



# JOURNAL OF INDUSTRIAL EDUCATION

URL : <http://ejournals.swu.ac.th/index.php/jindedu/issue/archive>

JOURNAL OF INDUSTRIAL EDUCATION (ISSN: 1905-9450)

FACULTY OF EDUCATION, SRINAKHARINWIROT UNIVERSITY, Volume 18 No.2 July-December 2024

## FACTORS AFFECTING THE SELECTION OF VOCATIONAL EDUCATION OF SECONDARY SCHOOL STUDENTS IN DONGNING

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### Abstract

Our economy continues to improve, leading to an increase in the demand for skilled personnel by enterprises. To enhance the competitiveness of modern industry, China must endeavor to develop vocational education and train sufficient and excellent skilled personnel. However, difficulties in enrolment and poor quality of student source have been a common phenomenon in vocational schools. In this paper, we study the factors affecting the choice of vocational education of junior high school third grade students. The research variables are students' personal factors, family factors, secondary school environment factors, social factors, local vocational high school development factors and vocational education policy factors. A quantitative research method was used to collect a sample of 317 respondents from nine secondary schools through a questionnaire. Through Forward LR Method, the formula as follow:

$$\text{Logist (Choice)} = -4.149 + 0.675(\text{Student's Personal Factor}) + 0.405(\text{Family Factor})$$

finally determined that the factors affecting the selection of vocational high school for secondary school third-year students in Dongning City are student's personal factors and family factors.

**Keywords** : Affecting the selection, Vocational education, Secondary school student

## **Introduction**

Since 2000, our government has made the vigorous development of vocational education a national strategy. One of our Vision 2035 goals is also to strengthen the cultivation of innovative, applied and skilled personnel (Central People's Government of the People's Republic of China, 2021). The development of vocational education not only has an important impact on China's economy, but also contributes to the promotion of social employment, the solution of the 'three rural issues', and the further promotion of social equity.

However, in recent years, the market for highly educated talents has become saturated in recent years, while the number of students graduating from vocational schools is small, and the demand of enterprises is high, and even the phenomenon of oversupply. The data from the 2021 National Education Development Statistics Bulletin shows that the average size of ordinary undergraduate schools is 16,366 students, while the average size of higher vocational schools is 9,470 students, which is a big gap (National Bureau of Statistics, 2022). This gap stems from the fact that the number of students choosing secondary vocational education in China is much smaller than the number of general educations, which is a common phenomenon in the development of vocational schools.

There are also many problems in the development of vocational education in our province, such as low education funding, which is not only lower than that in the eastern region, but even lower than that in the western region (Central People's Government of the People's Republic of China, 2022). The scale of vocational education is small, the number of schools is small, and it is difficult to enroll students (Education Department of Heilongjiang Province, 2023). The setting of specialties is unreasonable, not in line with the actual situation of the school, and the teachers have nothing to do with the specialty (Guo, 2020). From the above problems, vocational education is unattractive to students and parents. Almost all empirical studies by domestic scholars on education willingness show that people prefer general education to vocational education. Even surveys in some rural areas in the central and western regions show that less than 30 per cent, and in some areas even less than 20 per cent, are willing to attend vocational education (Yu, 2020).

As for the factors affecting students' choice of education type, scholars generally agree that the factors affecting educational needs and choices contain multi-dimensional factors such as individuals, families, schools, society, development of local vocational colleges and universities, and policies. In a 2009 study, foreign scholars Knight et al. found that the quality of teaching in students' secondary schools directly affected students' post-secondary education choices (Knight, Shi & Deng, 2009). Scholar James Coleman believes that parents' good higher education background, professional status, economic conditions and other resources have an important influence on individuals' access to education (Coleman, 1988). Our scholar Yu Hongjiao found that students' academic performance and family income significantly influence students' actual educational choices (Yu, 2012). Su Lifeng, Sun Zhijun and Li Zhenyu investigated and found that personal factors such as students' gender, ethnicity, age, and academic performance significantly affect junior high school students' educational choices (Su, Sun & Li, 2016). Zhuang Xizhen's study found that students' vocational education choices were also influenced by the development of vocational education in their regions (Zhuang, 2003). Scholar Wu Fenglan believes that one of the reasons for secondary school students' reluctance to choose vocational

