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Emigration Prospects, Gender-based Preferences, and the Choice of Major

Amela Zubovic ^{1*} and Katie Caves ¹

Abstract:

We explore how emigration prospects influence students' choice of university majors in a high-emigration setting. Using a discrete choice experiment in Bosnia and Herzegovina, we find that students prioritize salary prospects when choosing their major. Moreover, students—including those who do not intend to migrate—place significant weight on emigration prospects when choosing a major. This finding reveals how students factor emigration into their decisions, even if they do not plan to leave. Our analysis also shows that male and female students exhibit similar preferences, consistently valuing salary the most, followed by emigration prospects and job flexibility. While we observe some gender-based differences, they are less pronounced than those observed in similar experiments in low-emigration countries. We argue that, in a relatively less stable economic context, students' drive for financial stability and employability reshapes their education choices.

Keywords: University Major Choice, Emigration Prospects, Gender Preferences

JEL Codes: I26, J24, F22

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1 Introduction

Education decisions play a critical role in shaping individuals' career prospects and overall economic success. More years of education are linked to higher earnings and improved employment opportunities (Mincer, 1974; OECD, 2014). Students' choice of field of study is another key determinant for employment outcomes, which can vary significantly across disciplines (Altonji et al., 2016). Moreover, beyond education choices, many young people face an additional decision related to emigration (UNESCO, 2018). A growing literature examines how economic conditions, higher salary prospects abroad, and other factors—such as political instability, quality of life, career growth opportunities, and familial considerations—shape individuals' decisions to seek employment in foreign countries (e.g., Gibson & McKenzie, 2011; Lee, 1966).

In countries where many young individuals move abroad to improve their career prospects and economic success, education decisions take on additional complexity. Additionally, no study has yet fully examined whether men and women weigh emigration and other factors differently when planning their education and career trajectories. Explaining education choices related to emigration and gender is crucial for developing a nuanced understanding of how individuals in high-emigration countries make human capital formation decisions.

This study investigates the impact of emigration prospects on the choice of university major, with a specific focus on gender differences. Drawing on survey-based choice experiments conducted in a high-emigration country, we estimate both the relative importance of labor demand abroad and other attributes—such as salary, math-intensiveness, and work-family compatibility—for students' choice of university majors. Specifically, we employ a discrete choice experiment in which respondents must decide between two hypothetical majors, each described by a set of distinct attributes. As we assume that students generally choose majors that bring them higher utility, the experiment forces them to make trade-offs, and we observe both how they do so and how their choices vary by gender (e.g., Hall et al., 2004). By providing an experimental analysis of decision-making processes, this approach explains how global mobility opportunities intersect with gender to shape human capital development decisions.

We find that emigration prospects significantly influence the choice of major for students in high-emigration countries. Surprisingly, even students without emigration intentions consider employability abroad in their choice of major. This highlights the importance of context—students in a less stable situation prefer to keep their emigration options open, even if they do not necessarily want to leave their home country. We further find no difference by gender for this attribute on emigration prospects. Although salary remains the most influential factor for all students, both male and female students also consider the work-family compatibility for their choice of major. Nevertheless, our findings reveal clear gendered patterns: male students choose technical fields such as engineering and computer science, while female students exhibit a broader set of preferences. Female students are less likely to choose math-

intensive majors and place more emphasis on fields requiring compassion and social skills. Overall, this study demonstrates that emigration prospects, along with traditional factors such as salary, are critical in shaping education pathways in high-emigration settings.

We make four main contributions to different areas of research literature. First, we advance the literature on human capital investment decisions by showing how emigration shapes education choices in high-emigration countries. Second, we provide new insights into the literature on gender-specific preferences by showing how emigration influences men and women differently in their academic and career planning. Third, we build on a 2023 survey experiment in Switzerland (Combet, 2023)—a country with low emigration rates—that examined gender and choice of major. We extend this study by incorporating the element of emigration in a context where many students shape their educational choices based on emigration prospects. Fourth, we are the first to apply an experimental survey method—which enables us to disentangle the complex factors driving the choice of major—to research on the effect of emigration prospects on choice of major. Unlike other methods, our experimental approach isolates the causal impact of each factor—i.e., emigration, gender, and the attributes of the major itself—on individual decision-making. By capturing the roles of emigration and gender in education decision-making, this study offers a deeper scholarly understanding of the forces shaping education pathways in a globalized world.

2 Theory and Literature

This study draws upon several areas of research: those examining the effect of emigration on education, those examining the determinants of students' choice of university major, and those investigating the role of gender-based segregation in the selection of university majors.

2.1 Emigration Prospects and Education

Migrants' economic success in the destination country is heavily influenced by their level of education and how well their skills match the local labor market. Therefore, decisions about emigration intentions and education investments are interconnected (Dustmann & Glitz, 2011). Indeed, individual emigration decisions are often influenced by economic optimization, with financial considerations playing a crucial role (Borjas, 1989; Grogger & Hanson, 2011). At the same time, however, education is a primary determinant of wages (Mincer, 1974), with the returns to education differing across countries, by field of study, and by a combination of the two (Dustmann & Glitz, 2011; Sjaastad, 1962).¹ Thus individuals planning to emigrate or considering emigration are likely to make their choice whether to get a university degree and university major according to the expected returns to education in the destination country.

The literature consistently finds that individuals who plan to emigrate have an incentive to attain more education. A wave of theoretical studies at the end of the 20th century emphasizes how emigration prospects increase the level of education individuals acquire (Mountford, 1997; Stark et al., 1997; Vidal, 1998). These studies suggest that, because the returns to education are higher in destination countries, individuals planning to emigrate will invest more in their human capital (Docquier & Rapoport, 2012). Furthermore, even if the probability of emigration is small, higher returns abroad can still motivate individuals to invest in their education (Dustmann & Glitz, 2011; Mountford, 1997). The empirical literature agrees with the theory, finding positive effects of emigration prospects on individual human capital formation (Batista et al., 2012; Beine et al., 2001; Beine et al., 2008). For example, Spirovska (2021) finds that university enrollment rates increased dramatically when countries join the European Union (EU).

Research also consistently demonstrates that emigration affects individual decisions about the field of study. For example, language proficiency is a critical factor that determines immigrants' success. Several studies find that immigrants who speak the language of the destination country well have higher wages than those who do not (Chiswick, 1991; Dustman, 1994). Moreover, language proficiency enhances the transferability of skills acquired before emigration, such as education and work experience (Chiswick & Miller 2002; 2003). Individuals planning to emigrate can anticipate that higher language proficiency will lead to better outcomes. For example, Gibson and McKenzie (2010) find that emigration prospects motivate

¹ For a detailed discussion of the interplay between migration and education, see Dustmann and Glitz (2011).

students in Tonga to study destination-country languages, thereby improving the transferability of the students' skills.

Acquiring certain skills that are in high demand in destination countries increases individuals' employment chances after emigration. Indeed, people wanting to emigrate sort into disciplines associated with higher labor demand (e.g., nursing, medicine, or IT) in target countries (Commander et al., 2008; Kangasniemi et al., 2007; Lorenzo et al., 2007). Spirovska (2021) finds that better emigration opportunities following the 2004 EU expansion led to increased student enrollment in IT, engineering, health, and service fields—all occupations in which destination countries had labor shortages.

Deciding what to study is strongly related to emigration intentions. Di Maria and Lazarova (2012) find that emigration influences students' choice of field in higher education, so that higher emigration rates lead to increased enrollment in science and technology degrees. In addition, Peri and Sparber (2011) find that educated immigrants in the United States predominantly work in occupations requiring mathematical, data analysis, and reasoning skills. While most of such studies rely on observational data, Kulka et al. (2024) use student survey data to find that students' beliefs about the international applicability of their majors predict their emigration intentions. All these studies show that university students with emigration intentions often select fields of study that facilitate emigration, particularly those in Science, Technology, Engineering, and Mathematics (STEM).

