# Factors Influencing University Selection Among 12th Grade Students in Vietnam

[1,]Dr. Phan Thi Yen, [2,]Dr. Dang Vinh
*[1]University of Foreign Languages Studies, The University of Danang, Viet Nam*
*[1]ORCID ID: https://orcid.org/0000-0003-4966-0352*
*[2]Vietnam - Korea University of Information and Communication Technology, The University of Danang, Viet Nam.*
*[2]ORCID ID: https://orcid.org/0000-0002-1176-8248*

**ABSTRACT:** The Vietnamese education system has undergone significant improvements to align with global development. General education, including primary through high school, is divided into three levels in Vietnam: five years of primary school, four years of lower secondary school, and three years of high school education. This structure differs considerably from countries such as the United States and those in Europe. In Vietnam, the majority of students aspire to attend university after completing their secondary education. Therefore, career guidance needs to be emphasized in the secondary education curriculum to help students identify career paths that match their abilities and interests. This study investigated, evaluated, and identified factors influencing students' decisions regarding school and career choices. Several factors affect their decision-making process: academic performance, employment opportunities and career paths, the diversity and attractiveness of desired fields of study, the reputation of universities, location, financial considerations, family influence, extracurricular activities and support, entrance exam scores, and societal influences. A survey of over 1000 12th-grade students in Da Nang reveals several factors influencing their decisions regarding university selection and choice of academic majors. Results from testing the theoretical model indicate its compatibility with the data, identifying 10 significant factors affecting students' university choices: F1_Academic performance, F2_Job placement and career path, F3_Diversity and attractiveness of desired major, F4_Reputation of the university, F5_Location, F6_Financial considerations, F7_Family influence, F8_Extracurricular and supportive activities, F9_Entrance examination scores, F10_Social influences. The study also assesses the level of impact of each factor on students' decisions. Based on these findings, appropriate solutions have been proposed to support students in their career orientation.

**KEYWORDS:** Vietnamese education; General education; Career guidance; Influencing factors; University choices

## I.    INTRODUCTION
Research on college choice has attracted the attention of many researchers both domestically and internationally. This is a multifaceted topic that is explored from various perspectives such as sociology, economics, socio-economics, and marketing. These studies focus on understanding the factors influencing the decisions of relevant parties such as high school students, college students, parents, and educational institutions. Investigations into the selection process of higher education institutions have garnered considerable interest from researchers worldwide. It's a complex subject area examined through diverse lenses including sociology, economics, socioeconomics, and marketing. These inquiries aim to comprehend the determinants shaping the choices of key stakeholders, spanning from high school students and college students to parents and educational establishments. Choosing a profession to study and selecting the university program is highly crucial for students. Therefore, there needs to be guidance for students when choosing their career path and selecting a suitable university, combining ideally three factors: personal aspirations, individual abilities, the demands of the profession, and societal requirements. Therefore, researching the determining factors in high school students' choice of university is highly necessary.

## II.    LITERATURE REVIEW
**The impact of family on the decision to choose a university :** Some studies have explored the influence of the family on university selection decisions. Nguyen et al. (2018) found that family support and encouragement play a crucial role in high school students' decisions when choosing a university. Furthermore, the study by Le et al. (2017) also highlighted that perceptions of family financial resources, family priorities, and sensitivity to students' desires significantly impact the choice of university.

The authors also focus on a group of factors including: different levels of influence of parents, other family members, friends, teachers, family income, and parents' education.

**The impact of the social and cultural environment on the decision to choose a university :** Researchers have studied the impact of social and cultural environments on college choice decisions. A study by Tran et al. (2019) have shown that influence from friends and colleagues plays an important role in the decision to choose a university. Pham's (2016) research also found the impact of social awareness and perception of university reputation on students' decisions.The study by Dolnicar and Rossiter (2008) and Hemsley-Brown and Oplatka (2006) focused on analyzing the influence of marketing strategies and university brand image on students' decision-making process.Furthermore, the research conducted by Paulsen and St. John (2002) examined the relationship between university selection and academic performance, satisfaction with the institution, and program completion rates.In the study by Shulruf et al. (2007), various factors influencing international students' university selection decisions were explored, including cultural and social elements.

