



FACTORS INFLUENCING MAJOR SELECTION AMONG HIGH SCHOOL STUDENTS IN NORTHERN VIETNAM: THE MEDIATING ROLES OF CAREER IMAGE AND EMPLOYMENT OPPORTUNITY BELIEF

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Abstract

This study aims to examine the factors influencing major selection among high school students in Hanoi, with a particular focus on clarifying the mediating roles of career image and belief in employment opportunities. Using a quantitative research approach, data were collected via questionnaire from 410 high school students in Northern Vietnam and processed using SPSS 25.0 and AMOS 24 software. The results indicate that career outcome expectations, self-efficacy beliefs, family orientation, peer roles, media information accessibility, and school-based career guidance and counseling all positively affect career image and employment opportunity belief, which in turn indirectly influence students' major selection decisions. In addition, the findings also confirm the mediating role of career image and belief in employment opportunities in these relationships. Based on these findings, the study proposes several recommendations for educational institutions and policy-makers to enhance the quality of career guidance for high school students.

Keywords:

Major selection, career image, employment opportunity belief, high school students, career guidance.

1. Introduction

The rapid pace of digital transformation and the restructuring of Vietnam's economy toward a knowledge- and innovation-based model are accelerating significantly. According to the General Statistics Office, the labor force aged 15 and above reached 53.5 million in 2025; however, the proportion of trained workers holding formal degrees or certificates remains relatively low at 29.2%. This imbalance in labor supply and demand has led to substantial shifts in the career structure of the labor market, where many traditional jobs are disappearing while new occupations continue to emerge. As a result, the phenomenon of "overqualification and skill mismatch" has become increasingly prevalent, with many graduates working outside their field of

study or facing unemployment, thereby causing resource inefficiency and reducing national labor productivity.

Choosing a field of study represents a critical turning point in the career trajectory of high school students. An inappropriate decision may lead not only to a lack of motivation and underperformance in academic pursuits but also to unemployment or employment unrelated to one's major after graduation [1]. Previous studies indicate that most high school students tend to base their decisions primarily on job market trends or advice from parents and relatives, rather than on a proper assessment of their own abilities and interests [1] [2].

In the context of Northern Vietnam, particularly as a major educational hub with a high concentration of universities and high schools, students are confronted with an expanding array of emerging fields such as artificial intelligence, digital economy, and green technology. However, many students are still influenced by trend-driven perceptions without fully understanding the nature of these professions. According to the Social Cognitive Career Theory (SCCT), cognitive factors such as career image and perceived job opportunities play a crucial role, acting as mediators that transform the influence of family, society, and labor market conditions into career decision-making [3].

Although several studies have examined factors influencing major selection, most have focused on direct relationships and have not sufficiently explored the mediating roles of these psychological and social factors [3] [4]. Therefore, this study investigates the determinants of major selection among high school students in Hanoi, emphasizing the mediating roles of career image and perceived job opportunities. The findings aim to provide a scientific basis for improving career counseling practices and contribute to reducing the mismatch between education and employment in the context of sustainable socio-economic development.

2. Theoretical Framework and Research Model

The selection of a major is a critical decision-making process in the career orientation of high school students, involving the identification of post-secondary academic paths based on the alignment between individual competencies, personal interests, and societal demands [2].

In this context, career image is conceptualized as the holistic perception and subjective evaluation of a profession, encompassing its perceived attractiveness, prestige, and social value [5]. Meanwhile, employment belief refers to a student's subjective assessment regarding future job prospects, potential income, and professional stability [5].

To achieve the research objectives, this study integrates several foundational theories: the Theory of Planned Behavior (TPB), Social Cognitive Career Theory (SCCT), Expectancy-Value Theory (EVT), and the Technology Acceptance Model (TAM). This multifaceted theoretical framework elucidates the impact of individual factors, interpersonal influences (family and peers), media, and school-based career guidance on the major selection of high school students in Northern Vietnam. Specifically, the model explores these dynamics through the mediating roles of career image and employment belief.

2.1. The Influence of Career Outcome Expectations

Career outcome expectations reflect students' beliefs regarding the potential benefits gained from pursuing a specific major, including income, job stability, social status, and opportunities for self-development. When students anticipate that a field of study will yield positive outcomes, they tend to perceive that profession as more attractive, thereby forming a favorable career image [6]. Furthermore, high expectations of success reinforce the conviction that the chosen major offers stable employment prospects and promising future growth, directly impacting their employment belief.