2.2 Determinants of Students' Choice of University Major

Even in the absence of emigration, deciding what to study at the tertiary level is a pivotal decision. The literature on these determinants has identified several factors influencing this choice, with the two main drivers for choice of major being expected future earnings and employment opportunities (Arcidiacono, 2004; Berger, 1988; Montmarquette et al., 2002; Zafar, 2013). Different majors offer distinct career prospects and economic returns, thereby influencing students' education decisions. Other studies show that students exposed to higher unemployment rates are more likely to choose university majors with high earning potential (Bedard & Herman, 2008; Blom et al., 2021). In other words, for many students, choosing a university major is a career decision.

Expected labor market outcomes are not the only drivers for the choice of major. Arcidiacono et al. (2012) find that students also select fields of study that fit with their abilities. Similarly, Wiswall and Zafar (2015) report that beliefs about ability predict the choice of major. This finding is in line with other findings by Arcidiacono (2004), who shows that students sort by ability according to their preferences for either specific majors or specific workplaces. Zafar (2013) finds that students prioritize enjoying coursework, having parental approval, and enjoying work at a potential job. As students' abilities and preferences factor into their choice of major, gendered patterns begin to emerge.

2.3 Gender and Education Choices

A large literature focuses on gender-based segregation in the choice of university majors by analyzing the characteristics of different fields of study. Barone (2011), for example, analyses eight European countries and finds that women tend to study subjects in the humanities and caregiving, while men are more likely to study fields that are scientifically and technically oriented. While some studies argue that differences in abilities, particularly in math, drive the gender gap (Billington et al., 2007; Focquaert et al., 2007), others show that abilities are generally comparable between men and women (Goldin et al., 2006; Xie and Shauman, 2003) and cannot explain the gender segregation in majors and careers (Ceci & Williams, 2010). Instead, Correll (2001) notes that male students are more confident about their math skills. Conversely, Zafar (2013) finds that differences in beliefs about self-ability, such as lower confidence among women, cannot explain the gender gap in STEM.

Other studies explain the gendered choice of major by suggesting that women are more competition-averse and risk-averse and that these attributes influence their choice of university major (e.g., Buser et al., 2014; Buser et al., 2017; Shurchkov & Eckel, 2018). For example, Mann et al. (2015) find that competitive environments discourage girls more than boys in their choice of major. Kamas and Preston (2012) find that women enrolled in STEM majors are often those who are not competition averse. Similarly, Combet (2023) shows that women are less likely to choose a major in which students compete with one another, although they are willing to accept risk. Likewise, Patnaik et al. (2022) find that preferences for risk do not explain students' choice of major. Thus, despite gender differences in preference for competition contributing to some gender-based disparities in the choice of major, the evidence linking preferences for risk to the selection of field is mixed.

Social structures and pressures are clearly related to gender-biased choices of major. For example, men focus on the monetary returns to majors, while women prioritize non-pecuniary outcomes (Zafar, 2013). In addition, Wiswall and Zafar (2021) show that students believe that the choice of major affects family-related factors, such as marriage timing, spousal quality, fertility timing, and number of children. Bronson (2014) demonstrates how variations in work-family flexibility across majors explain gender gaps in the choice of university major. Combet (2023) finds that women avoid majors that lead to jobs demanding full-time work.

Differences in preferences and choices are also often shaped by gender stereotypes. Even at a young age, children develop career interests influenced by such stereotypes and associate certain occupations with masculinity or femininity (Gottfredson, 2005). For example, if girls perceive science and technology as fields primarily for boys, girls may exhibit less interest in exploring careers in those fields (Ardies et al., 2015; Hill et al., 2010). Thus these perceptions and associated social pressure can influence students' choices about their university major, career path, or both (Masters & Barth, 2022).

2.4 Hypotheses

Although a large body of research focuses on the determinants of education choices, the impact of living in a high-emigration context on education choices—including gender-based preferences—remains unclear. To better understand these education choices, we formulate three hypotheses.

H1a: “In high-emigration countries, emigration prospects are an important factor for students’ choice of university major.”

H1b: “In high-emigration countries, students planning to emigrate place a higher weight on emigration prospects for their choice of major than students who do not intend to emigrate.”

H2: “In high-emigration countries, male and female students place different weight on emigration prospects and other attributes when they decide on a major.”

3 Experimental Design

To elicit individuals' stated preferences, we employ a discrete choice experiment in which participants encounter hypothetical choice sets, each containing two alternatives. These alternatives include varying levels of attributes, which serve as key factors influencing the choice of alternatives. The systematic variation of the attribute levels enables us to estimate their relative importance for the decision-makers' choices (Louviere et al., 2010; McDonald, 2019; Street & Bourges, 2007).

For our experiment, we create a large set of artificial, unspecified majors, each characterized by a unique combination of attributes. As students repeatedly choose between two majors, they reveal their preferences for the attributes. Importantly, the artificial majors have no names and are not linked to actual fields of study. This approach helps us overcome issues related to students' unobserved preferences, knowledge, or beliefs associated with various fields of study (Combet, 2023).

In the next two subsections, we discuss how we select the attributes that characterize the majors in the experiment and how we design the discrete choice experiment.

3.1 Selection of Attributes

We derive the attributes for the discrete choice experiment from the characteristics of a major as identified by Combet (2023), who investigates gender-based differences in the choice of university majors among Swiss students. We add an additional attribute describing the major to the existing framework: preferences for emigration. As Table 1 shows, our framework consists of nine generic attributes, each having two levels.

Combet (2023) organizes the first eight attributes into three dimensions. The dimension of systemizing skills reflects the types of skills individuals expect to use in a given major and profession. These expectations are often shaped by self-assessed abilities and socially constructed gender norms (e.g., Arcidiacono et al., 2012; Betz & Fitzgerald 1987; Hyde et al., 2008; Kersey et al., 2018; Su et al., 2009). The dimension of future job characteristics encompasses outcomes related to career pathways associated with the choice of major like earnings (Arcidiacono, 2004; Zafar, 2013), prestige (Busch-Heizmann, 2014; Hakim, 2002), and flexibility (Wiswall & Zafar 2018). Preferences in the third dimension, related to risk and competition preferences, also vary by gender (Niederle & Vesterlund, 2007). The framework incorporates key factors that the literature identifies as influencing the choice of university major, with a focus on gender-specific differences (e.g., Arcidiacono et al., 2012; Wiswall & Zafar 2018; Zafar 2013).

Table 1: Major Choice Attributes and Levels

Dimension	Major attributes	Exact phrasing	Levels of Attributes
Preferences for using systemizing skills	Math intensity	Mathematics is an important part of the subject	<ul style="list-style-type: none"> - Rather no - Rather yes
	Reasoning style	The subject primarily requires	<ul style="list-style-type: none"> - Associative and creative thinking - Analytical and systematic thinking
	Work task affinity	Important professional skills are	<ul style="list-style-type: none"> - Compassion and social skills - Affinity for technical tasks and technology
Preferences for future job characteristics	Salary	In comparison to other subjects, the monthly salary is	<ul style="list-style-type: none"> - Below average - Above average
	Prestige	The reputation of the profession in Bosnia and Herzegovina is	<ul style="list-style-type: none"> - Average - High
	Work-family compatibility	Flexible working hours are	<ul style="list-style-type: none"> - Most of the time possible - Hardly possible
Preferences for a risky and competitive environment	Risk-seeking	The risk of not finding a suitable initial job within one year is	<ul style="list-style-type: none"> - Average - Low
	Competition-seeking	Competition among students is	<ul style="list-style-type: none"> - Low - High
Preferences for emigration	Labor demand	Labor demand abroad for people with this major is	<ul style="list-style-type: none"> - Low - High

Notes: The first eight attributes match those in Combet (2023). However, we modify “work-family compatibility,” as the concept of working part-time is widely popular in Switzerland but not in BiH. Therefore, we adjust the attribute on work-family compatibility from “Levels of employment below 60 per cent are...” in the original study to “Flexible working hours are...” in this study. We add the ninth attribute on labor demand to the existing framework.

We add the fourth dimension to capture preferences related to emigration. Specifically, we use labor demand abroad for individuals with the major. This approach enables us to directly observe whether students sort into education pathways that students perceive as offering better employment opportunities in foreign markets (e.g., Commander et al., 2008; Kangasniemi et al., 2007; Lorenzo et al., 2007). By including emigration prospects as an attribute of the major, we can directly test whether emigration explains some of the choice of major, how it relates to other attributes, and how preferences differ between male and female students.