**The impact of career counseling information and information technology on the decision to choose a university :** The marketing approach is not exclusively bound by the socio-economic model but instead relies on the consumer decision-making model, encompassing internal influencing factors (cultural, social, individual, psychological traits) and external factors (social, cultural, product, pricing...), along with the communication efforts of the supplier to the consumer (Kotler & Armstrong, 2010). Therefore, besides factors within the integrated economic and social model, the university selection decision is also affected by university characteristics such as admission activities, communication efforts, or financial aid policies (Bergerson, 2009).
In addition, a number of studies have studied the impact of career counseling information and information technology on students' college choice decisions. Research by Dang et al. (2020) found that access to and use of career counseling information via the internet has a great influence on students' decisions. Research by Tran et al. (2018) also found a positive impact of career counseling information on choosing a university.Some authors have studied the factors that influence the decision to choose a university in Vietnam. We can mention the research of Nguyen, M. H., & Associates (2011), the study identified 7 main factors, including high schools' efforts in providing information to graduating students, quality education, personal characteristics of students, future employment, ability to get into school, roles of family and extra-family relatives.In summary, previous studies have proposed various factors without systematically evaluating their full impact. Therefore, this study conducts a comprehensive evaluation of each group of factors and provides specific recommendations tailored to 12th-grade high school students.

## III.    RESEARCH METHODS
We employ a theoretical research method to synthesize previous research works in order to establish a theoretical foundation for constructing a questionnaire aimed at investigating the socio-economic factors influencing high school students' university selection. Additionally, we utilize statistical methods to process data, validate scales, and standardize assessment tools. We surveyed 1259 12th-grade students from 5 high schools in Da Nang to determine the impact of various factors on their university selection decisions.

## IV.    FINDINGS AND DISCUSSION
**Research Sample Characteristics :** Based on statistical data, in Vietnam, over 1 million candidates participate in the national high school graduation examination annually. However, the number of candidates applying for university admission accounts for only about 65.9% (in 2023). To determine the influence of factors on the decision to choose a university among 12th-grade students, we conducted a survey involving representatives of students from 5 high schools in Da Nang, with the participation of 1259 students.

*Table 1. Research sample statistics*

| | Name of high school | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Hoa Vang | 140 | 11.1 | 11.1 | 11.1 |
| | Le Quy Don for Gifted | 233 | 18.5 | 18.5 | 29.6 |
| | Nguyen Khuyen | 251 | 19.9 | 19.9 | 49.6 |
| | Phan Chau Trinh | 453 | 36.0 | 36.0 | 85.5 |
| | Thai Phien | 182 | 14.5 | 14.5 | 100.0 |
| | **Total** | **1259** | **100.0** | **100.0** | |

**Results of the analysis and evaluation of the measurement scale :** Results of the analysis and evaluation of the scale measuring the extent of influence of various factors on university choice. With the use of SPSS software to evaluate the survey reliability, the results are as follows in Table 2.

Table 2. Reliability of the scale

**Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .782 | .790 | 10 |

The measurement scale used in the survey of factors influencing university choice exhibits appropriate reliability. The reliabilities of the observed variables range from 0.754 to 0.786 which is quite high. All observed variables are utilized for subsequent analyses.

**Multiple Linear Regression Analysis :** The evaluation of model adequacy accurately through hypothesis testing. To assess the adequacy of a regression model, we set the hypothesis H0: R2 = 0. The F-test is used to test this hypothesis. According to Table 3, Sig = 0.00 < 0.05: Reject the null hypothesis H0, meaning R2 ≠ 0 significantly, the regression model is appropriate.

Table 3. Results of ANOVA analysis of variance

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 49.428 | 9 | 5.492 | 25.116 | .000[b] |
| | Residual | 273.106 | 1249 | .219 | | |
| | Total | 322.534 | 1258 | | | |

a. Dependent Variable: F5
b. Predictors: (Constant), F10, F4, F8, F1, F6, F7, F9, F2, F3

A commonly used measure of the fit of a linear regression model is the coefficient of determination R2 (R square). The R2 index is in table 4 Model Summary.

