be explained by latent variables.

Secondly, structural model

\[ y = By + \Gamma x + \zeta \]

Wherein: \( y \) is an exogenous variable, \( x \) is endogenous variable, and \( B \) stands for the relationship between endogenous variables, which is expressed by a random connectivity matrix. \( \Gamma \) is the influence of exogenous variables on endogenous variables, which is expressed by direct random effect matrix; \( \zeta \) is the residual term of the structural equation, which reflects the part of \( y \) not explained in the equation.

4. Results and analysis

4.1. Reliability and validity test of data

Crobach's alpha coefficient is one of the commonly-used methods to test the reliability of the questionnaire. It is generally recognized that as long as Crobach's alpha coefficient is >0.6, the
reliability of the measurement items can be deemed as meeting the requirements. The reliability of the questionnaire is analyzed by using SPSS software, and the analysis result shows that the reliability coefficient of each latent variable is >0.7, and the overall reliability coefficient is >0.8, indicating that the measurement items of the questionnaire have passed the reliability test.

Table 2. Reliability Test Results of Sample Data.

| Variables                              | Reliability coefficient | Overall reliability coefficient |
|----------------------------------------|-------------------------|---------------------------------|
| Employment satisfaction y              | 0.861                   |                                 |
| Innovation and entrepreneurship education factor x1 | 0.911                   |                                 |
| School education evaluation x2         | 0.733                   | 0.832                           |
| Employment demand-side factor x3       | 0.742                   |                                 |
| Human resources factor x4              | 0.822                   |                                 |

By continuing the validity test of the questionnaire, we obtain the results that the index KMO=0.933, which reflects the validity of the questionnaire, which shows that the validity of the questionnaire is quite good and it is very suitable for factor analysis.

4.2. Fitting results of structural equation model

AMOS software is used to analyze the structural equation model with respect to the influence factors of employment satisfaction. The model fitting match index is shown in Table 3.

Table 3. Match Index Values of Model Fitting Results.

| Match index | CMIN/DF | RMSEA | GFI   | AGFI  | NFI   | CFI   |
|-------------|---------|-------|-------|-------|-------|-------|
| Index value | 2.05    | 0.078 | 0.865 | 0.835 | 0.874 | 0.864 |

Wherein, CMIN/DF value is 2.05, which is less than 3, indicating the good model fitting effect. RMSEA value is between 0.05 and 0.08, indicating the good match effect of model. The RMSEA of this model is 0.078, indicating the good fitting effect the match indexes of GFI=0.865, AGFI=0.835, NFI=0.874, CFI=0.864 can be basically accepted. According to the above analysis of the model match index, the fitting index of the model is basically acceptable and the fitting effect of the model is good.
Figure 1. Path Coefficient Diagram of Structural Equation Model with respect to the Influence Factors of Employment Satisfaction of College Students.

Figure 1 is a path coefficient diagram of the model, which indicates the good fitting effect between college students’ employment satisfaction and its influence factors, i.e. relatively high fitting degree between data and the model. The influence factors of employment satisfaction are specifically analyzed according to the parameter estimation results of the model (Table 4).

Table 4. Analysis Results of Structural Equation Model with respect to the Influence Factors of Graduates' Employment Satisfaction.

|                                   | Estimate | S.E.  | C.R.  | P    |
|-----------------------------------|----------|-------|-------|------|
| School education evaluation ←     | 0.797    | 0.020 | 36.346| ***  |
| Innovation and entrepreneurship   |          |       |       |      |
| education factor                 |          |       |       |      |
| Employment satisfaction ←        | 0.592    | 0.032 | 17.901| ***  |
| Innovation and entrepreneurship   |          |       |       |      |
| education factor                 |          |       |       |      |
| Employment demand-side factor ←  | 0.040    | 0.373 | 1.165 | 0.024|
| School education evaluation ←     | 0.076    | 0.033 | 2.445 | 0.014|
| Human resources factor ←         | 0.117    | 0.128 | 3.145 | 0.002|

Firstly, the path relationship between innovation and entrepreneurship education and employment satisfaction. According to the fitting results, the significant level between innovation and entrepreneurship education and the employment satisfaction of college students is 1%, which passes the test, and the path coefficient is 0.592, indicating that innovation and entrepreneurship education in colleges and universities has a significant impact on the employment of college students as well as that good innovation and entrepreneurship education is beneficial to improve the employment satisfaction of college students.

Secondly, the path relationship between the school education evaluation and employment satisfaction. According to the fitting results, the significant level between college students’ evaluation of school education and employment satisfaction is 5%, which passes the test, and the path coefficient is 0.040, indicating that college students' evaluation of school education has an impact on employment satisfaction.
satisfaction. The higher the evaluation score, the higher the employment satisfaction of college students.

Thirdly, the path relationship between employment demand-side factor and employment satisfaction. According to the fitting results, the significant level between employment demand side and employment satisfaction is 5%, which passes the test, and the path coefficient is 0.076, indicating that the employment demand side has a significant impact on employment satisfaction.

Fourthly, the path relationship between human resources factor and employment satisfaction. According to the fitting results, the significant level between human resources factor and employment satisfaction is 1%, which passes the test, and the path coefficient is 0.117, indicating that human resources factor has a significant impact on employment satisfaction.

Fifthly, the path relationship between innovation and entrepreneurship education and college students' evaluation of school education. According to the fitting results, the significant level between innovation and entrepreneurship education and college students' evaluation of school education is 1%, which passes the test, and the path coefficient is 0.797, indicating that innovation and entrepreneurship education has a significant impact on college students' evaluation of school education. The better effect innovation and entrepreneurship education has, the higher the college students' evaluation of school education is. Also, it indicates that innovation and entrepreneurship education can indirectly affect college students' employment satisfaction through college students' evaluation of school education.

Overall speaking, based on the above model, we can see that influence of "innovation and entrepreneurship education" on the employment satisfaction of college students is the most significant, at a level higher than other three dimensions, which reflects the importance of "innovation and entrepreneurship education" factor in terms of the college students' employment satisfaction. Such conclusion can help put forward the improvement path of college students' employment satisfaction through innovation and entrepreneurship education.

5. Conclusions and revelation

The factors of innovation and entrepreneurship education, college students' evaluation of school education, employment demand side, human resources have a relatively significant impact on college students' employment satisfaction. Innovation and entrepreneurship education has a significant impact on college students' evaluation of school education, so to improve the level of innovation and entrepreneurship education in colleges and universities plays an important role in improving graduates' employment satisfaction.

The policy implications obtained based on the above conclusions shall include: (I) Offer more support for college students' innovation and entrepreneurship. Innovation and entrepreneurship education in colleges and universities has a significant influence on the college graduates' employment satisfaction, so it needs to perfect hardware conditions for innovation and entrepreneurship in colleges and universities, provide positions and platforms for college students to carry out innovation and entrepreneurship activities; further improve policies and systems related to innovation and entrepreneurship and provide a solid institutional guarantee for college students' innovation and entrepreneurship activities. (II) Improve the employment service system for college graduates. College students' evaluation of school education is also an important factor that affects graduates' employment satisfaction. It is required to improve the training quality of the employment service team in colleges and universities in one step and strengthen employment guidance and career planning for college students [8]. (III) College students should change their concept of job hunting. Factors such as college students' personal comprehensive level and their occupational demand shall also have a positive impact on their employment satisfaction. College students shall, during their academic year, continuously accumulate and learn the knowledge, actively participate in community activities and social practice, and improve their comprehensive quality level, so as to fully play their advantages in the job hunting process.
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