



University of Hormozgan

# Iranian Journal of Educational Research

Print ISSN: 1735 - 563X    Online ISSN: 2980 - 874X

Homepage: <http://ijer.hormozgan.ac.ir>



Educational and Behavioral  
Research Center

## Validation of the Model of Drivers for Educational and Career Guidance for School Students (Case Study: Secondary Schools in Tehran Province)

Reza Shirzadi<sup>1</sup> , Fakhrodin Ahmadi<sup>2</sup> , Hamid Shafizadeh<sup>3</sup> 

1. PhD student, Department of Educational Management, Ga.C., Islamic Azad University, Garmsar, Iran

2. Department of Educational Management, Ga.C., Islamic Azad University, Garmsar, Iran

3. Department of Educational Management, Ga.C., Islamic Azad University, Garmsar, Iran

### Article Info

### ABSTRACT

**Article type:**

Research Article

**Article history:**

Received 23 Aug. 2025

Received in revised form 14

Sep. 2025

Accepted 19 Oct. 2025

Published online 01 Mar. 2026

**Keywords:**

Model validation,  
Academic guidance drivers,  
Career guidance drivers,  
Secondary schools,  
Education system

**Objective:** This study aimed to identify and validate a model of key drivers of academic and career guidance among secondary school students in Tehran Province, providing a scientific framework to improve guidance policies and programs within the education system.

**Methods:** This applied study employed a mixed-methods (qualitative–quantitative) design. In the qualitative phase, data were collected through document analysis and semi-structured interviews with 24 university experts and Ministry of Education specialists selected via snowball sampling until theoretical saturation was reached.

In the quantitative phase, the population included principals, vice-principals, and academic counselors of upper secondary schools in Tehran Province ( $N = 1,120$ ). Using Cochran's formula, 286 participants were selected through proportional stratified random sampling. Data were gathered using a researcher-developed questionnaire and analyzed through confirmatory factor analysis (CFA).

**Results:** Qualitative analysis identified 5 overarching themes, 16 organizing themes, and 74 basic themes underlying the academic and career guidance drivers' model, including individual, environmental, human, structural, and curriculum-related empowerment factors. CFA results confirmed the statistical significance of all model components, and model fit indices demonstrated satisfactory validity.

**Conclusions:** The findings suggest that revising policies, curriculum content, educational resources, and assessment methods can enhance students' awareness of academic fields and related careers, supporting more informed academic and career decision-making.

**Cite this article:** Shirzadi, R., Ahmadi, F. & Shafizadeh, H. (2026). Validation of the model of drivers for educational and career guidance for school students (case study: secondary schools in Tehran province). *Iranian Journal of Educational Research*, 5 (1), 1-20.

. DOI: <https://doi.org/10.22034/5.1.1>



© The Author(s).

DOI: <https://doi.org/10.22034/5.1.1>

Publisher: University of Hormozgan.

## Introduction

Education can be considered one of the most significant events in an individual's life, as it provides the foundation for personal growth and professional development. Accordingly, education has long been a central focus of psychologists, counselors, and educational policymakers (Dorman et al., 2022). However, transformations in industrial and economic indicators within the context of the globalized world have created major challenges in facilitating students' transition from school to the world of work. Given that education constitutes the core driver of national economic growth and development, a considerable number of students remain uncertain about which career paths to pursue after completing secondary education (Njiru, 2016; Hagberg et al., 2019). Decision-making regarding academic and career pathways is among the most difficult tasks students face upon leaving school, and future individual and social roles and expectations are profoundly shaped by these decisions (Igbore & Akinlosotu, 2016).

Academic and career guidance, as a fundamental pillar in the development of human capital, plays a pivotal role in enabling students' successful transition from formal education to higher education and the labor market (Mehram et al., 2021). Guiding students in selecting academic fields, identifying essential skills, determining the level of academic effort required, and exploring suitable occupations has long-term and enduring impacts on their academic achievement as well as on broader social and economic development (Wong & Yuen, 2019). Consequently, educational systems worldwide have prioritized the development of academic and career readiness standards aimed at challenging existing learning structures and aligning school curricula with preparation for university education and employment in the 21st century (Park, Desimone, & Parsons, 2020).

Official statistics indicate that most newly created jobs in the United States by 2018 required a university degree, positioning higher education as a gateway to economic security and social mobility (Torpey & Watson, 2014). Nevertheless, adolescents often lack sufficient information and capacity to effectively navigate complex academic and career choices (Wong & Yuen, 2019), underscoring the need for student empowerment as a prerequisite for future readiness.

Each educational stage possesses distinct characteristics; among them, secondary education is particularly critical, as students are required to make some of the earliest and most consequential decisions of their lives—choices that can shape future academic and life success. During this period, students must select academic tracks that ultimately influence occupational opportunities.

Such decisions are more likely to be realistic and effective when aligned with students' abilities, talents, skills, aptitudes, intelligence, and competencies (Ghoosh, 2021). Although the selection of an educational program constitutes the first step toward career choice, globalization has rendered this process increasingly complex. In modern societies, individuals are afforded greater autonomy in shaping their futures and career trajectories (Aksuzoglu, 2016). Research indicates that secondary school students report significant anxiety regarding academic and career planning, and that teachers and counselors play a crucial role in alleviating these concerns through effective guidance and counseling services (Al-Sofani & Abulsaud, 2020).

Guidance and counseling occupy a unique and indispensable role in personal and social development, serving as a driving force throughout the human lifespan (Ziegler & Opdenakker, 2018). All members of society require guidance and education to achieve growth and self-actualization, and students—at the core of the educational system—require continuous guidance to adapt to ongoing societal transformations (Plant, 2010). Haug (2019) emphasizes that investing in human resource training for academic guidance is not merely desirable but essential, warranting dedicated educational resources. In higher education contexts, the use of big data technologies to enhance academic guidance has become an integral component of talent development initiatives in colleges and universities (Liang, Di, & Zheng, 2024).