Table 4. Results of Model Summary

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .391[a] | .153 | .147 | .46761 | 1.793 |

a. Predictors: (Constant), F10, F4, F8, F1, F6, F7, F9, F2, F3
b. Dependent Variable: F5

The results in the Model Summary table show that R2 = 0.153 and Durbin-Watson = 1.793. The adjusted R-squared value of 0.153 indicates that the independent variables included in the regression analysis account for 15.3% of the variability in the dependent variable, while the remaining 84.7% is due to external variables not in the model and random error.

Table 5. Results of Coefficientsa

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| 1 | (Constant) | 1.531 | .165 | | 9.299 | .000 | | |
| | F1 | -.031 | .034 | -.027 | -.896 | .370 | .721 | 1.386 |
| | F2 | .077 | .039 | .063 | 1.988 | .047 | .668 | 1.497 |
| | F3 | .066 | .039 | .056 | 1.692 | .091 | .627 | 1.596 |
| | F4 | .032 | .038 | .027 | .848 | .396 | .691 | 1.448 |
| | F6 | .138 | .027 | .151 | 5.122 | .000 | .781 | 1.280 |
| | F7 | .089 | .029 | .091 | 3.050 | .002 | .757 | 1.322 |
| | F8 | -.062 | .030 | -.066 | -2.100 | .036 | .696 | 1.437 |
| | F9 | .054 | .032 | .052 | 1.676 | .094 | .691 | 1.447 |
| | F10 | .206 | .025 | .230 | 8.360 | .000 | .892 | 1.121 |

a. Dependent Variable: F5

The findings in Table 5 indicate that there are four variables that are not influenced by the independent variable (F5_Location). Moreover, variables F1 and F8 exhibit contradictory effects on the independent variable. Furthermore, variables F1, F3, F4, and F9 from the t-test have a significance value (sig) greater than 0.05, suggesting that these variables lack significance in the regression model, or in simpler terms, this variable has no effect on the dependent variable F5

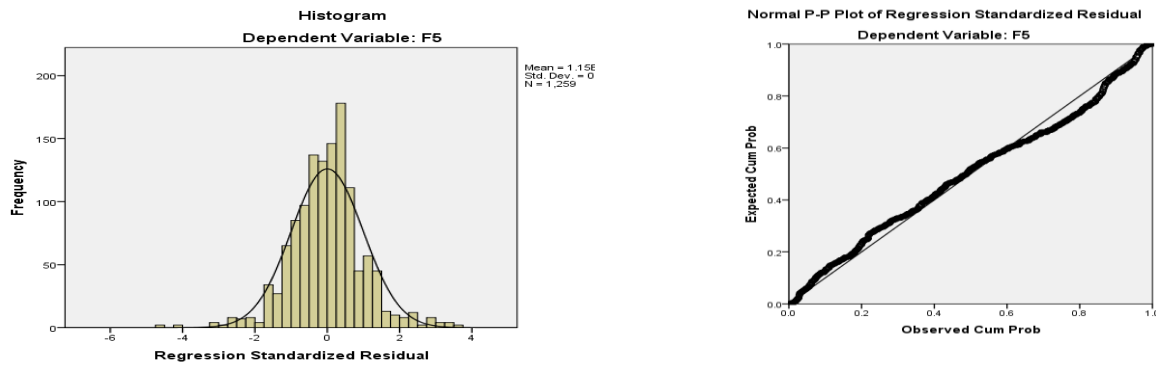Histogram of normalized residual frequencies is shown in Figure 1.



*Figure 1. The histogram of normalized residual frequencies*

For the Histogram chart, if the mean value (Mean) is close to 0 and the standard deviation (Std. Dev) is close to 1, and the columns of residual values are distributed in a bell shape, we can confirm that the distribution is approximately normal, assuming the normal distribution of residuals is not violated. Specifically, in the image above, the Mean is 1.15E-14 = 1.15 * 10^-14 = 0.00000..., which is close to 0, and the standard deviation is 0.996, close to 1. Thus, it can be concluded that the residual distribution is approximately normal, and the assumption of normal distribution of residuals is not violated. For the Normal P-P Plot chart, the data points in the distribution of the residuals closely follow the diagonal, proving that the residuals have a normal distribution.