3.2 Discrete Choice Experiment

The discrete choice experiment consists of nine attributes, each with two levels. This design results in a full factorial universe of 512 possible combinations for a single major, and 262,144 combinations for pairs of majors. Survey respondents cannot evaluate all these alternatives in a time-constrained survey.

Therefore, to create a selection of choice sets, we employ an Optimal Orthogonal in the Differences (OOD) design, a special type of orthogonal design (Street et al., 2005). The advantage of employing an orthogonal design is the ability of the design to fulfill two fundamental criteria: orthogonality and balance (Huber & Zwerina, 1996; Kuhfeld, 2010; Mangham et al., 2009). Orthogonality ensures that the attribute levels are independent of one another, and balance minimizes the variance in the parameter estimates by ensuring that each attribute level occurs equally often (Kuhfeld, 2010; Mangham et al., 2009). An OOD design maintains orthogonality and combines orthogonality with efficiency—generating precise parameter estimates with minimal variance—by minimizing overlap among attribute levels across alternatives. While an OOD design achieves balance to some extent, the design prioritizes orthogonality and efficiency (Street & Burgess, 2004; Street et al., 2005).

To implement the OOD design and generate a fractional factorial structure, we use the program Ngene. This design selects 48 pairs of majors, resulting in 48 choice sets, achieving a D-optimality of 100% and thus confirming its ability to allow for precise parameter estimations. We can estimate all main effects and two-way interactions without confounding factors. Furthermore, as we were careful to avoid illogical cases during the selection of major attributes, we do not need to exclude any alternatives (Combet, 2023). We randomly organize the 48 choice sets into twelve blocks, each containing four choice sets. Thus each respondent randomly receives one of the twelve blocks and evaluates four of the 48 choice sets. Figure 1 shows an example.

Figure 1: Example of a Choice Set

	Major A	Major B
Characteristics of the major:		
Mathematics is an important part of the major...	rather no	rather yes
The major primarily requires...	Associative and creative thinking	Analytical and systematic thinking
Competition among students is...	Low	High
Characteristics of the profession the major prepares you for:		
The risk of not finding a suitable initial job within one year is...	Average	Low
Important professional skills are...	Compassion and social skills	affinity for technics and technology
The monthly salary is in comparison to other majors...	Above average	Below average
The reputation of the profession in Bosnia & Herzegovina is...	High	Average
Flexible working hours are..	Hardly possible	Most of the time possible
Labor demand abroad for people with this major is..	High	Low

Which of the two majors would you be more interested in?

A

B

Notes: The choice set displayed is adapted from Combet (2023) and uses the same phrasing for attributes and levels. However, we adjust the attribute on work-family compatibility from "Levels of employment below 60 per cent are..." in the original study to "Flexible working hours are..." in this study. We add the ninth attribute on labor demand to the existing framework.

4 Empirical Strategy

The next two subsections elaborate on the theoretical framework we use for the choice experiment and the estimation of the model. Subsection 4.1 covers empirical theory, and Subsection 4.2 describes the estimation of the model.

4.1 Theoretical Framework

To investigate the decision-making process of choosing a major, we rely on the random utility theory (McFadden, 1986; Thurstone, 1927). This theoretical framework, commonly used for analyzing discrete choices, postulates that individuals behave rationally, make decisions based on their preferences, and select alternatives that maximize their individual utility (Hall et al., 2004; Mangham et al., 2009; Mariel et al., 2021).

Building on random utility theory and following the approach of Hall et al. (2004) and Mariel et al. (2021), we assume that student i faces a choice among S alternatives of a university major. Major s yields individual-specific utility U_{is} and an alternative major k yields individual-specific utility U_{ik} . If student i chooses major s , this alternative yields the highest utility among the possible choices in S . Therefore, the probability of choosing major s is given by:

$$\text{Prob}(\text{major } s \text{ is chosen by student } i) = (U_{is} > U_{ik}), \quad \text{for all } s \neq k; \quad s, k \in S \quad (1)$$

While we observe a student's choice from the options we offer, we do not observe the subjective utility that the student derives from the choice. Therefore, we decompose the utility in two parts:

$$U_{is} = V_{is} + \varepsilon_{is} = X'_{is}\beta + \varepsilon_{is} \quad (2)$$

In equation (2), U_{is} consists of two components. The first, V_{is} , is the systematic component that we can capture. We assume that this component is linear with respect to its parameters, expressed as $V_{is} = X'_{is}\beta$. X'_{is} is a vector of attributes that describe the university major, and β denotes the coefficient that we estimate. The β 's show the relative importance of major attributes to the overall utility derived from the choice of major. The second component, ε_{is} , is the random or unexplained part.

We can therefore rewrite (1) as:

$$\text{Prob}(Y_i = s \mid s, k) = \text{Prob}[(X'_{is}\beta + \varepsilon_{is}) > (X'_{ik}\beta + \varepsilon_{ik})], \quad \text{for all } s \neq k; \quad s, k \in S \quad (3)$$

Where Y_i is a random variable that reveals the major a student chooses when faced with a choice between major s and major k .

By using discrete choice data, we can quantitatively model the utility function of students and determine the importance of the attributes for the choice of major (Drummond et al., 2015; Mangham et al., 2009).

4.2 Estimation

We use a mixed logit model. The mixed logit model offers several advantages. First, the model extends the conditional logit model by allowing for random coefficients, which capture unobserved heterogeneity in preferences across individuals. Second, the mixed logit model does not require the Independence of Irrelevant Alternatives (IIA) assumption to hold, which allows us to model more realistic choice behaviors. Third, given that our data has a panel structure with students evaluating multiple choice tasks, the mixed logit model effectively accounts for intra-individual correlation in repeated choices.

As discussed earlier, we present four choice sets to each student. Each choice set comprises two artificial majors (A and B), and students must choose one from each pair. The dependent variable is the students' choice of major (*major A = 1, major B = 0*), and the attributes that describe the artificial major enter the equation as independent variables.

Thus we specify our mixed logit model as follows:

$$\log \left(\frac{P_{is}(\text{choosing } A \text{ over } B)}{1 - P_{is}(\text{choosing } A \text{ over } B)} \right) = \beta_0 + \sum_{j=1}^9 \beta_{ji} X_{js} + \epsilon_{is}$$

$$= \beta_0 + \beta_{1i} \text{Math}_s + \beta_{2i} \text{Reasoning}_s + \beta_{3i} \text{Affinity}_s + \beta_{4i} \text{Salary}_s + \beta_{5i} \text{Prestige}_s + \beta_{6i} \text{Flexibility}_s + \beta_{7i} \text{Risk}_s + \beta_{8i} \text{Competition}_s + \beta_{9i} \text{Migration}_s + \epsilon_{is}$$

where i denotes the student and s denotes the choice set. To capture unobserved individual heterogeneity in preferences, we include an individual-specific random coefficient, denoted by β_{ji} for each attribute j . We assume that these coefficients follow a normal distribution across individuals. The panel structure of our data allows us to account for the correlation of repeated observations from the same respondent. We denote the error term for each choice that individual i makes for a choice alternative s as ϵ_{is} .

To investigate differences in preferences, we divide the sample into subgroups based on gender (male and female) and emigration intentions (students with and without emigration intentions). We then conduct separate analyses for these groups and use a Wald test to test for differences.

5 Data and Sample

We study Bosnia and Herzegovina (BiH), which, like the other Western Balkan countries, loses skilled workers to high emigration. Between 2012 and 2019, emigration caused the working-age population in the country to shrink by nearly 20% (Koettl-Brodmann et al., 2020). Several studies find that economic factors are the primary reason pushing young adults to emigrate (Jusic & Numanovic, 2017; Lavrič et al., 2019). In a 2018 survey, more than 60% of young individuals expressed the desire to leave BiH (Lavrič et al., 2019; Turčilo et al., 2019).