In Iran, the history of school-based guidance and counseling dates back to November 1964 with the establishment of programs aimed at identifying students' talents and interests to support academic and occupational decision-making (Hosseini Birjandi, 2018). Subsequent policy developments, including the Comprehensive Education System Act (1988), explicitly emphasized academic and career guidance based on students' abilities, interests, effort, and societal needs (Safi, 2015). The implementation of the 3–3–6 educational system and the National Curriculum Framework further institutionalized academic guidance, assigning formal responsibilities to school counselors (Executive Guidelines for Academic Guidance, 2017).

Despite these efforts, academic track selection remains a critical challenge. Recent reforms to the academic guidance system, particularly those implemented at the ninth-grade level, have faced substantial criticism from students and parents due to perceived inequities and inconsistencies in assessment criteria. Moreover, labor market data indicate persistent graduate unemployment, including among highly educated individuals, suggesting a misalignment between educational

pathways and employment opportunities. Statistics from the Statistical Center of Iran (2023) reveal that 39% of the unemployed population consists of higher education graduates, with notable disparities across academic fields and demographic groups.

These findings highlight systemic shortcomings in academic and career guidance during secondary education, particularly in aligning students' interests, abilities, and labor market demands. Although prior studies have proposed models for academic guidance at the lower secondary level, there remains a critical lack of validated frameworks for upper secondary education, especially at Grade 12. Consequently, many students make academic choices based on limited guidance from counselors or family members, often realizing the limited occupational prospects of their chosen fields only after entering higher education.

At the national level, while policy documents such as the Fundamental Transformation Document of Education emphasize the importance of academic guidance (Ministry of Education, 2018), most existing studies focus on descriptive analyses or the evaluation of isolated programs. A comprehensive, context-sensitive model that simultaneously identifies and validates the key cognitive, familial, and institutional drivers of academic and career guidance within upper secondary schools in Tehran Province has yet to be systematically developed. Given Tehran's central role as the educational and economic hub of Iran, such a model is critically needed.

Accordingly, the present study seeks to address this gap by answering the following research question: What is the model of academic and career guidance drivers among upper secondary school students, and how valid is this model?

## **Material and Methods**

This study was applied in terms of purpose and employed an exploratory mixed-methods design (qualitative and quantitative). In terms of implementation, thematic analysis was used in the qualitative phase, followed by a cross-sectional survey design in the quantitative phase. Participants in the study comprised two groups: (1) university faculty members holding a PhD in educational sciences with at least five years of academic experience and a minimum of two scholarly outputs (e.g., journal articles, books, or funded research projects) in the field of academic and career guidance; and (2) educational administrators and counselors employed by the Ministry

of Education, holding at least a master's degree, with a minimum of 15 years of professional experience and executive responsibilities in academic and career guidance for students.

Qualitative participants were selected through purposive sampling using the snowball technique. Initially, experts were identified and approved by the research supervisor based on their research background and professional experience. Semi-structured interviews were conducted with 24 experts until theoretical saturation was achieved. Interviews were conducted face-to-face, lasting between 30 and 60 minutes. All interviews were transcribed verbatim and imported into MAXQDA software for analysis.

In the qualitative phase, both library-based (document analysis) and field methods were employed. The library method was used to review theoretical foundations and prior research, followed by field data collection through semi-structured interviews based on a predefined interview protocol. In the quantitative phase, the statistical population consisted of all principals, vice-principals, and academic counselors of upper secondary schools in Tehran Province ( $N = 1,120$ ). The sample size was calculated using Cochran's formula ( $n = 286$ ), and participants were selected through proportional stratified random sampling. Data were collected using a researcher-developed questionnaire comprising 74 items, 16 components, and 5 dimensions, rated on a 7-point Likert scale.

To enhance the trustworthiness of qualitative findings, Lincoln and Guba's triangulation framework was employed, addressing credibility, dependability, confirmability, and transferability. Data triangulation was achieved through the use of multiple data sources, methods, researchers, and theoretical perspectives. Credibility was ensured by maximum variation sampling and continued data collection until saturation. Internal validity was supported through face validity assessment. Peer review by an external auditor enhanced confirmability, while detailed contextual descriptions and rich participant quotations supported transferability.

In the quantitative phase, content validity was assessed using the Content Validity Ratio (CVR). All CVR values exceeded 0.70 and were above Lawshe's acceptable threshold (0.42), indicating adequate content validity. Reliability was evaluated using Cronbach's alpha, with all coefficients exceeding 0.70, confirming acceptable internal consistency.

**Table 1.** Content Validity and Reliability Coefficients of Questionnaire Components

| Components                                       | CVR   | Cronbach's $\alpha$ | Components   | CVR   | Cronbach's $\alpha$ |
|--|-------|---------------------|--|-------|---------------------|
| Aptitude and Capacity                            | 0.749 | 0.843               | Counselors' Knowledge and Skills                             | 0.748 | 0.897               |
| Academic and Career Orientations                 | 0.788 | 0.900               | Review of Academic Guidance Programs                         | 0.895 | 0.925               |
| Personal and Career Experiences and Expectations | 0.826 | 0.926               | Revision of Career Awareness Programs                        | 0.907 | 0.945               |
| Cultural Attitudes Toward Occupations            | 0.759 | 0.850               | Use of Up-to-Date Information and Communication Technologies | 0.830 | 0.910               |
| Family Background                                | 0.805 | 0.917               | Effective Use of Assessment Criteria and Instruments         | 0.845 | 0.931               |
| Labor Market Conditions                          | 0.867 | 0.924               | Redesign of Policies and Objectives                          | 0.851 | 0.924               |
| Increasing Parents' Awareness and Understanding  | 0.796 | 0.916               | Revision of Content and Educational Resources                | 0.844 | 0.911               |
| Teachers' Knowledge and Competencies             | 0.703 | 0.876               | Changes in Assessment Methods                                | 0.790 | 0.896               |

Qualitative data were analyzed using theoretical coding (open, axial, and selective coding) within a thematic analysis framework. The coding process was conducted in four stages using MAXQDA (version 24.4). Quantitative data were analyzed using confirmatory factor analysis (CFA), with statistical analyses performed using SPSS (version 24) and LISREL software.