education is the traditional socio-cultural concept of employment, which is deeply rooted in people's consciousness (Wu, 2010). Scholar Ge Tao affirmed in his study that the tuition fee waiver policy has a certain positive contribution to enhancing the attractiveness of secondary vocational education (Ge, 2016).

### **Research Objectives**

1. To study the factors affecting the vocational education choices of third-year junior high school students in Dongning City.
2. To present guidelines to enhance the affecting the selection of vocation education of secondary school students in Donging.

### **Significance of the Research**

1. It is proposed to guide and encourage more junior high school graduates to choose vocational education, attract more students to vocational education schools, and improve the current situation that secondary school students are reluctant to choose vocational education.
2. To present guidelines to enhance the affecting the selection of vocation education of secondary school students in Donging.

### **Scope of the Research**

#### **Population**

The population of this study were selected from the third grade of junior high school students enrolled in 9 middle schools under the jurisdiction of Dongning City Education Bureau. According to the 2023 statistics of students from the Enrollment Office of the Dongning City Education Bureau, the number of students who took the junior high school graduation exam in 2024 was about 1535.

#### **Sample selection**

Given the size of the population, a sample of not less than 317 respondents from 9 secondary schools was determined to be required at 95% confidence level A sample size Calculations that use G\*Power (Kang, 2021). The questionnaire for this study used proportional stratified random sampling method and based on the ratio of the required sample size of 317 to the total number of 1535 was approximately 21%, it was determined that the proportion of students sampled from the 9 schools was approximately 21%. In accordance with the 21% ratio 118, 65, 90, 2, 14, 13, 1, 15 and 5 students were sampled from each of the 9 schools. The questionnaires were then distributed to the students of the 9 schools randomly through the internet according to the number that should be distributed in each school.

#### **Variable**

This paper examines the factors affecting students' choice of vocational education in the third year of junior secondary school, with the variables of study being individual student factors, family factors, secondary school environment factors, social factors, local vocational high school development factors and vocational education policy factors.

## Research conceptual framework

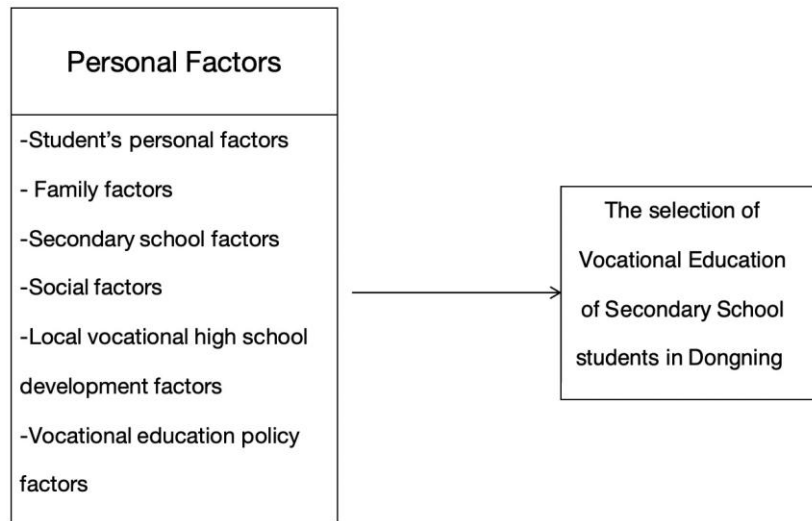


Fig. 1 Conceptual framework

## Research Hypotheses

1. Student's personal factors, family factors, secondary school environmental factors, social factors, local vocational high school development factors and vocational education policy factors, have these factors correlate on the vocational education choices of third-year junior high school students?