BiH is part of a pattern of emigration through the Western Balkan region. One popular destination country, Germany, has eased immigration laws to attract skilled workers—particularly from the Balkans—to sectors such as healthcare (Hoffmeyer-Zlotnik, 2019; Vracic, 2018). An analysis of LinkedIn data finds that emigration has led to a significant outflow of business and technological skills from the Western Balkan area (OECD, 2022; World Bank Group & LinkedIn Corporation, 2022). In line with this trend, the rising popularity of German-language schools in BiH suggests that individuals are strategically improving their employability and emigration prospects to German-speaking countries (Vracic, 2018).

We collected the data for the discrete choice experiment through an online survey conducted in BiH with secondary education students. In addition to general socio-economic characteristics, we gathered information on students' actual planned majors to compare their choices in the experiment with their real-life plans. To test for differences in preferences between male and female students and between those with and without emigration intentions, we also obtained data on students' gender and their short- and long-term emigration intentions.

5.1 Data Collection

Working with a local survey company in BiH, we asked school coordinators to distribute the survey link to their students and, when possible, to give students time to complete the survey in class.² School coordinators informed parents about the survey.³ We incentivized participation through a prize draw. To accommodate linguistic preferences, we administered the survey in all three national languages: Bosnian, Croatian, and Serbian. We collected the data in two waves due to the timing of ethical approval of each canton: the first in April and May 2024, and the second in September through December 2024.

The country of BiH is divided into two entities, the Federation of BiH and the Republika Srpska, and a self-governing administrative unit, the Brčko District. Our sample is limited to the

² Participating school coordinators received remuneration.

³ We followed this procedure to comply with local ethical norms and laws, which stipulate that while minors over age 15 can participate without parental consent, their parents must still be notified. Students under age 15 are not eligible to participate in the survey.

Federation of BiH and Brčko District, as we did not receive approval from the Republika Srpska. The Federation of BiH is further divided into 10 cantons,⁴ and we received approval from the Ministry of Education in all cantons. Based on the most recent census data from 2013, the population of our sampled regions makes up approximately 65% of the total population of BiH (Agency for Statistics of BiH, n.d.).

We focused on students enrolled in the third and fourth years of “gymnasiums” (academic secondary schools) and technical vocational education and training (VET) schools. Given that students from gymnasiums and technical VET schools have direct access to higher education, we focused on students from these schools. Third- and fourth-year students of secondary education are typically between ages 17 and 19. Students in general VET schools—three-year education programs as opposed to the four-year programs of technical VET schools—do not have direct access to higher education without additional qualifications; therefore, we excluded them from the sample. Similarly, because students from school types such as art and religious schools are underrepresented in the overall student population, we excluded them.

We retained all observations from respondents in our target group (students enrolled in a 4-year technical VET program or gymnasium), completed at least one choice set, and finished the survey in full (progress = 100). Our final sample size comprised 2,475 students. Of these, 2,262 finished all four choice tasks they were assigned, 117 completed three tasks, 93 completed two tasks, and 3 completed one task. Overall, each choice task was evaluated between 187 and 214 times.

To ensure that our sample reduction did not drive our results, we performed robustness checks using all respondents in the target group who completed at least one choice set. We estimated the choice model with a larger sample, including respondents who met the first two criteria but did not complete the survey (progress < 100). These results are not qualitatively different from those presented in this paper (see Appendix, Table A1).⁵

5.2 Descriptive Statistics

In this subsection, we first provide an overview of the sample characteristics in Table 2 and then define students' emigration intentions.

On average, participants are 18 years old, and 65% of the overall sample are female. Students attend either gymnasium (32.9%), or technical VET schools (67.1%). Table 2 shows that 70.6%

⁴ The Federation of BiH is divided into 10 cantons, which are federal units with their own constitutions, parliaments, governments, and judicial systems. Cantons operate under the laws of the Federation of BiH and are further divided into municipalities and cities, holding both executive and legislative powers.

⁵ The estimates for the main analysis and robustness checks are consistent for the overall sample and female students. For male students, the larger sample additionally reveals preferences for low math-intensity and risk aversion tied to job-finding. Wald tests show that gender differences are consistent with those identified in the main analysis.

of students plan to go to university with certainty, while 16.9% remain unsure, and only 12.5% do not intend to pursue university education.

Table 2: Summary Statistics

Statistic		Mean	St. Dev.	Min	Max	N
Age		17.9	0.7	16	21	2,475
Female		65.1	47.7	0	100	2,462
Gymnasium		32.9	47.0	0	100	2,459
Technical VET		67.1	47.0	0	100	2,459
Plan to go to university?	<i>Yes</i>	70.6	45.6	0	100	2,471
	<i>No</i>	12.5	33.1	0	100	2,471
	<i>Uncertain</i>	16.9	37.5	0	100	2,471
<u>Migration Intentions</u>						
Short-term Leavers		30.8	46.2	0	100	2,463
Long-term Leavers		40.2	49.0	0	100	2,464
<u>Migration Intentions by Gender</u>						
Leavers among Female Students						
	<i>Short-term</i>	33.5	47.2	0	100	1,596
	<i>Long-term</i>	40.9	49.2	0	100	1,598
Leavers among Male Students						
	<i>Short-term</i>	25.4	43.6	0	100	854
	<i>Long-term</i>	38.9	48.8	0	100	853

Note: Source own data.

We define student emigration intentions in terms of their preferences to stay and leave in the short and long term. The former captures plans to emigrate immediately after completing secondary education, while the latter captures emigration plans further into the future. Table 3 presents our definitions of “stayers” (students with no emigration intentions) and “leavers” (students with emigration intentions) in both timeframes.

In the short term, we ask students to state the likelihood (on a scale from 0 to 100%) of studying abroad for their bachelor’s degree. We also ask them whether they plan to return to BiH after studying abroad. Short-term leavers are those who report a likelihood greater than 50% of studying abroad and who are either uncertain about returning to BiH or certain that they will not return after completing their studies. In the short term, 30.8% of students are leavers. For long-term emigration plans, we also asked students whether they would consider emigrating later in life if they studied for their bachelor’s degree in BiH (answers as “yes”,

“no”, “I don’t know”). Long-term leavers are students who answered "yes." In the long term, 40.2% are leavers. Female students fall into the leaver category slightly more often than male students, especially in the short term (see Table 2).

Table 3: Definition of Emigration Intentions: Short-term and Long-term

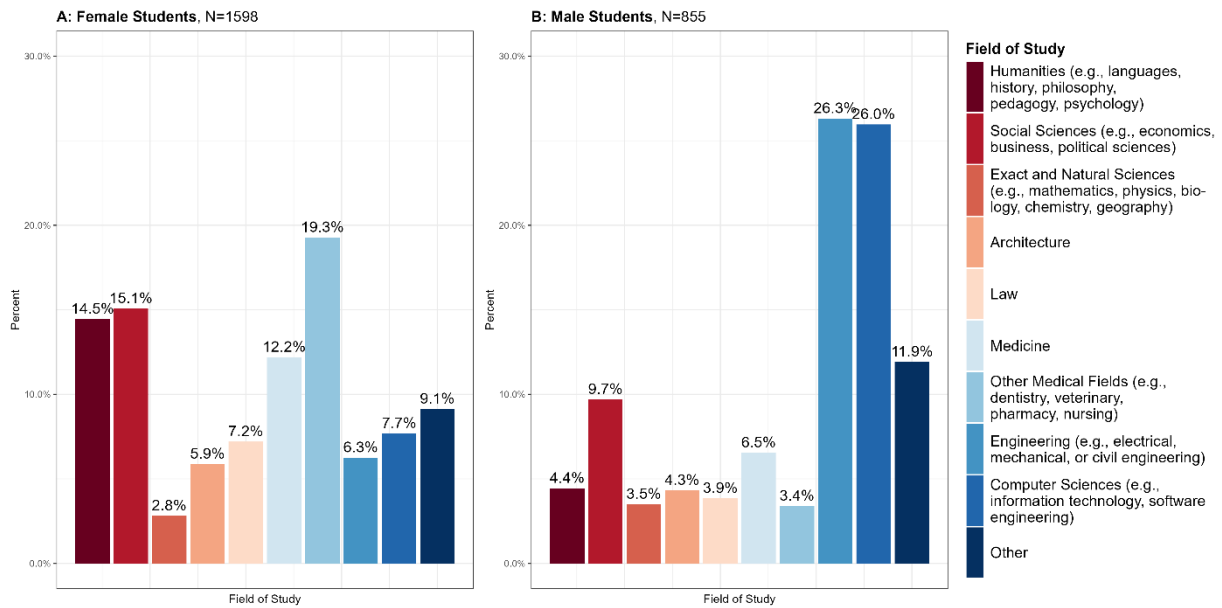
	Leavers	Stayers
Short-term	Study abroad AND plan to stay abroad	Study in BiH OR plan to return immediately after studying abroad
Long-term	Plan to emigrate later in life	Plan not to emigrate later in life