## Results

The results of the qualitative coding process led to the identification of 5 overarching themes, 16 organizing themes, and 74 basic themes as the key drivers of academic and career guidance among students. These findings are presented in Table 2.

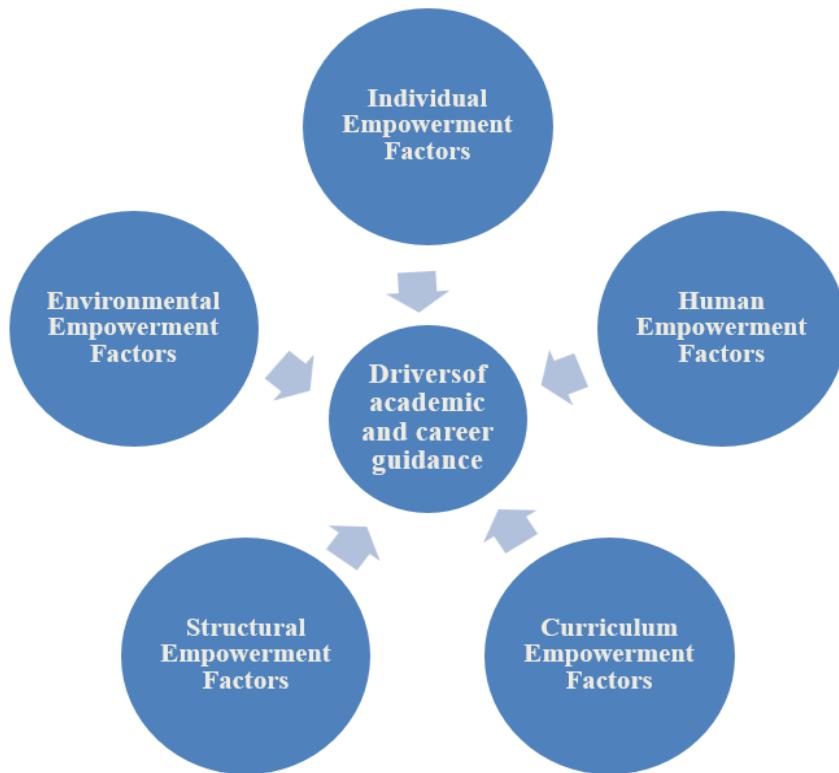
**Table 2.** Final Themes Derived from Review, Refinement, and Thematic Analysis

| Overarching Themes                | Organizing Themes                                | Basic Themes   |
|-----------------------------------|--|--|
| Individual Empowerment Factors    | Aptitude and Capacity                            | 1. Students' awareness of cognitive and analytical abilities (self-awareness)<br>2. Belief in innate talents<br>3. Development of latent cognitive abilities<br>4. Perseverance and effort<br>5. Personal traits such as resilience and self-confidence  |
|                                   | Academic and Career Orientations                 | 6. Accurate understanding of personal identity and analytical skills<br>7. Recognition of personal potential to map career paths<br>8. Acquiring information about professional work environments<br>9. Self-efficacy and confidence in future academic and career prospects<br>10. Alignment of career choice with personal interests and lifestyle |
|                                   | Personal and Career Experiences and Expectations | 11. Viewing occupations as stable income sources<br>12. Gaining work experience through part-time jobs<br>13. Internship and apprenticeship experiences<br>14. Voluntary work to understand job nature and acquire skills  |
| Environmental Empowerment Factors | Cultural Attitudes Toward Occupations            | 15. Effective role of mass media in promoting academic and career guidance culture<br>16. Adoption of supportive policies to foster positive occupational culture  |

