Research on the Influencing Factors of College Students' Satisfaction in China--Qualitative Analysis of Nvivo Based on 48 Literatures

Qiongying Gu[1,a,*], Jin Wang[2,b]

[1] Ningbotech University, Ningbo 315100, Zhejiang, China

[2] School of Mechanical Engineering / Institute of Robotics, Zhejiang University, Hangzhou 31000, Zhejiang, China

[a]glx@nbt.edu.cn; [b]dwjcom@zju.edu.cn

*Corresponding author

Abstract: The influencing factors of college students' satisfaction are the basis and premise of satisfaction research. Based on the qualitative analysis of 48 literatures on college students' satisfaction by NVivo12, it is found that the influencing factors of college students' satisfaction in China are composed of six dimensions: school reputation, school environment, personal improvement, organization and management, logistics support, teaching quality, charging and subsidies. Among them, teaching quality, school environment, organization and management, logistics support are the core categories. School reputation, school environment, organization and management, logistics support, teaching quality, charging and subsidies belong to external factors, and personal improvement belongs to internal factor. In order to improve the satisfaction level of college students, we should focus on external factors and take into account the two dimensions of external and internal factors.

1. Introduction

The theoretical research on college students' satisfaction began in the United States in the 1950s. Drawing on the theory of customer satisfaction, American scholars creatively put forward the concept of college students' satisfaction and began to try to build a college students' satisfaction index model. In the 1960s, Stephanie and Laurie proposed the student satisfaction scale (SSI) and established Noel Levitz student satisfaction evaluation company to evaluate student satisfaction. In the 1990s, Chinese scholars put forward the concept of college students' satisfaction based on the research of foreign scholars, applied this concept to the field of higher education, and began the research on the evaluation of college students' satisfaction in China.

2. Research Methods and Data Acquisition

2.1 Research Methods

Based on the grounded theory, this study adopted the qualitative research method, selected the relevant literature as the research material source, encoded, analyzed, compared and transformed the literature, formed different levels of concepts and categories, and found out the core influencing factors and the structural relationship between them.

2.2 Collection and Acquisition of Research Data

In order to obtain the original data on the influencing factors of college students' satisfaction in China, the literature related to the research topic was selected from the databases such as CNKI, Wanfang and Vepsa. The selected literature topics included the literature directly studying the influencing factors of college students' satisfaction in China, literature on the current situation of college students' satisfaction in China based on the influencing factors of college students' satisfaction, literature review on influencing factors of educational service quality in Chinese

colleges and universities based on college students' satisfaction. Finally, 48 literatures were confirmed as the research object (as of December 2021).

3. Data Coding Analysis and Model Construction

According to Strauss' grounded theory, the data analysis process was divided into three stages. The coding process was assisted by NVivo12. Through the bottom-up induction process, the nodes at all levels from the bottom level to the top level with subordinate relationship before each other were finally completed.

3.1 Open Coding -- a Direct Influencing Factor of College Students' Satisfaction in China

Based on the "localization" principle of grounded theory, the naming of open coding concept categories was completely based on the original text in the literature. By combing and coding the contents of 48 documents, 181 tertiary nodes were obtained. The tertiary nodes were located at the bottom of the subordinate relationship, which was a direct factor affecting the satisfaction of college students.

