Youth perceptions of educational systems in the Balkans: a cross-national econometric study

Victor Mihai Roman[1*] **and Mihaela Covrig** [2]

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***Abstract**: **Objective**: Education plays an essential role in the development and training of young people, thus in countries undergoing rapid economic transition like the Balkan countries, it is extremely important to understand how the youth perceives the education system and what factors lead to that opinion. Therefore, the aim of the paper is to explain young people's satisfaction towards the national education system. **Method**: We used data from a large survey conducted by Friedrich-Ebert-Stiftung to analyse the level of satisfaction of the youth in ten Balkan countries through various statistical methods. We applied univariate and bivariate analysis and logistic regression models to determine which factors affect the youth's opinion the most. **Results**: The study shows significant cross-country differences in young people's perceptions of educational quality. The most dissatisfied people were observed in Kosovo and Macedonia, and the most satisfied in Bulgaria and Bosnia and Herzegovina. The logistic regression models identify country of origin, perceived corruption, school life quality, labor market alignment, family size, and study habits as key determinants of these perceptions, while variables like age and gender were not consistently significant. **Originality**: The article provides valuable insights into how young people in the Balkan countries perceive the quality of education and contributes meaningfully to developing practical recommendations for its enhancement. By combining bibliometric analysis with econometric methods, the study presents a comparative view of the complex challenges and potential improvements facing the region's educational systems.*

***Keywords**: educational systems, youth, perception, econometric modelling, binary logistic regression.*
***JEL classification**: I21, I25, C25.*

1. Introduction

In all countries, and in developing countries in particular, education is crucial for youth development, providing the knowledge, skills, and values needed to navigate society, build relationships, and pursue careers. It supports both academic learning and personal growth, fostering critical thinking, communication, ethical awareness, and social responsibility. An educated society can develop economically and prosper, so education contributes decisively to economic development (Hanushek & Woessmann, 2007). Young people are the main actors and beneficiaries of the education system and those on whom the future of a country depends.

Western Balkan countries are experiencing profound structural and societal changes, in the context of economic increase and digitalization of their economies. The demand for a well-educated young population and workers with digital and professional skills is expanding. In Balkan countries, according to Badescu (2022), a significant share of 15-year-olds still lack basic proficiency in reading,

[1] Bucharest University of Economic Studies, Bucharest, Romania, *Corresponding author: romanvictor20@stud.ase.ro
[2] Bucharest University of Economic Studies, Bucharest, Romania, mihaela.covrig@csie.ase.ro

math, and science, with only North Macedonia showing a notable reduction in underachievement since 2015. Early school leaving, defined as 18–24-year-olds with no further education or training beyond lower secondary level, still remains a concern in recent years. While in 2023 most Western Balkan countries perform better than the EU average (9.3%) in this area, Albania continues to lag behind, and Romania (16.6%) and Bulgaria (9.5%) are above the EU average. On a more positive note, higher education attainment is rising, particularly among women, with Montenegro, North Macedonia, and Serbia nearing the EU average of 41% for 25–34-year-olds. However, many graduates remain over-skilled for available jobs, highlighting a persistent mismatch between education and labor market needs.

World Bank data (2024) shows that western Balkan countries such as Albania, Bosnia and Herzegovina, and Serbia remain well below their EU neighbours in nominal GDP per capita, ranging between $7,000 and $11,000, while their Purchasing Power Parity (PPP) figures show somewhat stronger relative performance—suggesting that although incomes are lower, local purchasing power is higher. By contrast, EU member states like Romania, Bulgaria, Croatia, and especially Slovenia exhibit significantly higher per capita income. Romania and Bulgaria, for instance, have nominal GDP per capita figures around $15,000–18,000 and PPP values exceeding $34,000, reflecting their more advanced integration into the European single market. Croatia and Slovenia are even stronger performers, with PPP per capita figures above $42,000 and nearly $49,000 respectively, placing them closer to Western European standards. This divergence underscores both the economic benefits of EU membership and the continuing developmental gap that exists within the broader Balkan region. The economic gaps in the Balkans closely mirror disparities in education systems, with wealthier countries like Slovenia and Croatia benefiting from stronger, better-funded education aligned with EU standards. In contrast, lower-income countries such as Albania and Bosnia struggle with underfunded systems and skill mismatches, limiting both individual opportunity and national growth.