|                                |  |  |
|--------------------------------|--|--|
|                                |  | 17. Modifying parents' attitudes toward occupations to align student capacity with careers<br>18. Promoting the value of all occupations regardless of cultural bias<br>19. Parent orientation sessions to prevent imposing personal aspirations on students   |
|                                | Family Conditions                              | 20. Considering family economic status when choosing costly academic fields<br>21. Attention to resources required for launching desired occupations<br>22. Addressing family economic challenges through income-sustaining career choices<br>23. Balancing social prestige with individual capability<br>24. Eliminating traditional views toward career choice<br>25. Parents' tendency to encourage children to pursue similar professional careers     |
|                                | Labor Market                                   | 26. Connecting to the labor market through appropriate career pathways<br>27. Informed and autonomous choice within environmental constraints<br>28. Creating adequate employment infrastructures<br>29. Analyzing labor market factors such as income, promotion, and personal fulfillment  |
| Human Empowerment Factors      | Increasing Parents' Awareness                  | 30. Training parents to provide emotional support during career choice<br>31. Motivating families to nurture children's innate talents<br>32. Parents informing students about academic fields and related careers<br>33. Granting students autonomy in academic and career decision-making  |
|                                | Teachers' Knowledge and Competencies           | 34. Training teachers to provide accurate subject-related guidance<br>35. Developing teachers' practical skills in specialized subject areas<br>36. Utilizing teachers in academic track guidance  |
|                                | Counselors' Knowledge and Skills               | 37. Addressing weaknesses in student planning and guidance<br>38. Training and recruiting qualified career guidance specialists<br>39. Enhancing counselors' professional competencies<br>40. Systematic and individualized career planning for upper secondary students   |
| Structural Empowerment Factors | Review of Academic Guidance Programs           | 41. Student-centered academic guidance methods<br>42. Active and voluntary student participation in guidance processes<br>43. Effective parental involvement in academic and career experiences<br>44. Utilizing internal and external educational system capacities<br>45. Balanced distribution of students across academic tracks<br>46. Equitable access to guidance services  |
|                                | Revision of Career Awareness Programs          | 47. Aligning student characteristics with labor market needs<br>48. Providing information on future in-demand occupations<br>49. Hands-on occupational experiences for students<br>50. Professional supervision of students' work experiences<br>51. Commitment of stakeholders to career guidance processes<br>52. Balancing students' skills and interests in career choice<br>53. Strengthening links between industry, services, and secondary schools |
|                                | Use of Up-to-Date ICT                          | 54. Employing modern educational technologies for career guidance in underserved areas<br>55. Using counseling support systems to compensate for time constraints<br>56. Implementing virtual career education applications in schools<br>57. Strengthening software resources for academic and career counseling<br>58. Creating student capacity and interest databases  |
|                                | Effective Use of Assessment Criteria and Tools | 59. Identifying and providing accurate assessment instruments<br>60. Using valid tools to assess students' abilities and talents<br>61. Precise measurement of personality traits and mental/physical  |

|                                |                                     |  |
|--------------------------------|-------------------------------------|--|
|                                |                                     | capacities<br>62. Employing online career assessment tests<br>63. Revising scoring and selection approaches for academic tracks<br>64. Aligning interests, abilities, and talents in track selection<br>65. Increasing practical and skill-based coursework<br>66. Positioning upper secondary education as an exploratory stage |
| Curriculum Empowerment Factors | Redesign of Policies and Objectives | 67. Designing theoretical and practical courses related to guidance<br>68. Revising curricula to identify and stimulate talents and interests<br>69. Shifting from textbook-centered to field-oriented learning resources<br>70. Utilizing supplementary and non-textbook learning materials                                     |
|                                | Revision of Content and Resources   | 71. Integrating theoretical and practical assessment approaches<br>72. Prioritizing practical assessment outcomes<br>73. Preparing school stakeholders for implementing practical evaluations<br>74. Rigorous monitoring of skill-based, internship, and career exploration programs   |
|                                | Changes in Assessment Methods       |  |

The findings presented in Table 2 indicate that all identified themes were validated, resulting in a comprehensive model comprising 74 basic themes, 16 organizing themes, and 5 overarching themes, organized into major and sub-theme categories. The final thematic network of the model based on the overarching themes is illustrated in Figure 1.



**Figure 1.** Final model of key drivers of academic and career guidance for secondary school students

To validate the model, the Kolmogorov–Smirnov (K-S) test was first conducted to assess the normality of the data.

**Table 3.** Kolmogorov–Smirnov Test Results

| Overarching Theme                 | Significance Level | df  | Test Statistic | Conclusion |
|-----------------------------------|--------------------|-----|----------------|------------|
| Individual Empowerment Factors    | 0.408              | 284 | 8.061          | Normal     |
| Environmental Empowerment Factors | 0.092              | 284 | 11.75          | Normal     |
| Human Empowerment Factors         | 0.135              | 284 | 8.79           | Normal     |
| Structural Empowerment Factors    | 0.211              | 284 | 11.63          | Normal     |
| Curriculum Empowerment Factors    | 0.079              | 284 | 9.22           | Normal     |

As shown in Table 3, the significance values for all overarching themes were greater than 0.05, and the K-S statistics were higher than 1.96. Therefore, the distributions of all themes were normal, indicating that parametric tests could be appropriately applied for further analysis.

Subsequently, Confirmatory Factor Analysis (CFA) was conducted to generalize the results to the population and test the significance of relationships between observed and latent variables.

### **Confirmatory Factor Analysis Results by Overarching Theme**

#### **1. Individual Empowerment Factors**

Factor loadings and significance coefficients for the basic and organizing themes were all acceptable, indicating that observed variables adequately explained the latent variable. The factor loadings ( $\lambda$ ) and t-values were: Aptitude and Capacity → Individual Empowerment ( $\lambda = 0.93$ ,  $t = 16.03$ ), Interests and Preferences → Individual Empowerment ( $\lambda = 0.95$ ,  $t = 15.48$ ) and personal Experiences and Expectations → Individual Empowerment ( $\lambda = 0.96$ ,  $t = 18.68$ ). All observed variables had factor loadings above 0.4, and t-values were outside  $\pm 1.96$ , confirming significance.

#### **2. Environmental Empowerment Factors**

Factor loadings and significance levels were acceptable. Observed variables explained the latent construct effectively: Cultural Attitudes Toward Occupations → Environmental Empowerment ( $\lambda = 0.89$ ,  $t = 18.34$ ), Family Conditions → Environmental Empowerment ( $\lambda = 0.90$ ,  $t = 15.12$ ) and labor Market → Environmental Empowerment ( $\lambda = 0.95$ ,  $t = 18.45$ ). All loadings  $> 0.4$  and t-values significant at  $p < 0.05$ .