*Table 6. Results of Correlations*

| | | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| F1 | Pearson Correlation | 1 | .428** | .406** | .341** | .120** | .297** | .267** | .286** | .294** | .100** |
| | Sig. (2-tailed) | | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| | N | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 |
| F2 | Pearson Correlation | .428** | 1 | .466** | .411** | .179** | .293** | .261** | .290** | .316** | .107** |
| | Sig. (2-tailed) | .000 | | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| | N | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 |
| F3 | Pearson Correlation | .406** | .466** | 1 | .456** | .178** | .284** | .254** | .369** | .384** | .131** |
| | Sig. (2-tailed) | .000 | .000 | | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| | N | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 |
| F4 | Pearson Correlation | .341** | .411** | .456** | 1 | .157** | .304** | .296** | .314** | .322** | .085** |
| | Sig. (2-tailed) | .000 | .000 | .000 | | .000 | .000 | .000 | .000 | .000 | .003 |
| | N | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 |
| F5 | Pearson Correlation | .120** | .179** | .178** | .157** | 1 | .263** | .216** | .114** | .174** | .304** |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | | .000 | .000 | .000 | .000 | .000 |
| | N | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 |
| F6 | Pearson Correlation | .297** | .293** | .284** | .304** | .263** | 1 | .278** | .295** | .234** | .258** |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | .000 | | .000 | .000 | .000 | .000 |
| | N | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 |
| F7 | Pearson Correlation | .267** | .261** | .254** | .296** | .216** | .278** | 1 | .360** | .361** | .245** |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | .000 | .000 | | .000 | .000 | .000 |
| | N | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 |
| F8 | Pearson Correlation | .286** | .290** | .369** | .314** | .114** | .295** | .360** | 1 | .453** | .168** |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | .000 | .000 | .000 | | .000 | .000 |
| | N | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 |
| F9 | Pearson Correlation | .294** | .316** | .384** | .322** | .174** | .234** | .361** | .453** | 1 | .180** |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | | .000 |
| | N | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 |
| F10 | Pearson Correlation | .100[**] | .107[**] | .131[**] | .085[**] | .304[**] | .258[**] | .245[**] | .168[**] | .180[**] | 1 |
| | Sig. (2-tailed) | .000 | .000 | .000 | .003 | .000 | .000 | .000 | .000 | .000 | |
| | N | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 | 1259 |

**. Correlation is significant at the 0.01 level (2-tailed).

Testing the correlation between independent variables, the results in Table 6 indicate that sig = 0.00, suggesting that all variables are correlated with each other. Utilizing the AMOS software to analyze the Structural Equation Model (SEM) derived from the *Rotated factor matrix* to examine the effects of the university choice factors on students. The SEM model data were found to be suitable. Results of the goodness of fit of the SEM model shown at table 7.

Table 7. Model fit measures evaluation indicators with research data

| Measure | Estimate | Threshold | Interpretation |
|---|---|---|---|
| CMIN | 3878,484 | -- | -- |
| DF | 815,000 | -- | -- |
| CMIN/DF | 4,759 | Between 1 and 3 | Acceptable |
| CFI | 0,888 | >0.95 | Terrible |
| RMSEA | 0,055 | <0.06 | Excellent |
| PClose | 0,000 | >0.05 | Not Estimated |