The most recent World Bank available data (2022) on public education spending as a share of GDP reveals significant differences across the Balkan region. Albania spends the least, allocating just 2.7% of its GDP to education as of 2022. Bosnia and Herzegovina, Serbia, and North Macedonia each dedicate between 3.2% and 3.4%, suggesting moderate investment levels. Montenegro and Kosovo invest more heavily, with spending at 4.3% and 4.4% respectively, indicating a stronger public commitment despite their smaller economies. Notably, Bulgaria stands out among EU member states in the region, spending 4.7% of its GDP on education in 2021. These disparities in education funding reflect broader differences in national priorities and likely contribute to variations in economic performance and social development across the Balkans.

The poor quality of education and its disconnect from labor market demands are frequently identified as major contributors to the high youth unemployment rates in the region. Eurostat data show that Bosnia and Herzegovina had the highest annual unemployment rate among Western Balkan countries in 2023, at 13.2 percent of its workforce, while Serbia had the lowest rate, at 9.4 percent.

Therefore, the aim of the paper is to explain young people’s satisfaction towards the national education system, as this may be a factor for explaining the performance of the educational system. In line with this purpose, the research questions addressed in this study are:

Q1: Are there differences between the Balkan countries in terms of young people's satisfaction with the quality of the education system?

Q2: What are the determinants of young people's satisfaction with the quality of the education system?

To answer these questions, we capitalize on the existing information in the Friedrich Ebert Stiftung (FES) Youth Study (2018/2019) database, which contains over 10000 young respondents from ten Balkan countries, namely: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Kosovo, the Republic of Northern Macedonia, Montenegro, Romania, Serbia, Slovenia. Most of these countries are part of the Western Balkans (defined by the European Union as Albania, Bosnia and Herzegovina, Kosovo, Macedonia, Montenegro, and Serbia), alongside Croatia, Romania, Bulgaria and Slovenia, member countries of the European Union. The Western Balkans region is undergoing a rapid process of economic transition. Although it has made considerable economic progress, the region is struggling to reach the same level of development as many of its neighbours, as the Western Balkan countries have a lower gross domestic product per capita and higher youth unemployment rates than most countries in Central and Eastern Europe. A well-informed and skilled population is an indispensable component of

the dynamic economies and inclusive societies that the Western Balkans aims to build, making education reform a central pillar of regional development efforts (European Union, 2019).

This study is original in its thematic focus, in a comparative approach between different countries, as well as in combining a bibliometric analysis with statistical multivariate methods of data analysis.

The paper is structured in 5 sections, including an Introduction and Conclusions. In Section 2 a review the literature is provided, which is complemented by a bibliometric analysis on the topic. Section 3 presents the data and methods used, followed by the data analysis and interpretation of the results in Section 4.

2. Literature review: findings from a bibliometric analysis

The literature on education systems' performance is extremely vast, as shown in the bibliometric analysis carried out. However, the analysis of perceptions of the quality of the education system is less extensive.

Students' perception of the quality of education differs among different demographic groups defined by nationality, gender or present level of study (Min & Khoon, 2013). Other studies indicate that students' perception of the quality of education depends on age (Akareem & Hossain, 2016), gender (Çera et al., 2018, p. 10) or family background (Akareem & Hossain, 2016).

Student satisfaction can be defined as an attitude resulting from the evaluation of students' educational experience, services and facilities offered by the institution (Kanwar and Sanjeeva, 2022). The paper argues a large interest in methodological approaches to collecting data on satisfaction with education. It also describes the development and implementation of a questionnaire for assessing student satisfaction at undergraduate and master's level in India, focusing on four dimensions, such as Curriculum and Teaching, Infrastructure, Student support and Administrative matters, considering as demographic variables the field of study, level of study and gender. While for Teaching staff, respondents rated this dimension positively, rather low satisfaction was observed with Administrative services or Non-academic support.

In their paper, Weerasinghe and Fernando (2017) discussed the theoretical and empirical literature in the field of higher education with the intention of improving the existing level of knowledge, and conducted a literature review. The theoretical review showed that satisfaction is a psychological process and is influenced by many factors in different contexts.