#### **3. Human Empowerment Factors**

Observed variables adequately explained latent constructs: Increasing Parental Awareness → Human Empowerment ( $\lambda = 0.93$ ,  $t = 13.34$ ), Teachers' Knowledge and Competencies → Human

Empowerment ( $\lambda = 0.91$ ,  $t = 18.47$ ) and counselors' Knowledge and Skills → Human Empowerment ( $\lambda = 0.94$ ,  $t = 15.37$ ). Factor loadings  $> 0.4$  and t-values significant.

#### 4. Structural Empowerment Factors

Factor loadings for organizing and basic themes were satisfactory: Reviewing Academic Guidance Programs → Structural Empowerment ( $\lambda = 0.90$ ,  $t = 17.11$ ), Revising Career Awareness Programs → Structural Empowerment ( $\lambda = 0.91$ ,  $t = 15.79$ ), Use of Up-to-Date ICT → Structural Empowerment ( $\lambda = 0.87$ ,  $t = 17.74$ ) and effective Use of Assessment Tools → Structural Empowerment ( $\lambda = 0.88$ ,  $t = 15.85$ ). All loadings  $> 0.4$  and t-values significant at  $p < 0.05$ .

#### 5. Curriculum Empowerment Factors

Observed variables successfully explained latent constructs: Redesigning Policies and Objectives → Curriculum Empowerment ( $\lambda = 0.92$ ,  $t = 15.11$ ), Revising Content and Resources → Curriculum Empowerment ( $\lambda = 0.90$ ,  $t = 18.60$ ) and changing Assessment Methods → Curriculum Empowerment ( $\lambda = 0.89$ ,  $t = 17.54$ ). All loadings  $> 0.4$  and t-values significant.

**Table 4.** Model Fit Indices for Key Drivers of Academic and Career Guidance

| Model Dimension           | $\chi^2$ | df  | $\chi^2/df$ | RMSEA | P-value | GFI  | AGFI | CFI  | IFI  |
|---------------------------|----------|-----|-------------|-------|---------|------|------|------|------|
| Individual Empowerment    | 666.04   | 224 | 2.97        | 0.068 | 0.000   | 0.92 | 0.90 | 0.96 | 0.94 |
| Environmental Empowerment | 652.81   | 227 | 2.88        | 0.051 | 0.000   | 0.92 | 0.91 | 0.95 | 0.94 |
| Human Empowerment         | 262.51   | 91  | 2.88        | 0.038 | 0.000   | 0.91 | 0.90 | 0.95 | 0.93 |
| Structural Empowerment    | 883.39   | 305 | 2.90        | 0.038 | 0.000   | 0.93 | 0.92 | 0.96 | 0.94 |
| Curriculum Empowerment    | 270.57   | 92  | 2.94        | 0.023 | 0.000   | 0.91 | 0.90 | 0.94 | 0.93 |

As shown in Table 4, after removing covariance errors, all models demonstrated good fit. The  $\chi^2/df$  ratio for all overarching themes was below 3, RMSEA values were below 0.08, and other indices (GFI, AGFI, CFI, IFI) were above 0.90, confirming the adequacy of the model.

Overall, the final model of key drivers of academic and career guidance for upper secondary students comprised 74 basic themes, 16 organizing themes, and 5 overarching themes. CFA results confirmed all factor loadings and significance coefficients were within acceptable ranges, establishing the validity of the model.

**Individual Empowerment:** 3 organizing themes (Aptitude & Capacity, Interests & Preferences, Personal Experiences) with 14 basic themes

**Environmental Empowerment:** 3 organizing themes (Cultural Attitudes, Family Conditions, Labor Market) with 15 basic themes

**Human Empowerment:** 3 organizing themes (Parental Awareness, Teachers' Competence, Counselors' Skills) with 11 basic themes

**Structural Empowerment:** 4 organizing themes (Review Programs, Career Awareness, ICT, Assessment Tools) with 22 basic themes

**Curriculum Empowerment:** 3 organizing themes (Policies & Objectives, Content & Resources, Assessment Methods) with 12 basic themes

## Discussion

In this study, the researcher aimed to identify the drivers of academic and career guidance among high school students. Based on the analysis, 74 basic themes, 16 organizing themes, and 5 overarching themes were identified. The overarching themes, termed as general drivers of academic and career guidance, include individual enablers, environmental enablers, human enablers, structural enablers, and curriculum enablers. The findings of the present study have been extensively interpreted and analyzed as follows:

The interpretation of the results indicates that the academic guidance process for students in Tehran is influenced by a complex network of conflicting forces, organized into five main categories. Environmental and human enablers (family pressure and poor quality of counseling) exert the strongest inhibiting effects, as cultural expectations and lack of access to reliable information undermine students' ability to realistically assess their options. This situation reinforces negative individual enablers, such that fear of failure based on external standards overshadows choices aligned with genuine interests and abilities. Consequently, the existing academic guidance model in Tehran province, rather than relying on individual empowerment, is largely dominated by structural and curricular constraints that lack sufficient alignment with labor market needs and cultural dynamics. To improve this process, interventions should simultaneously focus on enhancing the quality of counseling services (human enablers), revising educational content to provide accurate career information (structural and curriculum enablers), and educating parents and students to reduce reliance solely on occupational stereotypes (reducing environmental pressure), thereby aligning educational outcomes with human development and economic needs. The interpretation of the overarching theme of environmental enablers (including 15 basic themes organized into three organizing themes: reforming cultural perspectives on occupations, family

circumstances, and labor market conditions) shows that the social and economic environment surrounding students acts as a strict and limiting filter on potential choices. This theme indicates that even if a student is individually self-aware (basic theme 1), environmental factors guide or restrict choices in three fundamental ways:

**Cultural and social perspective:** The presence of occupational stereotypes and hierarchies (theme: reforming cultural perspective) prevents certain paths (e.g., technical or artistic careers) from being prioritized, even when they align with individual talents.