2. Student's personal factors, family factors, secondary school environment factors, social factors, local vocational high school development factors and vocational education policy factors, which affect the vocational education selections of third-year junior high school students?

## Research Process

### 1. Studies related to the theory of educational choices

Relevant research information was collected by searching online journal databases, reviewing journals, and reading monographs to provide a brief review of existing research findings.

### 2. Research Design

Following a quantitative research design, a preliminary questionnaire was developed based on a review of existing research findings, combined with what was known about this study from previous surveys.

### 3. Expertise check

The created assessment tool is emailed to the mentor for checking, and the mentor passes the check before proceeding with the subsequent research.

### 4. Verify quality of the data research instrument (IOC)

The content validity and accuracy of language use for each item in the questionnaire was examined by six experts, four from Thailand and two from China. The scores given to the questionnaire by the six experts

showed that the mean value of the experts' scores for each question ranged from 0.67 to 1.00, so each question of the questionnaire was valid and feasible. Based on the suggestion of the instructor, the researcher made some slight adjustments to the individual questions.

#### 5. Test (Try-out)

The reliability of this questionnaire was tested on 30 students who were not in the sample group. Through the help of the class teacher, using the software for collecting questionnaires, the data were distributed and recovered, and finally all of them were collected, no invalid papers, and 30 questionnaires were complete and valid. Reliability analysis by SPSS software yielded that the Cronbach alpha coefficient for each dimension of the factors affecting the choice of high school education of students in the third year of junior high school exceeded 0.5, and the item total statistics showed the deletion of the question 4 of the dimension of should Student's personal factors and the third of the dimension of Family factors. The reliability of the questionnaire after the deletion of the questions is shown in the item total statistics. The reliability of the questionnaire after the deletion of the questions is high, and the alpha coefficient of the whole questionnaire reaches 0.902.

#### 6. Data Collection

The researcher collected a total of over 317 data samples from the nine schools by providing QR codes and links to the online questionnaires and distributing the questionnaires to the students with the assistance of the staff of the nine schools.

#### 7. Data Analysis

The data of this study was collected using questionnaire and it was analysed to find out the frequency (f), mean scores (x), standard deviation (SD), percentage (%) and binary regression analysis using SPSS software for testing.

## Results and Discussion

According to the purpose of the study, the results of the study give the obvious answer.

Table 1 Results of mean and standard deviation analysis of six factors affecting students' educational choices

<i>Personal Factors</i>	<i>Third-Year Junior High School Students</i>		
	<i>(N=317)</i>		
	<i>Mean</i>	<i>S.D.</i>	<i>Level</i>
<i>Student's Personal Factors</i>	2.35	0.83	Low
<i>Family Factors</i>	2.32	0.85	Low
<i>Secondary School Factors</i>	2.33	0.78	Low
<i>Social Factors</i>	2.63	0.84	Medium
<i>Local Vocational High School Development Factors</i>	2.42	0.72	Low
<i>Vocational Education Policy Factors</i>	2.38	0.85	Low

Through the descriptive statistics in Table 1, six variable factors were measured and it can be found that all the six factors have mean values below 2.5 except for Social Factors, which are Student's

Personal Factors (Mean=2.35), Family Factors (Mean=2.32), the Secondary School Factors (Mean=2.33), Local Vocational High School Development Factors (Mean=2.42), and Vocational Education Policy Factors (Mean=2.38). were at the low end of the range of mean values. Social Factors (Mean=2.63), while in the middle of the range, are not high.