Graves et al. (2021) used t-tests to examine gender differences in stress and coping among 448 undergraduate exercise science students. Results showed that females reported higher stress levels than males and were more likely to use emotion-focused coping and four specific coping strategies more frequently. According to Malik et al. (2010), infrastructural facilities become important as these facilities satisfy the perception, regard and develop students with all the necessary elements and capabilities to become effective learners.

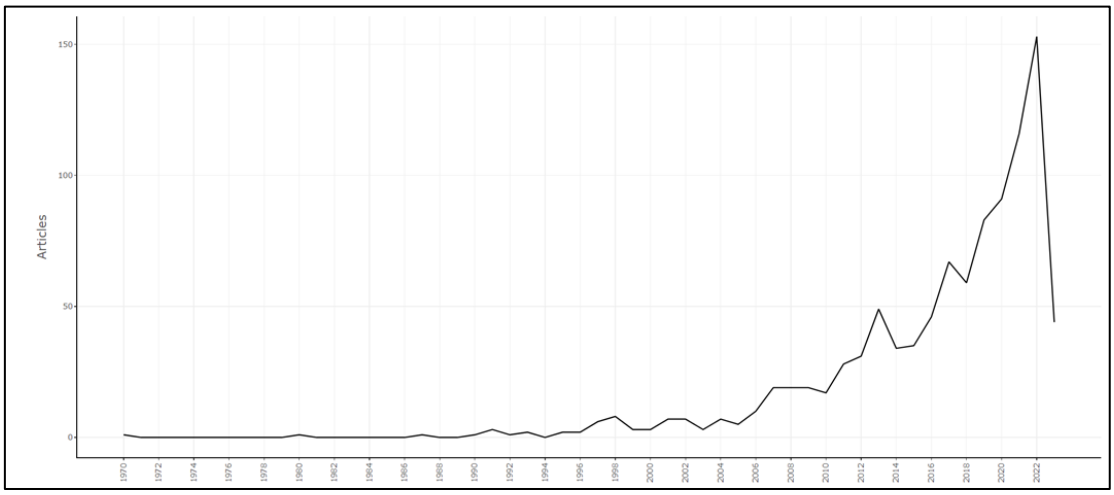
Around the world, higher education institutions are increasingly competing for students nationally and internationally. They strive to improve student satisfaction in order to attract and retain them. This can only be achieved if all services that contribute to 'academic life' are of sufficient quality. Student satisfaction can be defined as an attitude resulting from the evaluation of students' educational experience, services and facilities offered by the institution.

Education is just one of the measures used to assess global human development in combination with health and living standards. The United Nations Development Program report (UNDP, 2020) emphasized that for the first time since the concept was introduced in 1990, the world is on the brink of a setback during 2020, the year of the Covid-19 pandemic outbreak. Education therefore has a multiple role: it contributes to human development, economic development, but also to the personal development of individuals.

In order to provide an in-depth analysis on the existing evidence, a bibliometric analysis was conducted, proving that education and perceptions of education are a major concern in scientific research. The bibliometric analysis was carried out using the *bibliometrix package* in R (Aria & Cuccurullo, 2017; R Core Team, 2023). The key words underlying the selection in Scopus collection are: "youth", "Education" and "perception". A total of 982 papers were selected, which have over 3100

authors. There is a high prevalence of co-authorship, with an average of 3.3 authors per paper, and 18% of the papers have international co-authors.

Figure 1. Annual number of scientific publications in the field of education since 1970



Source: own work in RStudio (Posit team, 2025).

Figure 1 shows that the number of publications increased exponentially, especially after 2007. The increase accelerated after 2016. Figure 2 presents the word cloud associated with the papers selected from title, abstract and keywords. It shows an emphasis on gender differences, with a preponderance on the female gender. There is a focus on life stages: children and adolescents, young adults and adults, given also on human capital and quality of life. There is also an interest in survey and questionnaire methods.