Based on the above table, CMIN/DF=4,759 (>2), CFI, GFI, TLI < 0.9; RMSEA= 0.055 are acceptable. Therefore, the model can be considered acceptable with the research data. The study employs the Structural Equation Model (SEM) to determine the influencing factors and the extent of their impact on university choice among students and high school graduates.
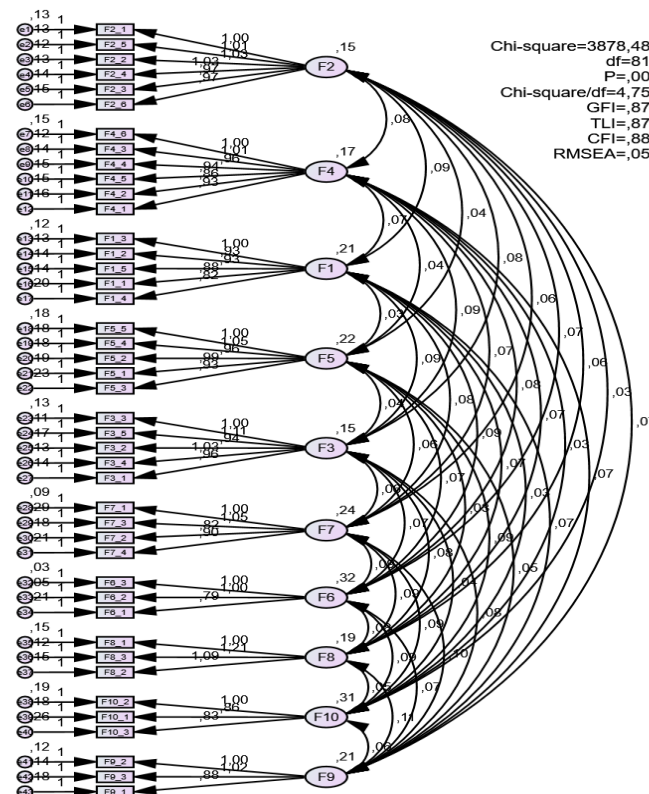


*Figure 2. The CFA model of factors influencing university choice*

The results of evaluating the impact level of the 10 factor groups on university choice among students and high school graduates in Da Nang are shown in the table 8.

Table 8. Descriptive statistics of opinions evaluating the extent of impact of the factors on university choice

|  | N | Minimum | Maximum | Mean | Std. Deviation | Variance |
|---|---|---|---|---|---|---|
| F1 | 1259 | 1.00 | 4.80 | 3.5836 | .45028 | .203 |
| F2 | 1259 | 1.50 | 4.70 | 3.5415 | .41756 | .174 |
| F3 | 1259 | 1.00 | 4.40 | 3.5210 | .42940 | .184 |
| F4 | 1259 | 1.70 | 5.00 | 3.5651 | .41916 | .176 |
| F5 | 1259 | 1.00 | 5.00 | 3.5595 | .50635 | .256 |
| F6 | 1259 | 1.00 | 5.00 | 3.5519 | .55429 | .307 |
| F7 | 1259 | 1.00 | 5.00 | 3.5856 | .51682 | .267 |
| F8 | 1259 | 1.00 | 5.00 | 3.6069 | .53484 | .286 |
| F9 | 1259 | 1.00 | 5.00 | 3.5562 | .49533 | .245 |
| F10 | 1259 | 1.00 | 5.00 | 3.6106 | .56630 | .321 |
| Valid N (listwise) | 1259 |  |  |  |  |  |

According to the results in Table 8, it is evident that the factor groups F1_Academic performance, F4_Reputation of the university, F7_Family influence, F8_Extracurricular and supportive activities, F10_Social influences exhibit similar levels of impact, with these factor groups having higher average evaluation scores compared to the remaining groups.

## V. CONCLUSION

Utilizing the theoretical model constructed, the study devised and validated a measurement scale to assess the factors influencing high school students' decisions regarding university selection. The Cronbach's Alpha analysis results revealed that all 43 observed variables were statistically significant, with Cronbach's alpha coefficients surpassing 0.7. Furthermore, the study determined the extent of influence of each factor group on university selection decisions. Among these, students exhibited a heightened focus on 5 key factor groups: Academic performance (F1), University reputation (F4), Family influence (F7), Extracurricular and supportive activities (F8), and Social influences (F10). Nonetheless, the remaining 5 factor groups also wielded a significant impact, all of which were rated above 3.5 out of 5 points.Based on the research findings, we suggest several recommendations for students when deciding on their choice of university:

➢ Consider important factors: Students should carefully consider important factors such as academic performance, university reputation, family influence, extracurricular activities and school support, as well as as social influence. These are factors that research has shown to have a major influence on students' decisions.
➢ Consult the opinions and experiences of relatives: Family influence is highly appreciated, so consulting the opinions and experiences of relatives can help students make better decisions.
➢ Explore extracurricular opportunities and support from the school: Participating in extracurricular activities and using support services from the university can be important factors in helping students adapt and thrive in the environment. university.
➢ Overall considerations: In addition to the main factors mentioned, students should also consider the overall learning environment, facilities, culture and career opportunities the university offers.
➢ Set personal goals and dreams: Clearly define your personal goals and dreams in choosing a college, and choose the school that best reflects those goals and dreams.
➢ In short, choosing a college is an important decision, and relying on researched and validated factors can help students make smart decisions that align with their goals and desires self.

## REFERENCES

1. Bergerson, A. A. (2009). College choice and access to college: Moving policy, research, and practice to the 21st
2. Bergerson, A. A. (2009). College choice and access to college: Moving policy, research, and practice to the 21st

3.  Ball, S. J. and Vincent, C. (1998), 'I heard it on the grapevine" 'Hot' Knowledge and school choice', British Journal of Sociology of Education, vol. 19, no. 3, pp.377-400
4.  Bergerson, A. A. (2009). College choice and access to college: Moving policy, research, and practice to the 21st century. ASHE Higher Education Report, 35(4), 1-141.
5.  Biggs, J. 2011. Teaching for Quality Learning at University". McGraw-Hill Education (UK).
6.  Bùi, H. (2001). Từ điển giáo dục học. Việt Nam. Nxb Từ điển bách khoa.century. ASHE Higher Education Report, 35(4), 1-141
7.  Đặng, I., Trần, J., & Phạm, K. (2020). Tác động của việc tiếp cận và sử dụng thông tin tư vấn nghề nghiệp đối với quyết định lựa chọn trường đại học của học sinh trung học: Một nghiên cứu khảo sát trực tuyến. Tạp chí Công nghệ Giáo dục & Xã hội, 23(1), 167-180.
8.  Kotler, P., Armstrong, G., Armstrong, G. M. (2010). Principles of Marketing. Đức: Prentice Hall.
9.  Lê, D., Trần, H., & Phạm, T. (2017). Nguồn lực tài chính gia đình, sự ưu tiên và sự nhạy cảm trước mong muốn của học sinh trong việc lựa chọn trường đại học: Nghiên cứu về học sinh trung học Việt Nam. Nghiên cứu Giáo dục Hàng quý, 40(2), 217-230.
10. Moogan, Y. J., Baron, S., & Harris, K. (1999). Decision-making behaviour of potential higher education students. Higher Education Quarterly, 53(3), 211-228.
11. Nguyễn, A., Trần, B., & Phạm, C. (2018). Vai trò của sự hỗ trợ và khuyến khích của gia đình trong quyết định lựa chọn trường đại học của học sinh trung học. Tạp chí Tâm lý Giáo dục, 110(3), 385-397.
12. Phạm, H. (2016). Nhận thức xã hội và nhận thức về danh tiếng của trường đại học trong việc lựa chọn trường đại học của học sinh trung học: Một nghiên cứu đa văn hóa. Tạp chí Tâm lý học Đa văn hóa, 47(6), 780-795.
13. Shrestha, S. K., & Shrestha, B. (2020). Eliciting the determinants of management specialization course selection: A consumer behavior perspective. PYC Nepal Journal of Management, 13(1), 5-16.
14. Trần, E., Lê, F., & Phạm, G. (2019). Ảnh hưởng của áp lực bạn bè và xã hội đến việc lựa chọn trường đại học: Một nghiên cứu ở học sinh trung học Việt Nam. Nghiên cứu Tâm lý Xã hội, 25(4), 567-580.
15. Trần, K. D. 2017. Năng lực học tập và đánh giá năng lực học tập. Nxb Bách Khoa. Hà Nội.
16. Trần, L., Lê, M., & Phạm, N. (2018). The positive influence of career counseling information on college choice: Insights from Vietnamese high school students. International Journal of Educational Development, 65, 124-136