**Family influence:** Family expectations (theme: family circumstances) serve as a major source of environmental pressure, often steering educational choices toward safe or socially approved paths, which may not necessarily match labor market realities.

**External reality (labor market):** Students face a lack of reliable information about future careers (theme: labor market), which leads to conservative and often unrealistic choices.

In summary, this theme confirms that in Tehran, the social and cultural environment is the main deficiency in the academic guidance process, and its role in shaping expectations and limiting the range of imaginable options for students is far more significant than mere individual empowerment.

Regarding the consistency of the study findings with prior research, it can be stated that family pressure, socio-economic status, and labor market conditions are key factors in field-of-study selection. Rahimi et al. (2020) identified family pressure and social expectations as obstacles to choosing a field of study. Kazemi and Nourbakhsh (2021) concluded that family economic status and expectations toward stable fields (such as medicine or engineering) were influential. Bouchard et al. (2021) indicated that labor market conditions and job opportunities are primary factors in field selection. Furthermore, Huang and Li (2022) demonstrated that field selection in public universities in Iran and the U.S. is influenced by economic and social factors.

Interpretation of the overarching theme of human enablers (including 11 basic themes organized into three organizing themes: increasing parental awareness, teacher knowledge, and counselor knowledge and skills) emphasizes the importance of the quality and effectiveness of key actors in the academic guidance network. This theme indicates that the career guidance process relies less on the student's individual capacity and more on the quality of human interactions that shape their surrounding environment:

**Counselors as catalysts:** The skills and knowledge of counselors show that, although they play a critical role, in this sample there are likely shortcomings in specialized tools, up-to-date counseling knowledge, or the ability to establish deep connections with students (which could activate individual enablers).

**The dual role of parents:** Increasing parental awareness indicates that much of the challenges stem from parental ignorance or misdirection. This area represents a key entry point for intervention, as parental knowledge directly affects environmental expectations.

**Supportive role of teachers:** Teacher knowledge and competencies confirm that teachers, as the first mentors after the family, should have the ability to provide early identification and guidance for students, yet limitations in this area increase the counseling burden.

Interpretation of the overarching theme of structural enablers (including 22 basic themes organized into four organizing themes: revising the academic guidance program, reforming occupational familiarity programs, utilizing technology, and assessment criteria) indicates that the educational system in Tehran is structurally and organizationally failing and requires fundamental reforms. This theme shows that the academic guidance process, instead of being a dynamic, information-based system, currently faces structural barriers:

**Revising the academic guidance program:** The existence of inefficient or inappropriate programs indicates that the current system cannot adequately meet individual or labor market needs.

**Occupational familiarity:** The need to reform occupational familiarity programs clearly shows that students have insufficient or irrelevant information about career options, hindering informed decision-making.

**Technology:** The use of up-to-date information technology shows that digital resources (such as informational platforms or online assessments) are not fully utilized, and the system misses opportunities for technological improvement.

**Assessment and evaluation:** Ineffective assessment criteria and tools indicate that evaluating choices and the effectiveness of the guidance process, from a systemic perspective, is unclear and unstandardized.

In summary, this theme shows that structural deficiencies are the main barrier to creating an effective academic guidance process in Tehran. Reforming these structures is not merely

supplementary but foundational for strengthening other enablers (individual, environmental, and human). Regarding consistency with previous research, it can be stated that Mohammadi et al. (2020) showed that the academic guidance system in Iranian schools is inefficient. Additionally, Kazemi et al. (2022) demonstrated that technology is not fully utilized in academic guidance. Johnson and Lee (2022) indicated that guidance systems in U.S. schools also require reform, and Brown et al. (2021) showed that assessment systems in academic guidance in Canada are inefficient.

Finally, based on the results of this study and considering its limitations, the following recommendations are proposed for the practical implementation of the model of drivers of academic and career guidance, in order to assist educational authorities, policymakers, and students:

Regarding the overarching theme of individual enablers, it is recommended that the Tehran Department of Education create a personal profile for each student to identify their talents and abilities and update it annually. This profile would serve as a foundation for students' field-of-study and career choices. Students should attend workshops and various companies—either systematically through the school or voluntarily—to learn about different occupations and record their experiences in their personal profiles in collaboration with school counselors.

Regarding the overarching theme of environmental enablers, it is recommended that the Ministry of Education, in collaboration with national media (IRIB), the Ministry of Culture and Islamic Guidance, and other relevant institutions, produce films, documentaries, and other media to reform perspectives on fields of study and occupations. The societal need for all fields should be clearly explained so that students and parents can make informed and relaxed choices.

Regarding the overarching theme of human enablers, it is recommended that families should actively seek knowledge about academic and career fields through reading and consulting guidance centers and provide advice to their children when needed. Appropriate training programs should also be organized for both teachers and counselors so that they can accurately convey their knowledge and information about fields of study to students.

Regarding the overarching theme of structural enablers, it is recommended that the Tehran Department of Education purchase updated software to allow the creation of comprehensive personal profiles for students that record all their capacities. Additionally, through global

applications, students should receive daily or weekly information related to occupations and fields of study to enhance their understanding.

Regarding the overarching theme of curriculum enablers, it is recommended that the Ministry of Education, in consultation with the Supreme Council of the Cultural Revolution and other relevant authorities, revise and update the overarching policies and objectives of the academic and career guidance system. Educational resources and curriculum content should be aligned with these policies to increase familiarity with fields of study and occupations. Assessment methods for guidance programs should be revised, and precise tools should be used to evaluate students' talents and interests.