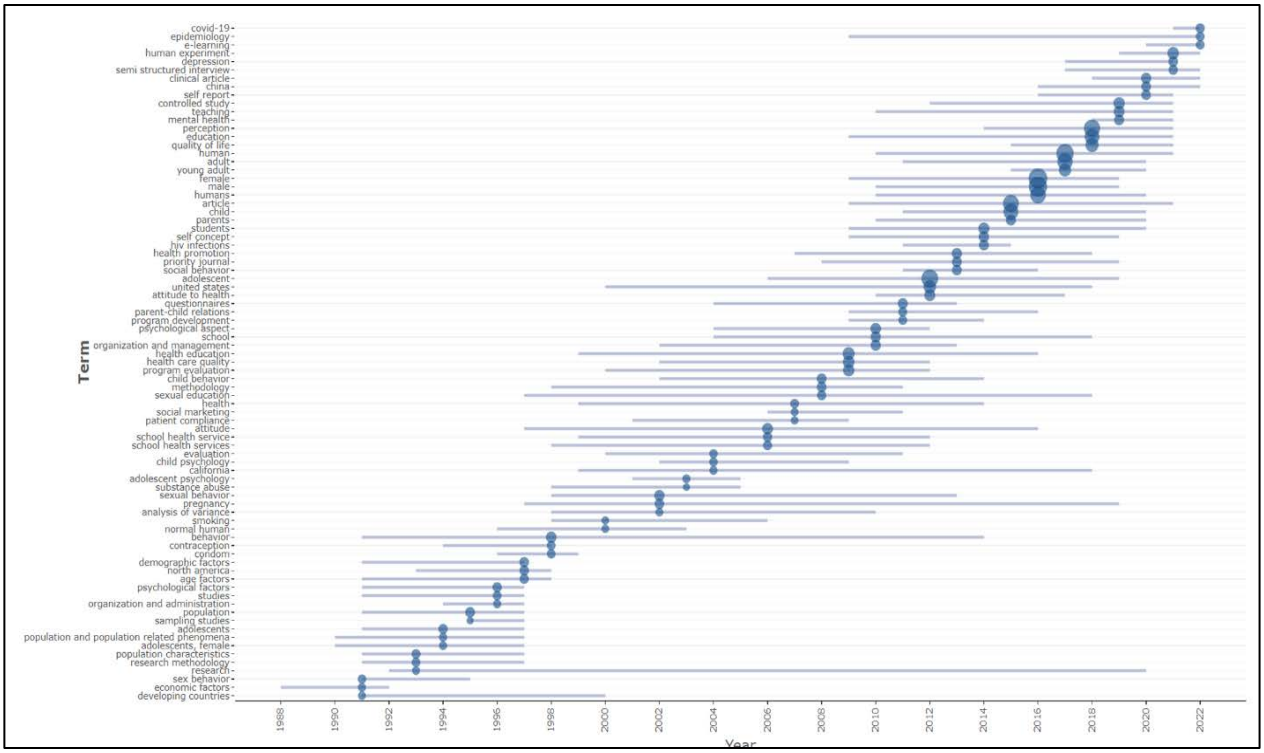
Figure 2. Word cloud - Key concepts in the surveyed papers

Source: own work in RStudio (Posit team, 2025).

When looking at the dynamics of the identified themes, displayed in Figure 3, three periods can be identified that suggest the major research directions:1970-1998: methodology, women, population, students, economic development, developing countries; 1998-2010: sexuality education, reproduction, health, perceptions, parent-child relationship; 2010-2023: e-learning, COVID, health, students, social behavior, teaching. The themes are related using network analysis. The network in Figure 4 allows the identification of two broad research directions and the relationships between them. The light-colored cluster shows an interest in students, learning, university, professors, teaching, while the more