H1: Career outcome expectations have a positive impact on career image.

H2: Career outcome expectations have a positive impact on employment belief.

2.2. The Influence of Self-Efficacy

Self-efficacy is a manifestation of perceived behavioral control, reflecting an individual's belief in their capability and resources to perform a specific action [7]. When students are confident in their academic abilities and their potential to meet the requirements of a major, they perceive the field as more feasible, less risky, and more appealing, which contributes to a positive career image. Additionally, high self-efficacy enhances students' confidence in their ability to secure suitable employment and successfully navigate the labor market upon graduation.

H3: Self-efficacy has a positive impact on career image.

H4: Self-efficacy has a positive impact on employment belief.

2.3. The Influence of Family Orientation

Family orientation is manifested through parental advice, encouragement, and expectations regarding a student's choice of major. Within the theoretical frameworks of social cognitive theory and planned behavior, this influence represents a form of social persuasion and subjective norms, which assist students in constructing a more favorable career image [6] [7]. Furthermore, families play a pivotal role in socializing the utility value of a major, such as potential income and job stability, thereby reinforcing students' confidence in their future employment prospects [8].

H5: Family orientation has a positive impact on career image.

H6: Family orientation has a positive impact on employment belief.

2.4. The Influence of Peer Roles

The influence of peers is exerted through information sharing, social comparison, and the establishment of peer group norms. Positive evaluations and endorsements from friends are often internalized by students, leading to a more attractive and prestigious perception of a career's image [6] [7]. Additionally, peers serve as a vital source of informal yet practical labor market information, which enhances students' belief in the employment opportunities associated with the fields of study favored by their social circle.

H7: Peer roles have a positive impact on career image.

H8: Peer roles have a positive impact on employment belief.

2.5. The Influence of Media Information Accessibility

Media information accessibility refers to the frequency and variety of channels through which high school students encounter information regarding academic majors, particularly via social media, university admission websites, and online content. When students perceive these information sources as useful and easy to navigate, they are more likely to engage with and internalize the content [9]. Continuous exposure fosters a sense of familiarity with specific professions, which helps students construct a positive career image and reinforces their employment belief in those fields.

H9: Media information accessibility has a positive impact on career image.

H10: Media information accessibility has a positive impact on employment belief.

2.6. The Influence of School-based Career Guidance and Counseling

Career guidance and counseling activities in high schools, comprising teacher advice and structured vocational orientation programs, play a fundamental role in supporting student decision-making. These initiatives enable students to gain a deeper understanding of career characteristics and their person-environment fit, thereby enhancing the perceived value and expectancy of success associated with a major. Furthermore, direct counseling from teachers serves as a highly credible information source, assisting students in forming a favorable career image and strengthening their employment belief [8].

H11: School-based career guidance and counseling have a positive impact on career image.

H12: School-based career guidance and counseling have a positive impact on employment belief.

2.7. The Influence of Career Image

Career image represents students' holistic perception and evaluation of a specific field of study, encompassing the nature of the work, the professional environment, potential income, job stability, and social value. When students maintain a clear and positive career image, they perceive the major as more appealing, which significantly increases the likelihood of selection [6]. In this study, career image not only exerts a direct influence on the decision-making process but also serves as a critical mediating variable between contextual influences and actual selection behavior.

H13: Career image has a positive impact on the major selection of high school students.

H14: Career image has a positive impact on employment belief.

2.8. The Influence of Employment Opportunity Belief

Employment Opportunity Belief reflects the extent to which students trust that their chosen major will provide suitable employment, job security, and promising career advancement prospects. This belief functions as a key cognitive mediating mechanism, translating external environmental information into expectancy of success and the perceived utility of the major [8]. When students

possess strong conviction in future employment opportunities, they demonstrate higher motivation to commit to a specific academic path.

H15: Employment belief has a positive impact on the major selection of high school students.