5.3 Descriptives of Choice of Major by Emigration Intentions and Gender

We asked students to select the major they would most likely choose if they were to attend university. Figure 2 displays the choice of the university majors of male and female students. Both genders have distinct preferences in the selection of their university major, with female students showing a wider distribution of interests. For female students, medicine and medicine-related fields, such as dentistry, veterinary science, pharmacy, and nursing, are the most popular choices, with 12.2% choosing medicine and 19.3% opting for medicine-related fields. Beyond these, 15.1% select the social sciences, 14.5% the humanities, and 7.2% law. Engineering interests 6.3% of female students, while computer science appeal to 7.7%. In contrast, female students select architecture less frequently than the majors just discussed and choose the “exact and natural sciences” (e.g., biology, mathematics, geography) the least.

In contrast, male students show a more concentrated distribution of the selection of majors. Over 50% of male respondents choose engineering and computer science. The next highest choices among male students are the social sciences and medicine (around 9.7% and 6.5%, respectively), although these percentages are lower than those for female students. Other disciplines, such as the humanities and architecture, are selected by far fewer male students, and majors such as law, the exact and natural sciences, and medicine-related fields show minimal representation.

Figure 2: University Major Choice by Gender



Notes: The figure shows the distribution of students by their planned choice of university major, with female students on the left (N=1,598) and male students on the right (N=855). The percentages above the bars display how many female and male students have selected a specific field of study, respectively.

If we examine the choice of major by gender among students who do and do not plan to emigrate, we find that the overall patterns are largely unaffected by short- and long-term emigration intentions. Female students still tend towards the social sciences and other medical fields, although the trend towards social sciences is somewhat less for those who plan to emigrate. Male students still overwhelmingly prefer engineering and computer sciences, although the preference for computer sciences is stronger in students planning to emigrate.

6 Results

To analyze the discrete choice experiment, this study uses a mixed logit model for the full sample, by migration intentions, and by gender. In this section, to better interpret the coefficients from the model, we report the marginal effects from the model's estimated mean coefficients. All estimated effects are conditional on the other eight attributes describing the major.

6.1 Determinants of the Choice of Major

Our first hypothesis is given by H1a: "In high-emigration countries, emigration prospects are an important factor for students' choice of university major." To test this hypothesis, we examine the importance of the emigration prospects attribute for students' choice of major. The attribute indicates whether a major is associated with high or low labor demand abroad and reflects the emigration prospects of graduates with that major. Table 4 provides the estimated marginal effects of the choice model, with Column 1 presenting results for the full sample.

The emigration prospects attribute is positive and statistically significant. On average, if students perceive a major as highly demanded in the labor market abroad, and all other factors are held constant, the probability of choosing the major increases by 2.7 percentage points (pp). Thus we cannot reject the hypothesis that emigration prospects matter for the choice of major in a high-emigration country.

We further observe that, among all attributes, students prioritize salary the most when choosing their major. On average, if a major offers an above-average salary, the probability that a student will choose that major increases by 5.2 pp, holding all other attributes constant. Students also show a significant preference for majors that enable them to work in professions with flexible working hours (2.6 pp) and majors with low levels of math intensity (3.1 pp). Furthermore, students value the work task affinity attribute, favoring majors that emphasize compassion and social skills over technical skills and technology (1.4 pp). Moreover, students also put weight on prestige when choosing their major, although this attribute is only marginally significant at 10%. On average, the reasoning attribute—associative and creative thinking versus analytical and systematic thinking— does not significantly influence students' choice of major.

Table 4: Results of the Mixed Logit Model, Full Sample and by Emigration Intentions (Short and Long Term)

	Short Term			Long Term	
	Full Sample (Marginal effect) (1)	Leavers (Marginal effect) (2)	Stayers (Marginal effect) (3)	Leavers (Marginal effect) (4)	Stayers (Marginal effect) (5)
Math Intensity	-0.031*** (0.006)	-0.038*** (0.010)	-0.027*** (0.007)	-0.036*** (0.009)	-0.027*** (0.007)
Reasoning Style	-0.002 (0.005)	0.002 (0.009)	-0.004 (0.006)	-0.005 (0.008)	0.000 (0.007)
Competition-Seeking	0.006 (0.005)	0.017** (0.009)	-0.000 (0.006)	0.012 (0.008)	0.001 (0.006)
Risk-Seeking	0.000 (0.005)	-0.002 (0.008)	0.001 (0.006)	0.002 (0.007)	-0.001 (0.006)
Work Task Affinity	-0.014*** (0.005)	-0.007 (0.008)	-0.016*** (0.005)	-0.014** (0.007)	-0.013** (0.006)
Salary	0.052*** (0.005)	0.056*** (0.009)	0.050*** (0.006)	0.075*** (0.008)	0.036*** (0.006)
Prestige	0.009* (0.005)	-0.003 (0.008)	0.014** (0.006)	0.007 (0.007)	0.010 (0.006)
Work-Family Compatibility	-0.026*** (0.005)	-0.028*** (0.009)	-0.025*** (0.006)	-0.031*** (0.008)	-0.023*** (0.006)
Labor Market Abroad	0.027*** (0.005)	0.037*** (0.009)	0.021*** (0.006)	0.035*** (0.008)	0.021*** (0.006)
N	9,588	2,943	6,599	3,825	5,721

Notes: standard errors given in parentheses. * p<0.10, ** p<0.05, *** p<0.05. The table presents the marginal effects estimated from the choice model. Column 1 shows the estimates for the full sample, while Columns 2 and 3 display the estimates for those with migration intentions (Column 2) and those without (Column 3) in the short term. Columns 4 and 5 show the estimates for those with migration intentions (Column 4) and those without (Column 5) in the long term. The number of observations represents the number of choice tasks evaluated in the sample. Marginal effects were computed using Krinsky-Robb standard errors with 1,000 repetitions and a 95% confidence level (Zeigermann, 2024).

6.2 Determinants of the Choice of Major by Emigration Intentions

We continue by testing H1b: “In high-emigration countries, students planning to emigrate (leavers) place a higher weight on emigration prospects for their choice of major than students who do not intend to emigrate (stayers).” As discussed in Section 5.2, we measure emigration intentions in both the short and long term. For each case, we conduct separate analyses for students with and without emigration intentions. The results appear in Table 4, where columns 2 and 3 correspond to students with short-term emigration intentions and columns 4 and 5 to students with long-term emigration intentions. In each case, the first columns (2 and 4) represent leavers, and the second columns (3 and 5) represent stayers.