According to Niu Dandan's (2019) study, educational policies and the lack of attractiveness of secondary vocational schools are the real dilemmas that rural junior high school graduates face when making educational choices. In her study, she also mentioned that 'whether junior high school graduates choose to go to a general high school, or a vocational high school belongs to the educational decision-making behavior of individual students or families, and it is also a reflection of the educational needs and choices of individuals or families'. This indicates that both individual students, families, vocational schools and educational policies have low attraction for students to choose vocational education. According to Yu Hongjiao's (2010) study, secondary vocational education is still unattractive due to social, historical, and cultural factors, and the people's enthusiasm for vocational education has not increased significantly. Zhu Ying, Fan Guofeng in (2021) found that factors such as junior high school teachers' advice and related educational policies have a greater impact on students' educational choices, so it is necessary to improve the level of junior high school teachers' guidance, to strengthen the academic career planning of junior high school students as well as to improve the policy.

*Table 2 Frequency and Percentage of Participants Choosing Vocational High Schools and Not Choosing Vocational High Schools*

<i>Would you choose vocational education as your high school education?</i>	<i>Third-Year Junior High School Students (N=317)</i>	
	<i>Amount</i>	<i>Percentage (%)</i>
<i>No</i>	257	81.1
<i>Yes</i>	60	18.9
<i>Overall</i>	317	100.0

The results in Table 2 show that out of 317 participants, 257 (81.8%) did not choose to study in vocational high school and 60 participants (18.9%) chose to study in vocational high school, which shows through the data that most of the people's choices of the type of high school are not choosing to study in vocational high school, and only a small portion of the people chose to study in vocational high school.

Consistent with (Yu, 2020) study found that compared to the state actively promote vocational development education, people's demand for vocational education is much weaker. A survey of rural junior high schools by Huang Bin and Xu Caiqun et al. found that 18.8 per cent of students chose secondary vocational schools and 71.2 per cent chose regular high schools, and that the attractiveness of vocational education must be improved to revitalise it (Huang et al., 2012).

Table 3 Forward LR Method of Regression Analysis of Factors Affecting Secondary School Third-year Students' Educational Selections

	<b>B</b>	<b>S.E.</b>	<b>Wald</b>	<b>df</b>	<b>Sig.</b>	<b>Exp(B)</b>
1.Student's Personal Factors	0.675	0.191	12.477	1	0.000	1.964
2.Family Factors	0.405	0.187	4.669	1	0.031	1.499
Constant	-4.149	0.573	52.369	1	0.000	0.016

\*P< .05

As can be seen in forward LR method of regression, the following factors in Table 3 had a significant. Two factors have a significance of less than 0.05, including the student's personal factors with a significance of 0.000, the family factor with a significance of 0.031. This indicates that there is a significant causal connection.

Through deeper analysis, looking at the Exp (B) value and Wald value it can be concluded that among these two factors, it is the students' personal factors that have the greatest influence on the educational choices of secondary school third-year students' high school, followed by family factors.

By Forward LR Method, the following equation is derived:

$$\text{Logist (Choice)} = -4.149 + 0.675(\text{Student Personal Factor}) + 0.405(\text{Family Factor})$$

With the above formula, the following conclusions can be drawn:

$$p(\text{choice}) = \frac{e^{-4.149 + 0.675(\text{Student Factor}) + 0.405(\text{Family Factor})}}{1 + e^{-4.149 + 0.675(\text{Student Factor}) + 0.405(\text{Family Factor})}}$$

Whereas:  $P(\text{choice}) < 0.5$  it can be concluded that students do not choose to study in vocational schools.

$\geq 0.5$  it can be concluded that students choose to study in vocational schools.

This is consistent with the results of the questionnaire, through the questionnaire we can see that student's personal factors, students' interest in vocational education is low (2.16), and the choice of vocational education in high school is also low (1.93), but some of them agree that students who graduated from the vocational school can be just as successful (2.85). At the same time, the students are not satisfied with the current results of the choice of high school education (2.47). Family factors even though parents' knowledge about vocational education in general is at a medium level (2.77) and whether parents' opinion about vocational schools affect students' selection of vocational education in upper secondary school is also at a medium level (2.54), but in practice fathers don't support their children's study in vocational schools (2.02), and mothers don't support their children's study in vocational schools either (1.95).