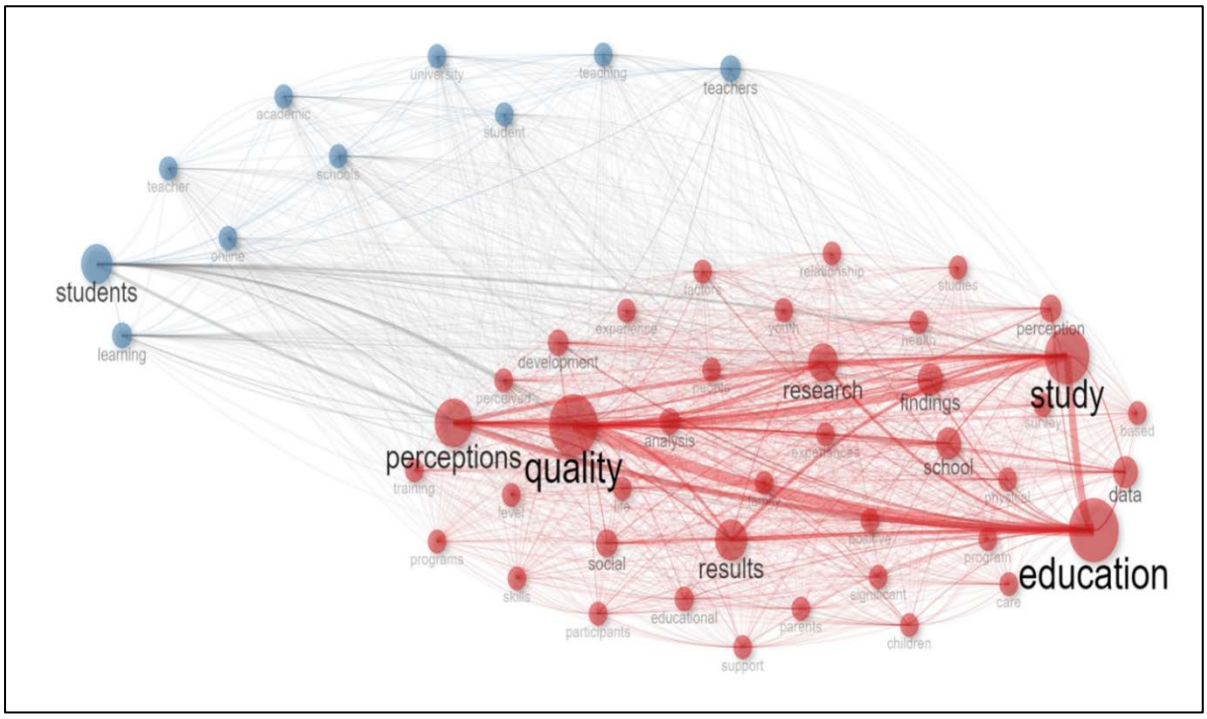
pronounced colored group reveals education outcomes, in correlation with perceptions, quality of education and methods used in education.

Figure 3. Frequency of the relevant terms.



Source: own work in RStudio (Posit team, 2025).

Figure 4. Network of identified themes



Source: authors' work in RStudio (Posit team, 2025).

The analysis confirms a notable and increasing interest in studying the perception of education systems, related to the quality of education. However, little evidence exists on a comparative setting,

and emerging regions like the Balkans are still undercovered. This paper has the ambition to diminish this gap.

3. Data and methods used

This article is based on data obtained through the empirical research Youth Studies Southeast Europe 2018/2019 conducted by the Friedrich Ebert Stiftung (FES). The study was conceived and conducted to provide an international perspective on youth, carried out simultaneously in ten countries in Southeast Europe and the Western Balkans: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Kosovo, Macedonia, Montenegro, Romania, Serbia and Slovenia. The most respondents are in Croatia (1500), followed by Kosovo (1200) and the fewest in Montenegro (711); in Romania, 1040 young people were interviewed. The main objective of the study is to identify, describe and analyze the attitudes and behaviors of young people in contemporary societies.

A standardized questionnaire with closed-ended questions was used for data collection, with the option to include up to ten questions specific to youth in each country. A wide range of issues were addressed, including young people's experiences and aspirations in different areas of life, such as: education, employment, political participation, family relationships, leisure time and the use of information and communication technology, their values, attitudes and beliefs. The youth sample was stratified by the size of regions and places of residence, as well as by age and gender, and consisted of a total of more than 10,000 respondents aged 14-29 from the 10 countries.