Based on the theoretical framework and proposed hypotheses, the research model is depicted:

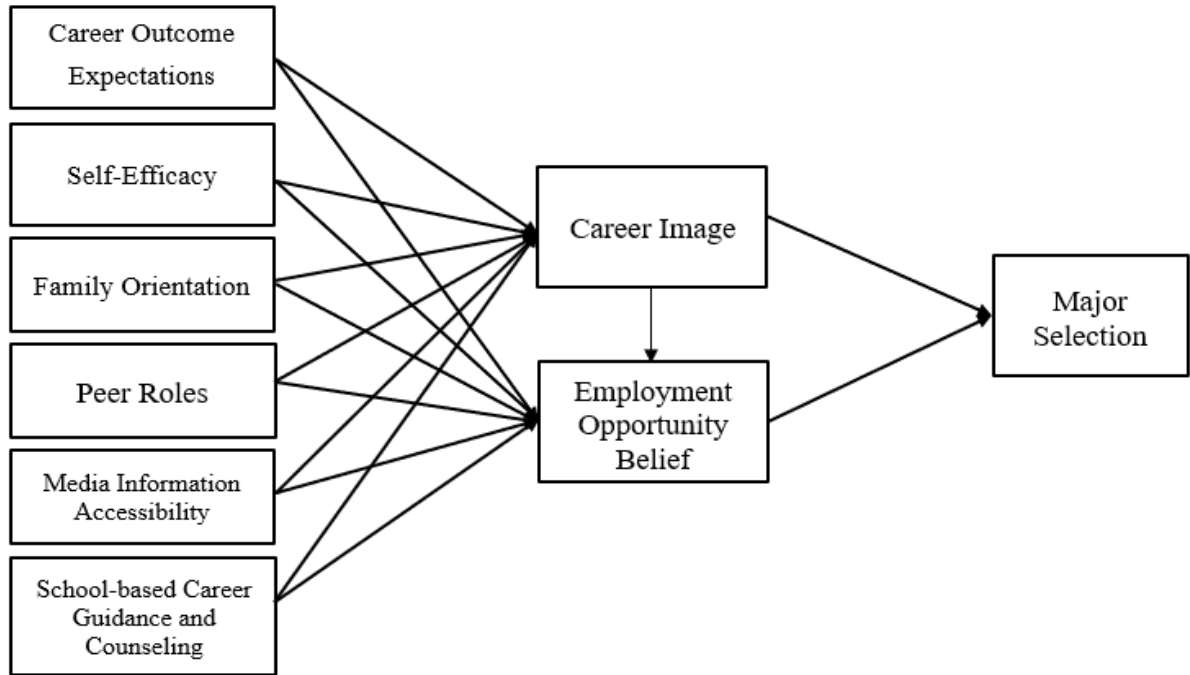


Figure 1: Proposed research model

3. Research methodology

The study adopts a quantitative research approach. Measurement scales are adapted from prior studies. The questionnaire was designed using Google Forms, and survey data were collected online. The survey was distributed to high school students in Northern Vietnam, yielding 410 valid responses, which is considered sufficient for statistical analysis. The data were processed using SPSS 25.0 and AMOS 24, applying techniques such as Cronbach’s Alpha reliability analysis, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM).

4. Research results

4.1. Measurement Model Validation

Table 1: Construct Reliability and Validity

	CR	AVE	MSV	HA	CH	TT	BB	GD	TV	HV	KV	NT
HA	0.971	0.870	0.425	0.933								
CH	0.970	0.867	0.425	0.652	0.931							
TT	0.915	0.683	0.085	0.291	0.217	0.826						
BB	0.853	0.538	0.213	0.398	0.462	0.079	0.734					
GD	0.835	0.506	0.188	0.434	0.386	0.011	0.167	0.712				
TV	0.841	0.572	0.521	0.376	0.570	0.023	0.455	0.232	0.756			
HV	0.905	0.760	0.203	0.429	0.446	0.133	0.341	0.230	0.450	0.872		
KV	0.848	0.651	0.255	0.432	0.505	0.208	0.385	0.278	0.486	0.396	0.807	
NT	0.802	0.576	0.521	0.436	0.575	-0.023	0.386	0.319	0.722	0.425	0.440	0.759

The reliability and validity of the measurement scales were rigorously evaluated, as summarized in Table 1. The Composite Reliability (CR) for all constructs exceeded the 0.70 threshold, and the Average Variance Extracted (AVE) surpassed 0.50, demonstrating strong internal consistency and convergent validity. Furthermore, discriminant validity was established as the square root of the AVE for each construct was greater than its inter-construct correlations (Fornell-Larcker criterion). Additionally, each construct's AVE significantly exceeded its Maximum Shared Variance (MSV). These findings confirm that the measurement model is robust and provides a statistically sound basis for subsequent structural analysis.