Consistent with the study of Su Lifeng et al. (2016), they found that students' personal wishes, learning objectives, and the level of family support had a significant impact on students' educational choices.

## **Conclusion**

The object of this study is the third-year junior high school students enrolled in nine middle schools under the jurisdiction of Dongning City Bureau of Education, according to proportional stratified random sampling, and finally 317 third grade junior high school students participated in this study. In this study, a questionnaire on factors influencing the educational choices of junior high school third graders was used as a research instrument to collect data. The questionnaire was analyzed using frequency, percentage, mean ( $\bar{X}$ ), standard deviation (S.D.) and binary logistic regression And Forward LR of regression.

The results of the study show that more than 80% of the respondents will not choose vocational education as their high school education, and it is obvious that most of the students will not and do not want to choose vocational high school, and the results of the study also show that the factors affecting the choice of vocational high school for junior high school third graders in Dongning City are the student's personal factors, the family factors, and the factors that affect the students most are the student's personal factors, followed by the family factors.

## **Recommendations**

Guiding students to form a correct perception of vocational education and a correct understanding of themselves

Students' personal factors are the most influential factors in the choice of vocational education for junior secondary school students. Students' perception of vocational education not only affects their interest in vocational education and their choice of vocational high school as their first choice of high school education, but also ultimately affects whether they will choose vocational education. In order to improve students' knowledge of vocational education, first of all, a certain amount of vocational education should be infiltrated into students at the primary stage of secondary school, so that students will be interested in the content of vocational education and have a certain initial understanding of vocational education. Then guide students to form a correct understanding of themselves, guide students to understand themselves objectively from multiple perspectives, discover their own interests, strengths and weaknesses, etc., to find a suitable direction for their own career development. Initially, students will be able to determine the appropriate direction for their career development.

Updating and changing parents' traditional concepts of vocational education, and increasing the importance parents attach to their children's intended impact on vocational education

To make more students choose vocational education, it is imperative to update and change parents' traditional concept of vocational education. First of all, public opinion propaganda, we should make full use of newspapers, magazines, local TV channels, local news channels, the Internet, WeChat public number, jitterbugs, short videos, live broadcasts, and other modern multimedia media, to parents to promote and explain to them about the concept of vocational education, the types of vocational education, the status and role of vocational education; with easy to understand, vivid way to promote the significance of vocational education,



personnel training objectives, modes, and the community's demand for vocational and skilled personnel. It also actively promotes the success stories of local vocational school graduates, so that parents can have a better understanding of vocational education and change their traditional concepts of vocational education. Parents can also be organized to have regular parent training, adopting the form of informal training on the Internet as the mainstay, supplemented by positive group training, and appropriately increasing the content of vocational education and training. Parents can also be organized to encourage parents to visit various vocational schools to learn about the professions offered and the forms of employment in the schools. This will help parents to develop correct vocational values, so that they can give the most scientific and appropriate advice to their children at the important moment of choosing a school, and better plan their vocational development together with their children.

#### Improving the internal and external attractiveness of local vocational high schools

First of all, local vocational high schools should go out and improve their external attractiveness by going into primary schools and junior high schools to carry out publicity activities, and they can use the organization of cultural performances, exhibitions of vocational education achievements, convenient services, and the publicity of successful employment of graduates and successful entrepreneurial cases to improve the attractiveness of local vocational education and expand the social influence of local vocational education. Secondly, the local vocational high school can also use more new media for publicity, in addition to the WeChat public number, jittery number, etc. but also to continue to establish other broader publicity platforms, and the need to continue to output new publicity content, in addition to the official school's publicity, you can also encourage students to publicize the current era of everyone's self-media, you can encourage and guide the students, especially students involved in the media profession active Nowadays, in the era of everyone's self-media, students, especially those majoring in media, can be encouraged and guided to actively share their colorful vocational school life, learning insights and future employment plans. Finally, local vocational high schools should design, maintain and actively update their own school's official website, do a good job of various introductions, the establishment of a special publicity board on the home page in a prominent position to facilitate parents and students to learn about the school's various information, and timely advice and answers to students, so that students and parents understand more about vocational schools, so as to achieve the enhancement of the external attractiveness.