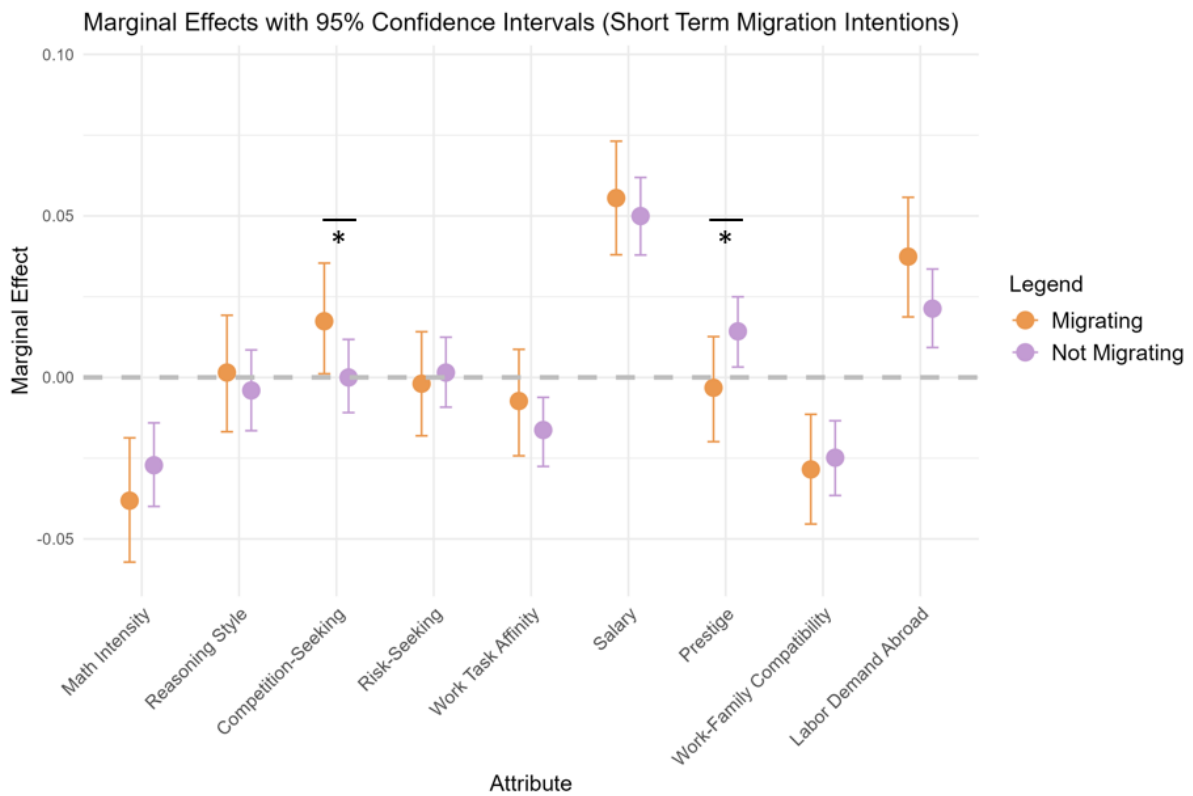
6.2.1 Short-Term Emigration Intentions

As expected, students with short-term emigration intentions place significant weight on the emigration prospects attribute when they choose a major. On average, these students are 3.7 pp more likely to choose a major with high labor demand abroad, holding all other factors constant. Nevertheless, the labor demand abroad attribute also significantly influences short-term stayers’ choice of university major, although to a lesser extent (2.1 pp).

To test whether short-term leavers and stayers differ significantly in their valuation of emigration prospects, we conduct Wald tests. Figure 3 illustrates the effects for both groups, with stars indicating whether the preferences of the two groups differ significantly. Although on average those planning to leave consider labor market demand abroad more important than those planning to stay, we find no significant difference between the value that short-term leavers and stayers place on labor market demand abroad. Contrary to H1b, students without short-term emigration intentions also value emigration prospects. A possible explanation for this finding may be a general preference for keeping future emigration options open, even among those who do not currently plan to emigrate.

The results for the other attributes are similar for short-term leavers and stayers. Both groups prioritize key attributes—including salary, work-family compatibility, and math intensity—when choosing a major. Notably, short-term stayers also value the work task affinity attribute and prefer majors leading to high-prestige professions. In contrast, short-term leavers instead emphasize the competition attribute, showing a preference for majors with low levels of student competition. Statistical differences between the two groups appear only for the competition and prestige attributes (Figure 3) and only at the 10% level. Thus students, regardless of their short-term emigration intentions, show similar preferences for most attributes describing the major.

Figure 3: Plot of Marginal Effects for Short Term Emigration Intentions



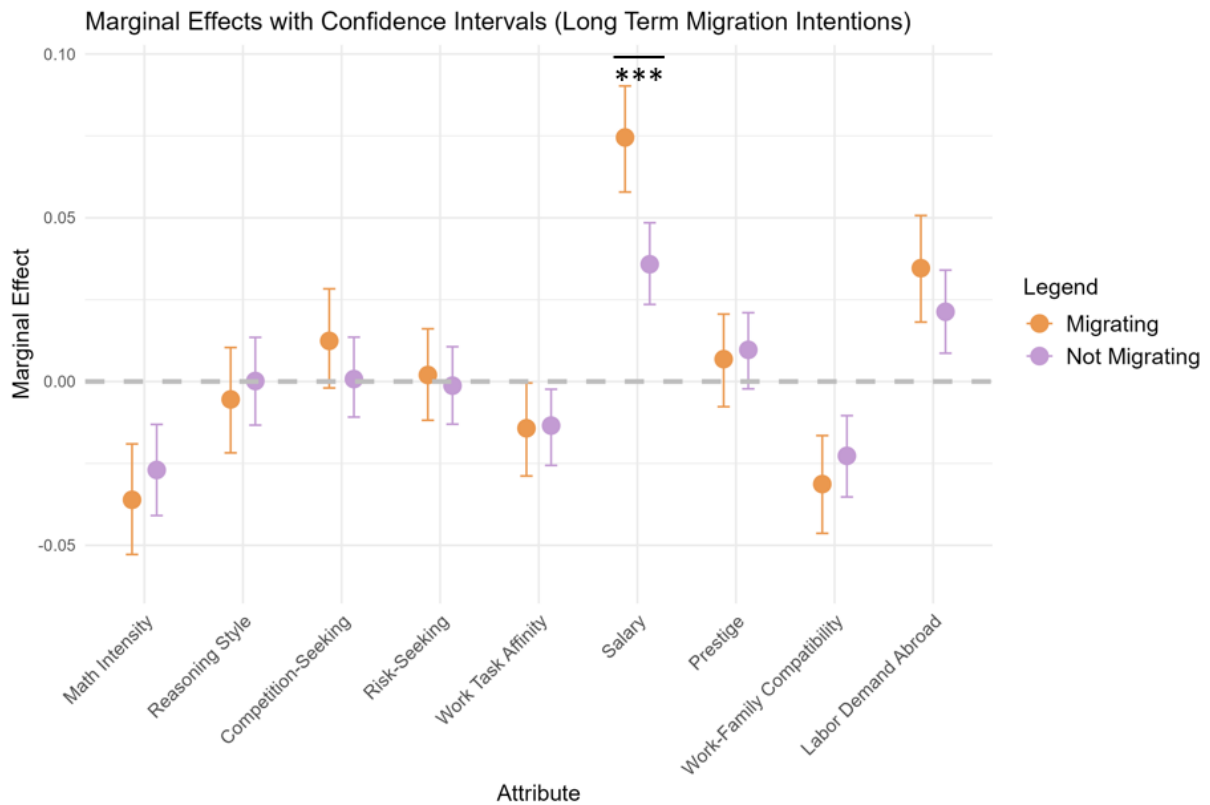
Notes: The plot graphically displays the marginal effects for short-term emigration intentions and the respective 95% confidence intervals. The number of choice tasks that were evaluated from students with short-term emigration intentions is N= 2,943, and from students without short-term emigration intentions is N= 6,599. We also test for differences between the two groups with a Wald test: *p<0.1, **p<0.5, ***p<0.01.

6.2.2 Long-Term Emigration Intentions

The results we observe for students with long-term emigration intentions (Table 4, Columns 4 and 5) are similar to those of students with short-term emigration intentions (Table 4, Columns 2 and 3).

Both long-term leavers and stayers assign significant weight to emigration prospects when choosing a major. While students intending to emigrate assign a higher weight to the emigration prospects attribute (3.7 pp compared to 2.1 pp), the Wald test reveals no statistically significant difference between the two groups in the relative importance they place on this attribute (Figure 4). Thus, even when students do not intend to emigrate in the future, they show a preference for majors that enhance their prospects in international labor markets. As we find no significant differences between students with and without emigration intentions for the emigration prospects attribute, we reject hypothesis H1b.

Figure 4: Plot of Marginal Effects for Long Term Emigration Intentions



Notes: The plot graphically displays the marginal effects for long-term emigration intentions, and the respective 95% confidence intervals. The number of choice tasks that were evaluated from students with long-term emigration intentions is N= 3,825, and from students without long-term emigration intentions is N=5,721. We also test for differences between the two groups with a Wald test: *p<0.1, **p<0.5, ***p<0.01.