3.2 Axial Coding -- Structural Model of Influencing Factors of College Students' Satisfaction

Using NVivo12 software, 181 tertiary nodes were summarized into 20 secondary nodes. The secondary nodes were the further induction and integration of the tertiary nodes, located in the middle layer of the subordinate relationship. They were the intermediate factors affecting the satisfaction of college students. The 18 secondary nodes were further summarized and integrated, and seven primary nodes were obtained, namely, school reputation, school environment, organization management, teaching quality, logistics support, charging and subsidies, and personal improvement. The primary nodes were located at the top of the subordinate relationship, which were the macro factors affecting the satisfaction of college students. So far, a structural model of influencing factors of college students' satisfaction in China has been formed, as shown in Fig. 1.
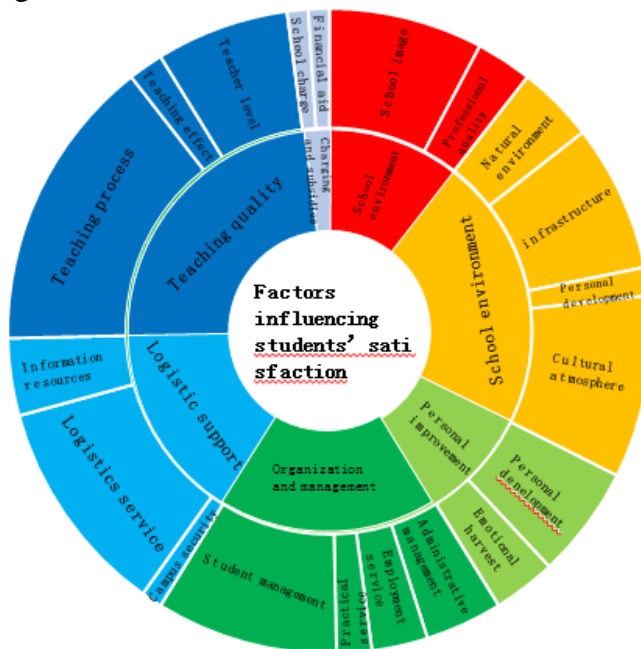

Fig.1 Structural Model of Influencing Factors of College Students' Satisfaction

Note: Due to the large number of tertiary nodes, only primary and secondary nodes are listed in the figure.

The model presents a ring structure with the center spreading around. The center is the theme of the model, that is, the influencing factors of college students' satisfaction. The multi-layer ring is the specific hierarchical structure of the influencing factors of college students' satisfaction: the internal node division of each layer ring reflects the dimensional category of the influencing factors

of college students' satisfaction. According to the model, the influencing factors of college students' satisfaction in China are composed of 7 primary nodes and 20 secondary nodes. The vertical structure of each sector of the ring reflects the hierarchical relationship of the influencing factors of satisfaction. The area size of each circular sector area is related to the number of coding reference points, which represents the number of documents supporting this node, reflecting the influence of this factor in the influencing factors of this layer. Among the primary nodes, the teaching quality node occupies the largest number of reference points and has the most important impact. The three nodes of school environment, organization management and logistics support also have a large number of reference points and play an important role in the whole. The two nodes of school reputation and personal improvement have a relatively small number of reference points, which has played a certain impact in the whole. Charging and subsidies occupy the least number of reference points and have a weak impact. In all secondary nodes, the teaching process has received the most reference point support, showing that this basic demand is still an important factor affecting the satisfaction of college students. It is also an important content of serving students in colleges and universities. Logistics service, cultural atmosphere, student management, school image, infrastructure and teacher level have more reference points and attracted more literature attention. These nodes are also very typical influencing factors of college students' satisfaction.

3.3 Selective Coding -- Core Category of Influencing Factors of College Students' Satisfaction

By abstracting the seven nodes from the axial coding at a higher level, the factors affecting the satisfaction of Chinese college students can be divided into two dimensions: external and internal factors. External factors are defined as external objective factors that are not controlled by students themselves. These factors are not different due to individual differences of students, and have great management flexibility. The impact of these factors on college students' satisfaction can be adjusted through management means, which is the main direction to improve college students' satisfaction in the future. Internal factors are defined as students' sense of self-acquisition, greatly affected by students' individual subjective tendency and individual differences, and external intervention is relatively difficult. To sum up, the school reputation, school environment, organization and management, logistics support, teaching quality, charging and subsidies are classified as external factors, and personal improvement is classified as internal factor. The reference point of external factor code accounts for 91.2% of the whole, and occupies the main position in the influencing factors of college students' satisfaction. It belongs to the main factor, and external factor is the main source of the core category. The reference point of internal factor code accounts for 8.8% of the whole, belonging to a secondary factor.

External factors include four primary nodes: teaching quality, school environment, organization management and logistics support, which have a direct impact on the school reputation node. From the point of view of coding reference points, these five nodes account for 81.4% of all nodes, and have global command. Further consider the role of nodes in the whole, and remove the charging and subsidy nodes (2%) and personal improvement nodes (8%), which account for the smallest proportion, the core categories of influencing factors of job satisfaction of Chinese college students can be determined as teaching quality, school environment, organization management and logistics support. The following analysis will focus on these four "core categories".