In this paper, we considered as main question from the questionnaire: "How satisfied are you generally with the quality of education in your country?" The variable of interest is therefore related to the perceptions of the quality of the education system. This is an ordinal variable, measured on a 5-point Likert scale with response options ranging from Not satisfied at all (1) to Very satisfied (5). In order to better discriminate the satisfaction with the quality of education, between those with good perceptions and those with less good perceptions, we transformed the original variable into a binary one: 1 - Perceived Good and Very Good (coming from the initial 4 and 5 responses on the Likert scale) and 0 - Totally dissatisfied to Neutral (coming from the remaining initial responses on the Likert scale, i.e. 1, 2 and 3).

Explanatory variables employed to understand the perception of the quality of education are: country of origin of the respondent, age, gender, perception on corruption in the education system, perception on the quality of life in school, perception on the adaptation of the education system for the labor market, educational status of the respondent. Statistical processing involved the application of a variety of methods, like univariate analysis and bivariate analysis (correlation; independence chi-square tests) for answering the research question Q1, while binary logistic regression analysis was employed for addressing the second research question Q2.

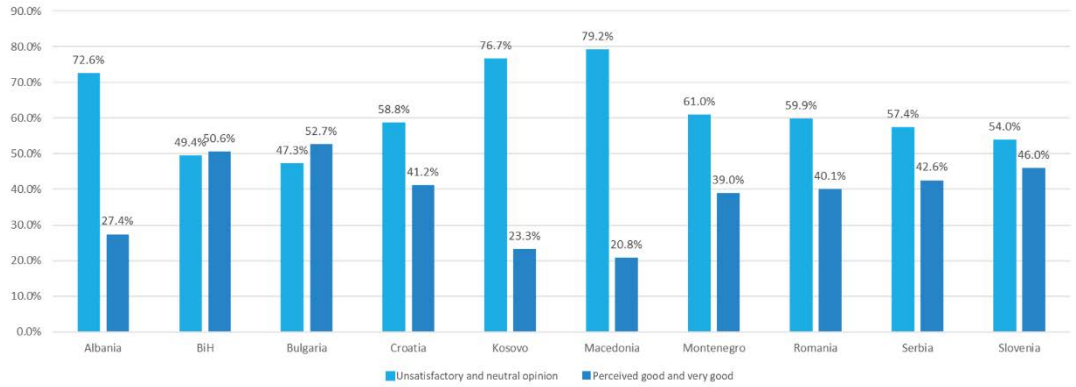
4. Results and discussions

Cross-country differences in perceptions of education

This section describes the sample from a demographic perspective, related to age, gender, educational or occupational status. The sample is very substantial, consisting of 10907 respondents, young people aged between 14 and 29. The distribution of the sample by gender shows that both sexes are almost equally represented, with a slight advantage for boys (50.25% compared to 49.75%).

A first approach in answering the RQ1, namely to identify possible cross-country differences in perceptions of education quality, was to present the relative frequency distribution of the perceived binary satisfaction with the educational system, by country (Figure 5). This figure displays marked differences among the countries, with Bulgaria and BiH (Bosnia and Herzegovina) standing as having a predominantly good and very good satisfaction (52.7% and 50.6%, respectively, so over or slightly over 50%), while other, in particular Albania, Kosovo and Macedonia, exhibit quite the opposite, over 70% of young people living in those countries having a rather unsatisfactory perception.

Figure 5. Distribution of young people's perceptions of education by country



Source: authors' work based on FES data (2019).

For a more detailed analysis, we have considered the initial (original) variable on the education quality perception and Table 1 shows the bivariate distribution with the respondents' country. For all the countries, except BiH, Bulgaria, Serbia, and Slovenia, category 3 - Neutral is the dominant one. The frequencies and proportions presented in the contingency Table 1 below indicate major differences between countries in the perception of the quality of education: in Macedonia, Kosovo and Albania the majority of young people have a very bad or neutral opinion, more than 70% of the respondents, as it can be better seen in Figure 4. In the same figure, we observe in other countries, such as Serbia, Slovenia, Bulgaria and Bosnia, a rather balanced appreciation or perception between satisfactory (good and very good) and the opposite perception.

A few reasons for Macedonia being the country with the most unsatisfied people could be a lack of resource management and professional behaviour and ethical conduct on behalf of teachers. Serbians may view their education system more favorably due to structured measures such as mandatory diagnostic assessments, a revised school evaluation framework focused on effective teaching, the use of evaluation data to promote peer learning, and funding models that address student needs while improving system efficiency (OECD, 2020).