4.2. Structural Model and Hypothesis Testing

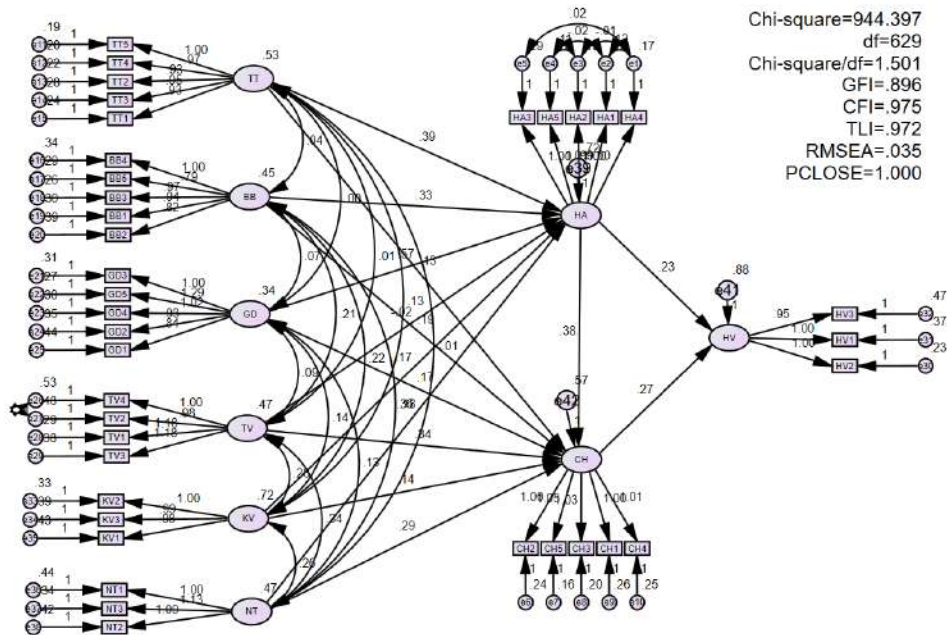


Figure 2: Structural Equation Modeling (SEM) Results

The Structural Equation Modeling (SEM) analysis indicates that the proposed research model exhibits a satisfactory fit with the empirical data. Specifically, the Chi-square/df ratio of 1.501, which is below the recommended threshold of 2.0, suggests a minimal discrepancy between the theoretical framework and the observed data. Key goodness-of-fit indices, including GFI (0.896), CFI (0.975), and TLI (0.972), met the recommended thresholds. Moreover, the RMSEA of 0.035, being well below the 0.05 limit, combined with a PCLOSE of 1.000 further confirms that the estimation error is negligible. These statistically significant metrics justify the acceptance of the model and allow for a reliable, scientifically grounded interpretation of the causal relationships.

Table 2: Regression Weights for the Structural Model

	Unstandardized Estimate	Standardized Estimate	S.E.	C.R.	P	
HA ← TT	.385	.250	.068	5.632	***	Accepted
HA ← BB	.333	.199	.088	3.801	***	Accepted
HA ← GD	.567	.293	.096	5.875	***	Accepted
HA ← TV	-.016	-.010	.130	-.124	.901	Rejected
HA ← KV	.172	.130	.074	2.307	.021	Accepted
HA ← NT	.365	.223	.131	2.793	.005	Accepted
CH ← TT	.135	.083	.063	2.121	.034	Accepted

	Unstandardized Estimate	Standardized Estimate	S.E.	C.R.	P	
CH ← BB	.190	.107	.079	2.392	.017	Accepted
CH ← GD	.174	.085	.088	1.979	.048	Accepted
CH ← TV	.339	.197	.117	2.891	.004	Accepted
CH ← KV	.140	.100	.067	2.097	.036	Accepted
CH ← NT	.289	.167	.118	2.444	.015	Accepted
CH ← HA	.378	.357	.051	7.352	***	Accepted
HV ← HA	.228	.238	.061	3.723	***	Accepted
HV ← CH	.268	.296	.058	4.657	***	Accepted

The path analysis reveals that most hypothesized relationships are statistically significant. Various factors contribute significantly to the variance in Career Image (HA), Employment Opportunity Belief (CH), and ultimately, Major Selection (HV). Notably, the relationship between School-based Career Guidance and Counseling (TV) and Career Image (HA) was found to be non-significant, suggesting that career counseling within the school environment may not directly shape students' perceptions of career images in this specific context.