4. Model Interpretation and Relationship Analysis

4.1 Teaching Quality is a Direct Factor Affecting the Satisfaction of Chinese College Students

The teaching quality node has the most reference points in all primary nodes, which is the most direct influencing factor. According to the number of coded reference points, the teaching quality node includes three secondary nodes: teaching process, teacher level and teaching effect, with a total of 66 reference points, accounting for 23.3% of the overall reference points. Among the three secondary nodes included in the teaching quality, the teaching process node contains the largest number of reference points, 42. The teaching process can reflect the teaching service level provided

by colleges and universities for students. From the tertiary nodes included, it can be seen that students not only pay attention to teaching content and teaching methods, but also pay great attention to extracurricular counseling. Therefore, improving the quality of teaching process is a very important means to improve college students' satisfaction. The teacher level node contains 19 reference points. The teacher level is the cornerstone of the quality of the teaching process. The implementation of the teaching link depends on teachers. Students not only care about the teachers' teaching level and academic level, but also pay more attention to the teachers' attitude. The teaching effect includes five reference points, which reflects the students' feedback on the teaching quality and is an extension of the teaching process.

4.2 School Environment is an Important Factor Affecting the Satisfaction of College Students in China

School environment refers to the physical environment, hardware facilities and humanistic state of the school, including four secondary nodes: cultural atmosphere, infrastructure, natural environment and interpersonal environment, with a total of 62 reference points, accounting for 21.9% of the overall reference points. It is an important factor affecting the satisfaction of college students. Among the four secondary nodes included in the school environment, the cultural atmosphere node contains 26 reference points at most. The cultural atmosphere reflects the overall humanistic environment of the school. From the tertiary nodes included, it can be seen that students are not only concerned about the overall atmosphere of the school, but also about the cultural construction and atmosphere construction of the school. The infrastructure node contains 21 reference points, which mainly refers to the hardware facilities of the school in teaching, teaching assistance and life. It is a relatively important node. The natural environment node contains 11 reference points, mainly referring to the physical environment of the campus. The interpersonal environment includes four reference points, which mainly refers to the interpersonal environment of college students. Among the four nodes of the school environment, the cultural atmosphere and interpersonal relationship nodes represent humanistic factors, which can be further summarized as humanistic condition nodes, with a total of 30 reference points. The natural environment and infrastructure nodes represent basic conditions, which can be further summarized as basic condition nodes, with a total of 32 nodes, indicating that in improving the satisfaction of college students, the construction of humanistic conditions and the construction of basic conditions are equally important.

4.3 Organization Management is an Indirect Factor Affecting the Satisfaction of Chinese College Students

The organization management node includes four secondary nodes: student management, administrative management, employment service and practical service, with a total of 49 reference points. Student management occupies an important position, including the most reference points, with 26 reference points. Administrative services include 10 reference points, mainly including management system, management service quality and consulting guarantee. The employment service includes 8 reference points, which refer to the employment guidance and help obtained by students. Practical service includes five reference points, and the number of reference points of each tertiary node is small and the gap is small, indicating that the influencing factors of practical service on college students' satisfaction pay little attention to or only care about one of them in the existing literature. The impact of this factor on the overall satisfaction is ignored or needs to be further studied. The author believes that many factors contained in organization and management serve the work of the teaching center of the school and have an indirect impact on the satisfaction of college students.

4.4 Logistics Support is a Controllable Influencing Factor of College Students' Satisfaction in China

The logistics support node includes four secondary nodes: logistics service, information resources and campus security, with a total of 46 reference points. Logistics service contains the largest number of reference points, with 31 reference points. It is the node with the largest number of reference points among all 20 secondary nodes, indicating that students are very concerned about

the quality of logistics service of the university. Improving the quality of logistics service can effectively improve the satisfaction of college students to a certain extent. Information resources include 11 reference points, mainly including library and network resources. Campus security includes four reference points. The number of reference points of each tertiary node is small, the gap is small, and the impact is small. In general, many factors contained in the logistics support node can be changed indirectly through the factors contained in the campus environment and organization management node, so as to establish an association between the supports between the nodes and achieve the purpose of indirect control over the logistics support factors.