Additionally, we find that salary significantly influences the choice of major for both leavers and stayers, with leavers placing particularly strong emphasis on this attribute. For example, students with emigration intentions are 7.5 pp more likely to choose a major offering an above-average salary, compared to a 3.8 pp increase for students with no emigration intentions. Figure 4 shows that this difference is statistically significant. In contrast, while the math-intensity, work-family compatibility, and work task affinity also influence the choice of major for both groups, no significant differences in preferences between leavers and stayers are observed for these attributes (Figure 4).

6.3 Determinants of the Choice of Major by Gender

To investigate H2, “In high-emigration countries, male and female students place different weight on emigration prospects and other attributes of the major, when they decide on a major,” we split the sample by gender and perform the mixed logit model separately for female and male students. We present the results in Table 5: Column 2 for female students and Column 3 for male students.

Our findings show that emigration prospects significantly influence the choice of major for both genders, with a slightly stronger effect among female students (3 pp and 2.2 pp, respectively). Nevertheless, we find no statistically significant difference between male and female students in their valuation of emigration prospects (Figure 5). Thus, despite the stronger valuation in the subsample analysis for female students, we cannot conclusively state that male and female students differ in their valuation of emigration prospects.

Table 5: Results of the Mixed Logit Model, Full Sample and by Gender

	Full Sample <i>(Marginal Effect)</i> (1)	Female Students <i>(Marginal Effect)</i> (2)	Male Students <i>(Marginal Effect)</i> (3)
Math Intensity	-0.031*** (0.006)	-0.041*** (0.007)	-0.013 (0.009)
Reasoning Style	-0.002 (0.005)	-0.009 (0.007)	0.010 (0.009)
Competition-Seeking	0.006 (0.005)	0.012* (0.006)	-0.006 (0.008)
Risk-Seeking	0.000 (0.005)	-0.005 (0.006)	0.011 (0.008)
Work Task Affinity	-0.014*** (0.005)	-0.023*** (0.006)	0.006 (0.008)
Salary	0.052*** (0.005)	0.057*** (0.006)	0.046*** (0.008)
Prestige	0.009* (0.005)	0.009 (0.006)	0.009 (0.008)
Work-Family Compatibility	-0.026*** (0.005)	-0.025*** (0.006)	-0.027*** (0.008)
Labor Demand Abroad	0.027*** (0.005)	0.030*** (0.007)	0.022*** (0.008)
N	9,588	6,175	3,363

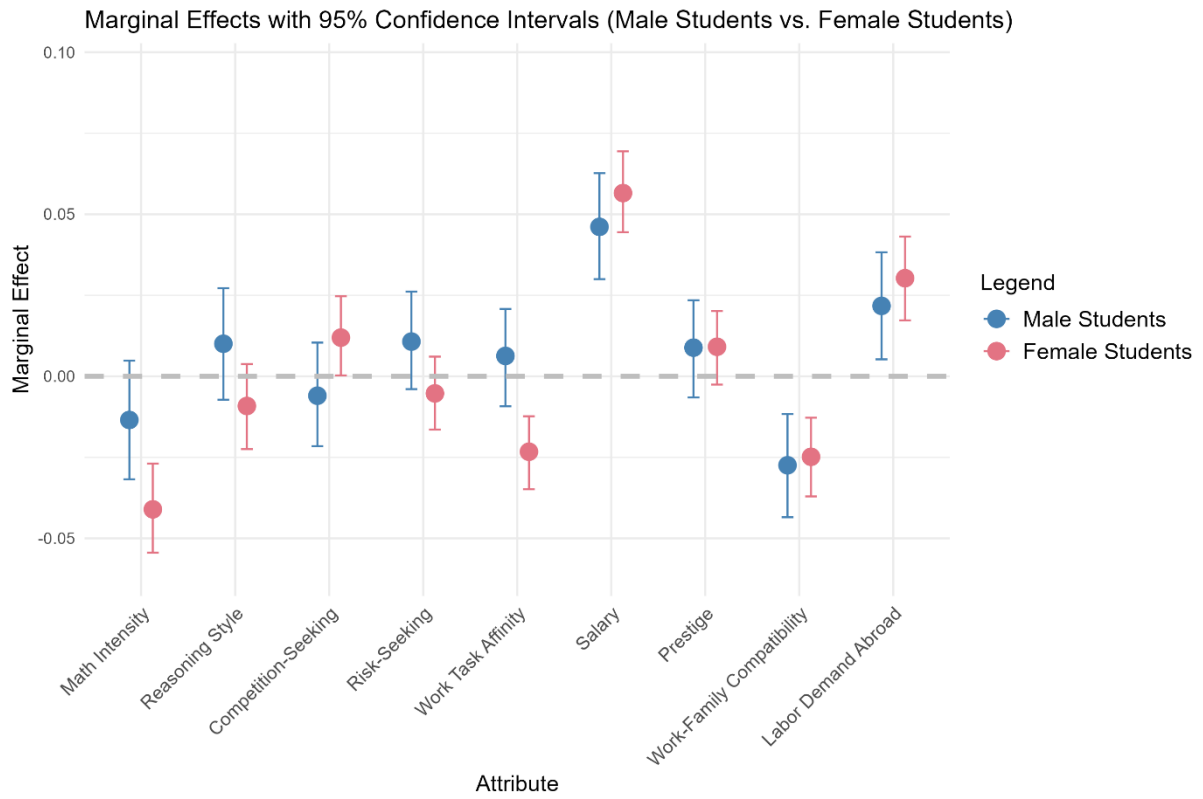
Notes: standard errors given in parentheses. * p<0.10, ** p<0.05, *** p<0.05. The table presents the marginal effects estimated from the choice model. Column 1 presents the estimates for the full sample, while Columns 2 and 3 show the estimates for the sample split by gender. The number of observations represents the number of choice tasks evaluated in the sample. Marginal effects were computed using Krinsky-Robb standard errors with 1,000 repetitions and a 95% confidence level (Zeigermann, 2024).

Both genders prioritize salary for their choice of major, with female students emphasizing this attribute slightly more (5.7 pp and 4.6 pp, respectively). However, this difference is not statistically significant (Figure 5). Both genders show a preference for flexible working hours in their decision-making. Female students further consider math-intensiveness and work-task affinity (4.1 pp and 2.3 pp, respectively), whereas male students do not find these attributes relevant. Moreover, female students consider the level of competition among students enrolled in that major, although the effect is small (1.2 pp) and only marginally significant at the 10% level.

We find no statistical differences between female and male students for the salary, prestige, and work-family compatibility attributes (Figure 5). In contrast, the math intensity and work task affinity attributes are statistically different, indicating that male and female students give them different weights. While the reasoning style, competition, and risk-seeking attributes do not significantly influence the choice of major on average for either male or female students, the Wald test reveals marginally significant differences at the 10% level, indicating potential variability in how these attributes are valued across genders.

Thus we cannot fully reject hypothesis H1b, as significant gender differences exist in observed preferences for some attributes (math intensity, work task affinity, reasoning style, competition, and risk-seeking) but not others (emigration prospects, salary, prestige, and work-family compatibility).

Figure 5: Plot of Marginal Effects for Male and Female Students



Notes: The plot graphically displays the marginal effects for female and male students, and their respective 95% confidence interval. The number of choice tasks that were evaluated from male students is N= 3,363, and from female students is N=6,175. We also test for differences between the two genders with a Wald test: *p<0.1, **p<0.5, ***p<0.01.

7 Discussion

Our analysis reveals patterns that emerge from the relationship between students' choice of major and their emigration intentions. As expected, students who plan to emigrate place significant importance on the emigration prospects of their chosen major. Surprisingly, students intending to stay in their home country also consider emigration prospects, albeit to a lesser extent. This behavior may reflect a general preference for keeping future emigration options open, even in the absence of long-term emigration intentions. Furthermore, students may value adaptable career paths because they know that circumstances—such as personal aspirations, economic stability, or political landscapes—can change.