#### **Data availability statement**

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

#### **Ethics statement**

The studies involving human participants were reviewed and approved by the ethics committee of Islamic Azad University. The patients/participants provided their written informed consent to participate in this study.

#### **Author contributions**

All authors contributed to the study conception and design, material preparation, data collection, and analysis. All authors contributed to the article and approved the submitted version.

#### **Funding**

The authors did (not) receive support from any organization for the submitted work.

#### **Conflict of interest**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## References

Abedini, Y. (2011). Predicting high school students' academic achievement based on self-efficacy beliefs, socio-economic status, and field of study. *Contemporary Psychology*, 2, 27–70.

Bouchard, C., et al. (2021). *Labour Market Demand and High School Course Selection Trends in Western Economies*.

Dohrmann E., Porche M. V., Ijadi-Maghsoodi R., Kataoka S. H. (2022). Racial disparities in the education system: opportunities for justice in schools. *Child and Adolescent Psychiatric Clinics of North America*, 31(2): 193-209.

Ehigbor, B. O., & Akinlosotu, T. N. (2016). Parents' occupation as correlate of students' career aspiration in Public Secondary Schools in Ekpoma Metropolis. *AFRREV IJAH: An International Journal of Arts and Humanities*, 5, (3), 197-212.

ElAdl, A. M. (2024). Differences in the Effectiveness of Guidance and Attitudes towards Learning, Studying, and Academic Achievement According to the Guidance Method. *Port Said Journal of Educational Research (PSJER)*, 3(20), 67-82.

Elmi, A., Panji, S., & Abdollahi, D. (2017). Pathology of academic guidance and prioritization of its factors in 10th-grade students. In *Proceedings of the First National Conference on New Research in Iran and the World in Psychology, Educational Sciences, Law, and Social Sciences*, Shushtar, Iran: Applied Science University of Shushtar.

El-Sofany H.F., Abou El-Seoud S. (2020). The implementation of career and educational guidance system (CEGS) as a cloud service. *International Journal of Emerging Technologies in Learning*, 15(20): 226-240.

Ghosh S. (2021). An introduction on educational guidance. *Galaxy International Interdisciplinary Research Journal*, 9(11): 133-139.

*Guidance*.

Haghani Zamidani, M., Kalantar Hormozi, A., Zare' Bahram Abadi, M., & Salimi Bejestani, H. (2022). Identifying strategies for planning the career growth process of students. *Research in Educational Systems*, 16(58), 114–128.

Haug, E. H. (2019). Nordic Research on Educational and Vocational Guidance: A Systematic Literature Review of Thematic Features between 2003 and 2016, *International Journal for Educational and Vocational Guidance*, 19(2): 185-202.

Hogberg B., Strandh M., Petersen S., Johansson K. (2019). Education system stratification and health complaints among school-aged children. *Social Science & Medicine*, 220: 159-166.

Hoque, j. (2020). Vocational Interests of secondary school of student in relation to their level of aspiration. *International Journal of Research in Social Sciences*, 8(4), 793-803.

Hosseini Birjandi, S. M. (2018). *Academic guidance and counseling* (New edition). Tehran: Roshd Publications.

Hrisyov, N. B. & Kostadinov, A. S. (2022). Effect of Guidance and Counseling on the Students' Academic Performance in Bulgaria. *Stratford Peer Reviewed Journals and Book Publishing Journal of Education*, 5(3), 16-26.

Huang, Y., & Li, X. (2022). *Cross-Cultural Comparison of Socioeconomic Status Impact on Educational Trajectories*.

Katajisto, M., Wenström, S., & Uusiautti, S. (2022). Positive Hustle to Student Guidance: Student Counselors' Perceptions of Implementing a New Strengths-Based Student Guidance Method. *International Journal of Innovation and Research in Educational Sciences*, 9(2), 111-125.

Kudrinskaia, I. V., Kidinov, A. V., Kabkova, E. P., Mechkovskaya, O. A., Mudrak, S. A., Novikov, S. B., & Agadzhanova, E. R. (2020). The problem of career guidance of the youth in domestic pedagogical theory and practice. *Eurasia J Biosci*, 14, 3815-3821.

Lent, R. W., et al. (2020). Applying the Social Cognitive Career Theory to Modern Career Development Processes. *Journal of Career Assessment*, 28(1), 45–62.

Liang, R., Pargudtong, P., Dechhome, P., & Sutheeniran, N., (2023). Research on the Development of Academic Guidance Ability of University Advisors in Guangxi. *International Journal of Sociologies and Anthropologies Science Reviews (IJSASR)*, 3 (4), 289-302.

Liang, Y., Di, K., Zheng, Z., (2024). Research on Accurate Academic Guidance of College Students Based on Big Data Portrait Analysis. Proceedings of the 2023 International Conference on Information Education and Artificial Intelligence, 300-305.

Liu, Y., & Qu, Y. (2023). Discussion on the Academic Guidance Strategy Based on the Students' Personalities under the Undergraduate Tutor System. 8th Annual International Conference on Social Science and Contemporary Humanity Development (SSCHD2022), 152.

Lumbantobing, R., Simbolon, E. T., Arif Panjaitan, A. P., Firmando, H. B., Simbolon. J. W. (2023). Implementation of Quality Academic Guidance Services Based on Lokal Wisdom. *Journal of Namibian Studies: History Politics Culture*, 33, 1849–1859.

Majjate, H., Bellarhmouch, Y., Jeghal, A., Yahyaouy, A., Tairi, H., Zidani, K.A. (2024). AI-Powered Academic Guidance and Counseling System Based on Student Profile and Interests. *Appl. Syst. Innov*, 7, 6.