5. Conclusion

First, the influencing factors of college students' satisfaction in China are composed of a three-layer ring structure model. The first layer is the macro influencing factors of college students' satisfaction, including seven primary nodes, among which the nodes such as teaching quality, logistics support and school environment contain the most reference points. The second level is the intermediate influencing factors of college students' satisfaction, including 20 secondary nodes, of which the teaching process, logistics service, student management and cultural atmosphere contain the most reference points. The third layer is the micro influencing factors of college students' satisfaction, including 181 tertiary nodes, of which teaching service, logistics service and school image contain the most reference points. Nodes with a large number of reference points can be regarded as the key factor for the university to improve the satisfaction of college students.

Second, the influencing factors of college students' satisfaction in China are divided into external and internal factors. School reputation, school environment, organization and management, logistics support, teaching quality, charging and subsidies belong to external factors. These factors are not different due to individual differences of students, and have great management flexibility. The impact of these factors on college students' satisfaction can be adjusted through management means. Personal improvement belongs to internal factor, which is greatly affected by students' individual subjective tendency and individual differences, and external intervention is relatively difficult. External factors dominate the influencing factors of college students' satisfaction, which is the main direction for the university to improve college students' satisfaction in the future.

Third, teaching quality, school environment, organization management and logistics support are the "core categories" of the influencing factors of college students' satisfaction in China. Charging and subsidies and personal improvement have the least impact, and are considered separately as "other categories". From the analysis of the influence degree and specific content of college students' satisfaction, the teaching quality is the direct influencing factor, the school environment is the important influencing factor, the organization management is the indirect influencing factor, the logistics support is the controllable influencing factor, and the "core category" is an important content for the university to improve the college students' satisfaction.

To sum up, in the management of colleges and universities, in order to improve the satisfaction level of college students, we should focus on external factors and take into account the two dimensions of external and internal factors, focus on the impact of core categories such as teaching quality, school environment, organization management and logistics support on college students' satisfaction. Based on the research conclusions of this study, we can conduct a more in-depth empirical study on the influencing factors of Chinese college students' satisfaction, which can not only verify the conclusions of this study, but also enrich the hierarchical dimensions and structural elements of the influencing factors of Chinese college students' satisfaction, so as to test the actual situation of college students' job satisfaction.

References

[1] Liu Litian. Knowledge atlas of hot spots in the research of Chinese college students' satisfaction [J]. Science and Education Guide, no.1, pp.1-3, 2018.

[2] Xing Zhouling, Zhou Shaosen. Compilation and verification of college students' satisfaction scale -- Taking local comprehensive universities as an example [J]. Heilongjiang Higher Education Research, no.4, pp.21-24, 2009.

[3] Fu Zhenfang. Empirical analysis and research on college students' satisfaction [J]. Higher Education Forum, no.5, pp.12-18, 2004.

[4] Wang Jinfeng, Gao Xiaoning, Feng Lijie. Research on satisfaction evaluation model of college education service quality [J]. Higher Science Education, no.4, pp.38-44, 2013.

[5] Bao Wei. Measurement of college students' satisfaction and analysis of its influencing factors [J]. Research on Educational Development, no.3, pp.22-29, 2014.

[6] Liu Wenbo, He Yinglong. Research on the evaluation of undergraduate education service satisfaction based on individual cognition [J]. Heilongjiang Higher Education Research, no.1, pp.67-70, 2010.

[7] Zhu Aimin, Yang Junkun, Xiong Wenyang. An empirical study on undergraduate students' satisfaction based on importance---performance analysis -- Taking Central South University of Forestry and Technology as an example [J]. Higher Education Forum, no.11, pp.68-71, 2018.

[8] Tian Xizhou, Wang Xiaoman. Investigation and analysis of college students' satisfaction [J]. Exploration of Higher Education, no.5, pp.126-128, 2007.

[9] Hu Zixiang. Research on evaluation model of higher education service quality [J]. Modern University Education, no.2, pp.61-66, 2006.

[10] Xu Xiaohui, Zhao Guoqiang, Liu Min. Construction of college students' satisfaction evaluation scale [J]. Higher Education Development and Evaluation, no.6, pp.55-61, 2010.