Among all students, regardless of emigration plans, salary remains the most critical factor in choosing a major. This finding is consistent with previous findings emphasizing the importance of salary in the choice of major, especially in countries where high unemployment rates prevail (Bedard & Herman, 2008; Blom et al., 2021). In the long term, leavers value the salary attribute two times more than stayers, a finding showing that students' desire for better financial opportunities is a key motivator for emigration. Moreover, both emigration intention groups care about work-family compatibility, the math intensity, and the work task affinity.

Our descriptive data shows that gender is extremely important for students' choice of major. Female students choose majors in a variety of fields, including medicine-related disciplines, the social sciences, and the humanities, whereas male students predominantly prefer technical fields such as engineering and computer science. Our analyses reveal that salary prospects are the most significant factor influencing the choice of major for both genders, followed by emigration prospects and work-family compatibility. Whereas male students place no weight on other attributes when choosing a major, female students (a) avoid math-intensive and highly competitive majors and (b) value skills relevant to the professions associated with their chosen major, generally prioritizing compassion and social skills over technical skills. These gender-specific patterns are consistent with findings from previous studies (e.g., Hakim, 2002, Hyde et al., 2008; Su et al., 2009).

These findings raise the question of how the choice of major both shapes and is shaped by the broader context. Combet (2023) performs a similar analysis in Switzerland, a low-emigration country, but without the emigration prospect attribute. Comparing results across both BiH and Switzerland allows us to explore the role of emigration itself in shaping preferences for the choice of major.

In both countries, salary prospects are the most influential factor for male students. However, whereas in BiH female students also prioritize salary when choosing a major, in Switzerland they place the most weight on their preference for compassion and social skills over technical skills. Although this attribute is also important for female students in BiH, its influence is the weakest of the attributes. Meanwhile the reasoning style attribute strongly influences female students' decisions in Switzerland but is not relevant in BiH.

Moreover, in Switzerland, male students prefer math-intensive majors, whereas female students remain neutral toward this attribute. In BiH, male students are neutral, while female students tend to avoid math-intensive majors. Prestige is an important factor for Swiss students, while it holds no importance for BiH students. Competition discourages female students in both settings, although it carries much more weight relative to other attributes in Switzerland. In contrast, in BiH, female students place the least importance on competition.

Overall, given the challenging domestic labor market and high emigration rates in BiH, students prioritize employment prospects and the potential to earn good wages, whether at home or abroad, when choosing their major. Our findings on the gender-specific preferences are consistent with the literature on the gender-based segregation in education pathways (e.g., Combet 2023; Wiswall & Zafar 2018; Zafar 2013). Nevertheless, the patterns of gender-based differences are less pronounced in BiH. We find that individual factors such as preferences and gender may not always be the key factors in students' choice of major. In a situation in which they face significant labor market constraints or other demands, students appear to subvert preferences in favor of pursuing a perceived route to success. Context is a key factor for students' choice of major.

8 Conclusions

In this study, we examine the importance of emigration prospects for the choice of university major in a country with high emigration rates. We further examine whether preferences for emigration prospects and other factors, such as salary or work-family compatibility, differ between female and male students when choosing their major.

Our findings show that emigration prospects—measured by the labor demand in foreign labor markets—play a significant role in students' choice of major. In a high-emigration context, even students without emigration intentions keep their options open by valuing emigration prospects during their decision-making. While salary remains the primary driver for all students, regardless of gender or emigration intentions, they also place importance on the work-family compatibility of a major. Furthermore, female students prefer less math-intensive majors and majors that prepare them for professions requiring compassion and social skills—attributes to which male students are generally neutral. The analytical results are in line with students' actual planned choices of major: male students predominantly choose engineering and computer science—fields with high salary potential and strong labor demand across countries—and female students' choices are more diverse. Although gendered patterns in the choice of major are evident in BiH, these patterns differ from those in low-emigration countries: Students from high-emigration countries, such as BiH, face weak domestic labor markets and limited career opportunities, leading them to prioritize financial stability over other factors when selecting their major.

Our study contributes to the literature on the impact of emigration prospects on education choices by being the first to use a survey-based experiment. This experimental approach contrasts with the observational data approach of previous related studies. We provide evidence that students with emigration intentions in high-emigration countries significantly take into account labor demand abroad when they select their major. Moreover, we advance the understanding of gender-based segregation in education pathways. While we observe gender differences in preferences, our results show that in countries with high emigration rates, these gender-specific preferences carry less influence, with students placing greater emphasis on factors such as salary prospects and employability.

While the experimental design leads to high internal validity, this study has several limitations that offer prospects for future research. We cannot disentangle the direction of causality between the choice of major and migration intentions. While emigration intentions may influence the choice of major, choosing a particular major may also motivate students to emigrate to countries where opportunities in that field are more lucrative. Future research should exploit exogenous shocks or track individuals over time to better identify the causal relationship between choice of major and emigration intentions.

The applicability of the results to contexts outside the Western Balkan countries remains unclear, possibly limiting the external validity of our findings. With easy access to labor

markets in Austria and Germany, the most common destination countries for BiH individuals, BiH faces relatively low migration barriers. In other high-emigration countries with greater obstacles, such as distance or legal restrictions, students may weigh the attributes of a major differently, making generalization to those countries more challenging. Replicating this study in other high-emigration countries would be a valuable way of exploring regional versus contextual influences on choice of major. In general, we can interpret our results only in relation to the specific attributes that we examine in this study. Furthermore, we focus exclusively on the characteristics of a major, without considering other important factors for choice of major, such as parental influence, peer pressure, or information asymmetries. Further research can benefit from adding these factors in similar experimental designs to assess their influence on students' choices.

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10 Appendix

Table A 1: Results of the Mixed Logit Model from the Main Analysis and the Robustness Checks

	Full Sample		Female Students		Male Students	
	Main Analysis (Marginal effect) (1)	Robustness Check (Marginal effect) (2)	Main Analysis (Marginal effect) (3)	Robustness Check (Marginal effect) (4)	Main Analysis (Marginal effect) (5)	Robustness Check (Marginal effect) (6)
Math Intensity	-0.031*** (0.006)	-0.033*** (0.005)	-0.041*** (0.007)	-0.040*** (0.007)	-0.013 (0.009)	-0.021** (0.009)
Reasoning Style	-0.002 (0.005)	-0.001 (0.005)	-0.009 (0.007)	-0.004 (0.006)	0.010 (0.009)	0.006 (0.008)
Competition-Seeking	0.006 (0.005)	0.007 (0.005)	0.012* (0.006)	0.013** (0.006)	-0.006 (0.008)	-0.005 (0.008)
Risk-Seeking	0.000 (0.005)	0.003 (0.004)	-0.005 (0.006)	-0.003 (0.005)	0.011 (0.008)	0.016** (0.007)
Work Task Affinity	-0.014*** (0.005)	-0.016*** (0.004)	-0.023*** (0.006)	-0.026*** (0.005)	0.006 (0.008)	0.004 (0.007)
Salary	0.052*** (0.005)	0.051*** (0.005)	0.057*** (0.006)	0.055*** (0.006)	0.046*** (0.008)	0.045*** (0.008)
Prestige	0.009* (0.005)	0.007 (0.004)	0.009 (0.006)	0.008 (0.005)	0.009 (0.008)	0.006 (0.007)
Work-Family Compatibility	-0.026*** (0.005)	-0.024*** (0.005)	-0.025*** (0.006)	-0.025*** (0.006)	-0.027*** (0.008)	-0.023*** (0.008)
Labor Demand Abroad	0.027*** (0.005)	0.021*** (0.005)	0.030*** (0.007)	0.024*** (0.006)	0.022*** (0.008)	0.016** (0.008)
N	9,588	11,140	6,175	7,159	3,363	3,915

Note: standard errors given in parentheses. * p<0.10, ** p<0.05, *** p<0.05. The table presents the results of the choice model from both the main analysis and the robustness checks. For the robustness checks, we expanded the sample to include respondents who did not complete the survey. The results are shown for the full sample (Columns 1-2), female students (Columns 3-4), and male students (Columns 5-6). The first column in each pair corresponds to the main analysis sample, while the second column represents the robustness checks. Marginal effects were computed using Krinsky-Robb standard errors with 1,000 repetitions and a 95% confidence level (Zeigermann, 2024).

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