The enhancement of the internal attractiveness of local vocational high schools relies on the attractiveness of their own professional settings and teaching quality to local students and parents. The curriculum content setting should focus on cultivating a skill for students, highlighting the practicality and relevance of the profession, and also focus on the rationalization of the curriculum structure, with different structural arrangements for both basic technical courses, cultural courses, professional theory courses, production internship courses, political courses, physical education courses, etc., as well as the scientific setting and adjustment of specializations according to the needs of the market economy and society. Specializations should be set up with reference to the employment situation of students and the needs of local economic and social construction. Regarding the teaching quality of local vocational high schools, firstly, schools can train backbone teachers, organize more training for observing practical exercises, motivate teachers' enthusiasm for

teaching, and obtain the latest external concepts and technologies in multiple ways to create dual-teacher teachers. At the same time, external technical personnel with a high level of practical teaching in schools, not only to promote the hands-on practical ability of students, but also to improve the full-time teachers of the actual operation of the quality. Secondly, the school increases the cooperative relationship with enterprises, and endeavors to provide students with internship places in the corresponding professions to help students accumulate experience in practical operation and improve students' competitiveness in employment, which in turn affects the effectiveness of the school and the recognition of the school by the society, thus enhancing the attractiveness of the school to students and parents.

**Increase the publicity of vocational education policies**

First, local governments should publicize the development system of vocational education more comprehensively in relevant publicity campaigns, so that the public can have a clearer understanding of the basic paths of students' academic development under the vocational education system, and to dispel the concerns of students and their parents about students' academic development. We should also make full use of the audience coverage conditions of traditional social media and the convenience of new media. Regular publicity on a wider scale using a variety of media, such as regular publicity on local news channels, local radio, local newspapers, outdoor billboards and buses, as well as the use of public broadcasting networks to publicize a variety of preferential policies for vocational education in the State, ranging from the policy of subsidies for students to study in secondary vocational schools to the policy of tuition fee reductions and exemptions to the State's policy of support for the employment of skilled workers.

**Focus on student's personal factors and family factors.**

Through the Forward LR method of regression data analysis, it was found that two of the six variables had a significance of less than 0.05, and of these two factors, the one that had the greatest influence on the educational choice of high school for junior high school third grade students was the individual student factor, followed by the family factor. It was finally determined that the factors affecting the choice of vocational high school for junior high school third graders in Dongning City are individual student factors and family factors.

Therefore, the key to students' willingness to choose vocational education is to start with their personal and family factors. First, we pay attention to guiding students to form a correct cognition of vocational education and a correct understanding of themselves, guiding them to understand themselves objectively from multiple perspectives, discovering their interests, specialties and shortcomings, etc., and to find a suitable direction for their career development. Students are guided to clarify the way of life they want to have, understand their own values, vocational interests, abilities and personality traits, learn to objectively evaluate their own abilities, learn to discover their own strengths and advantages, and according to their own areas of strengths, preliminarily determine a suitable direction for the development of their individual careers. Secondly, we attach importance to updating and changing parents' traditional concepts of vocational education and raising the importance of parents' influence on their children's vocational education intentions. In the survey, it was found that most of the parents' knowledge of vocational education is relatively one-sided and low recognition, and there are even some prejudices. Therefore, to make more children choose vocational education, it is necessary to update and change the parents' traditional concept of vocational education, so that more parents understand the degree of importance attached by the state to vocational education, understand the degree of development of vocational

education and the degree of demand of enterprises for highly skilled personnel. To update and change parents' traditional concept of vocational education.

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