Malekiha, M., & Mo'tamed, B. (2021). Effectiveness of career path counseling based on cognitive information processing approach on reducing career indecision in female high school students. *Psychological Research in Management*, 7(2), 43–67.

Manbari, M., Pooshneh, K., & Khosravi Babadi, A. A. (2022). Identifying factors influencing the academic guidance system to provide a strategic model. *Quarterly Journal of Leadership and Educational Management*, 4(16), 122–146.

Meremikwu, A. N., Ibok, E. E., Adie, E. B., Inah, I. I., Tawo, C. N., Okri J. A. (2022). Guidance Services as Predictors of Students Academic Achievement in Mathematics in Eket Education Zone Akwa Ibom State, Nigeria. *International Journal of Research and Innovation in Applied Science (IJRIAS)*, 7(10), 50-54.

Nazari Nia, M., Safarnavadeh, M., Shafiei, N., & Esmaeilzadeh, Z. (2022). Identifying indicators, components, and dimensions of academic guidance for first-year middle school students. *Family and Health*, 12(Special Issue: Adolescents), 154–169.

Nazarinia, M. Safarnavadeh, M. Shafiei, N. Esmaeilzadeh, Z. (2022). Designing A Model of Educational Guidance for the First Period of Secondary School Students (Tehran City Case Study). *Iranian Evolutionary Educational Psychology Journal*, 4(4): 232-242.

Njeru, D. N. (2016). *An Application of Career Path Decision Making Among High School Students*. (Masters of Education Thesis, Strathmore University, Nairobi, Kenya). Retrieved From [Http://Su-Plus.Strathmore.Edu/Handle/11071/4824](http://Su-Plus.Strathmore.Edu/Handle/11071/4824).

Oksuzoglu M. (2016). Practice of academic guidance at high school level: A longitudinal case study. *Journal of Research in Educational Sciences*, 12(9): 30-39.

Okwulehie, M. Eremie, C. (2018). Factors Affecting Career Choice among Senior Secondary School Students in Obio/Akpor Local Government Area of Rivers State (Implication to Counselling).

Park, K., Desimone, L. M., & Parsons, A. (2020). An integrative approach to professional development to support college- and career- readiness standards. *Education Policy Analysis Archives*, 28(111), 1-27.

Plant, P. (2010). Career Guidance in Vocational Education and Training and in the Workplace. *International Encyclopedia of Education* (Third Edition), 269-274.

Rahimi, B., Hakimzadeh, R., Javadipour, M., Salehi, K., & Khademi Kolahlu, M. (2021). A comparative study of career guidance curricula to provide recommendations for the Iranian education system. *Innovations in Education*, 80(20), 209–244.

Razavi Zadeh, N., & Varshavi, S. (2022). Exploring the challenges and obstacles of the academic guidance process for first-year middle school students. *Educational and School Studies*, 11(3), 405–435.

Rezaei Madani, M., Kalantar Hormozi, A., & Naeimi, E. (2019). Examining the modern academic guidance process from the perspective of school counselors. *Culture of Counseling and Psychotherapy*, 10(39), 27–48.

Safi, A. (2015). *Principles and techniques of guidance and counseling in educational stages*. Tehran: Roshd Publications.

Salari, Y., Eslam Panah, M., Laei, S., & Mousavi, F. (2022). Modeling factors affecting students' academic guidance based on the Fundamental Transformation Document of the Iranian education system. *Journal of Educational Development of Jundishapur Ahvaz*, 13(0), 29–44.

Salari, Y., Eslam Panah, M., Laei, S., & Mousavi, F. (2023). Designing and validating an academic guidance model. *Teaching Research*, 11(4), 142–169.

shaheen, S., Iqbal, M., Naqeeb, M. K. S. (2023). Impact Of Guidance and Counseling Services on Students' Development at The University Level .*Journal of Positive School Psychology*, 7(2), 812-827.

Smith, J., & Jones, K. (2022). Parental Knowledge and Efficacy in Guiding Adolescent Educational Choices. *Guidance and Counseling Review*, 15(3), 112–129.

Tajri, T., & Javan Neshan, M. (2020). Identifying components and indicators of the new academic guidance model: Application in the social welfare of students and families. *Social Welfare*, 20(76), 207–235.

Vajdani Hemmat, M., Salimi Bejestani, H., Kalantar Hormozi, A., & Farahbakhsh, K. (2021). Developing a comprehensive academic guidance model for students based on the developmental approach. *Cultural Psychology*, 5(1), 24–58.

Wang, L., et al. (2023). The Efficacy of School Counseling Programs in Facilitating Informed Career Decisions. *The Career Development Quarterly*, 71(2), 188–205.

Wen, X. (2024). Research on Academic Guidance Strategies for College Students from the Perspective of Metacognition Theory. *Region-Educational Research and Reviews*, 6(8).

Wong, L. P. W., & Yuen, M. T. (2019). Career guidance and counseling in secondary schools in Hong Kong: A historical overview. *Journal of Asia Pacific Counseling*, 9(1), 1-19.

Yazdanipour, M. (2024). The role and position of guidance and counseling in students' academic guidance and progress. *Studies in Psychology and Educational Sciences (Negareh Higher Education Institute)*, 69(26), 99–124.

Yazdankhou, S., Dehghani, M., & Salehi, K. (2022). Exploring experiences and strategies for effective academic and career guidance from the perspective of students and graduates of the University of Tehran: A phenomenological study. *Career and Organizational Counseling*, 14(4), 9–42.

Ziegler, N., & Opdenakker, M-Ch. (2018). The development of academic procrastination in first-year secondary education students: The link with metacognitive self-regulation, self-efficacy, and effort regulation, *Learning and Individual Differences*, 64: 71-82.