Table 3: Regression Weights for Mediating Relationships

	Standardized Regression Coefficient	P
TT → HA → CH	0.089	0.000
TT → HA → CH → HV	0.089	0.000
TT → HA → HV	0.059	0.001
TT → CH → HV	0.024	0.091
BB → HA → CH	0.071	0.000
BB → HA → CH → HV	0.071	0.000
BB → HA → HV	0.047	0.001
BB → CH → HV	0.032	0.017
GD → HA → CH	0.105	0.001

	Standardized Regression Coefficient	P
GD → HA → CH → HV	0.105	0.000
GD → HA → HV	0.070	0.001
GD → CH → HV	0.025	0.040
TV → HA → CH	-0.004	0.899
TV → HA → CH → HV	-0.004	0.891
TV → HA → HV	-0.002	0.890
TV → CH → HV	0.058	0.008
KV → HA → CH	0.047	0.027
KV → HA → CH → HV	0.047	0.018
KV → HA → HV	0.031	0.025
KV → CH → HV	0.030	0.034
NT → HA → CH	0.080	0.013
NT → HA → CH → HV	0.080	0.008
NT → HA → HV	0.053	0.010
NT → CH → HV	0.050	0.033
HA → CH → HV	0.106	0.000

The mediation analysis confirms that most indirect relationships within the model are statistically significant. The most prominent mediating path identified is Family Orientation (GD) → Career Image (HA) → Employment Opportunity Belief (CH) → Major Selection (HV). Conversely, the path TV → HA → CH → HV did not reach statistical significance ($p = 0.891$), indicating that Career Image does not function as a mediator for School-based Career Guidance and Counseling. In terms of explanatory power, the SEM results indicate that the independent variables account for 43% of the variance in Career Image, 59.3% in Employment Opportunity Belief, and 23.6% in Major Selection. These findings underscore the pivotal mediating roles of Career Image and Employment Opportunity Belief, with Family Orientation emerging as the

most influential indirect driver of students' decision-making processes regarding their choice of academic major.

5. Conclusion

The study clarifies the mechanism through which six key factors: Media Information Accessibility, Peer Roles, Family Orientation, School-based career counseling and guidance activities, Career outcome expectations, and Self-efficacy affect students' major selection behavior. It also confirms that Career Image and Employment Opportunity Belief are not only directly influenced by these factors but also serve as mediators that transmit and amplify their effects on the final behavior. The results from the Structural Equation Modeling (SEM) analysis indicate that most proposed hypotheses are supported, with the two mediating variables playing a crucial role in shaping and reinforcing students' major selection behavior.

From a theoretical perspective, the study extends the application of frameworks such as SCCT, EVT, TPB, and TAM in the context of career orientation, while integrating cognitive and social environmental factors to develop a multidimensional research model. The successful validation of relationships through EFA, CFA, and SEM strengthens the theoretical foundation of major selection behavior and provides a valuable analytical framework for future studies.

From a practical perspective, the findings reveal that Media Information Accessibility, Peer Roles, Family Orientation, Career outcome expectations, and Self-efficacy all exert significant indirect effects on major selection behavior through the mediating roles of Career Image and Employment Opportunity Belief ($P < 0.05$). Among these, Family Orientation shows the strongest indirect effect ($\beta = 0.105$), highlighting its critical role in shaping students' perceptions and career decisions. In addition, Employment Opportunity Belief serve as a key mediator in the relationship between Career Image and major selection behavior ($\beta = 0.106$), suggesting that enhancing career image should be accompanied by strengthening students' confidence in actual job prospects. Notably, the results also indicate a distinct mechanism for School-based career counseling and guidance activities: this factor does not indirectly influence behavior through Career Image but primarily affects Employment Opportunity Belief directly ($\beta = 0.058$, $P = 0.008$), thereby promoting major selection behavior. This implies that career guidance programs should shift their focus from general information provision to emphasizing practical relevance and concrete career opportunities.

Based on these findings, several implications are proposed: (1) for independent variables such as Family Orientation, Media Information Accessibility, and Peer Roles, it is essential to provide consistent and positive guidance to help shape a clear Career Image; (2) for mediating variables, particularly Employment Opportunity Belief, efforts should focus on strengthening them through practical experiences, industry engagement, and transparent labor market information; and (3) for schools, career guidance activities should be redesigned toward an evidence-based approach that prioritizes enhancing students' career confidence rather than merely providing information. The coordinated implementation of these solutions is expected to improve awareness, strengthen confidence, and support students in making more appropriate major selection decisions.

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