Getting closer to answering the first research question, identifying significant cross-country differences in perceptions of education quality, we test whether there is significant association between the variables "Country" and "Perception of education quality" and with this respect we have conducted a chi-square test on the contingency Table 1.

Table 1. Contingency table between "Country" and "Satisfaction with the quality of education"

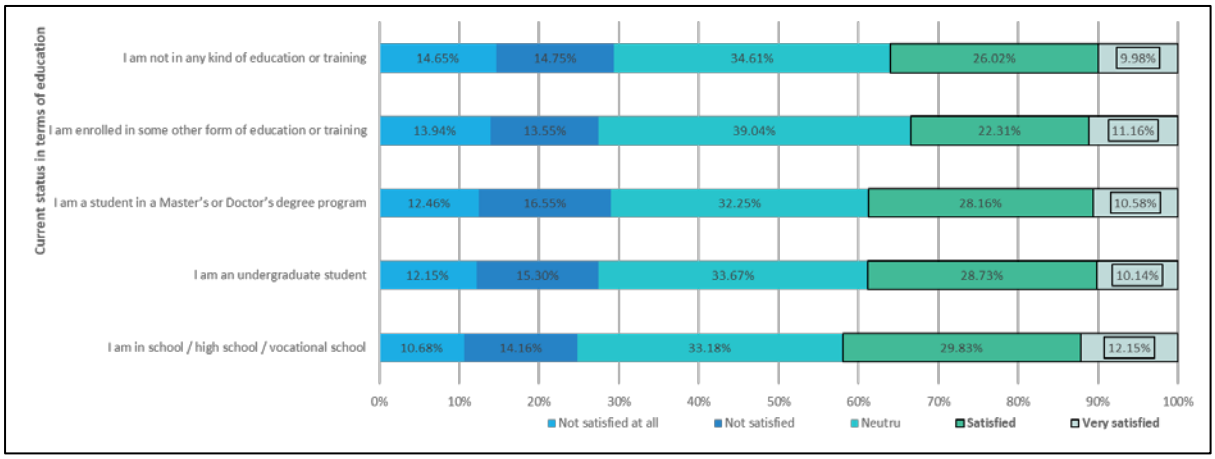
			Country										Total
			Albania	BiH	Bulgaria	Croatia	Kosovo	Macedonia	Montenegro	Romania	Serbia	Slovenia	
Satisfaction with the quality of education	1	Count	219	114	102	126	177	227	88	166	100	65	1384
		%	18.2	11.5	10.6	8.8	15.0	22.9	13.5	16.5	8.9	6.6	13.1
	2	Count	191	152	103	189	171	205	113	120	209	124	1577
		%	15.9	15.3	10.7	13.2	14.5	20.7	17.3	11.9	18.6	12.6	15.0
	3	Count	465	225	249	529	559	353	198	317	336	340	3571
		%	38.6	22.7	25.9	36.8	47.3	35.6	30.3	31.5	29.9	34.7	33.9
	4	Count	196	450	333	465	168	137	192	250	357	340	2888
		%	16.3	45.3	34.7	32.4	14.2	13.8	29.4	24.8	31.8	34.7	27.4
	5	Count	134	52	173	128	107	69	63	154	121	112	1113
		%	11.1	5.2	18.0	8.9	9.1	7.0	9.6	15.3	10.8	11.4	10.6
Total		Count	1205	993	960	1437	1182	991	654	1007	1123	981	10533
		%	100	100	100	100	100	100	100	100	100	100	100

Source: authors' work in IBM SPSS 20, based on FES data (2019).

The calculated value of the Chi-Squared test statistic is $\chi^2 = 872.693$, df = 36, and the associated probability is very close to zero, thus the null hypothesis of no significant association is rejected in favor of the alternative one. Therefore, there is a significant association between respondents' satisfaction with the quality of education and country, and young people in various countries have different perceptions, confirming the existing differences between education systems.

Further on, we checked whether there is significant association between the variables "Country" and "Perception of corruption in education". The latter is measured by the question: "do you think exams can be 'bought'? = "Do you agree that there are cases where grades and exams are ´bought´ in institutes/universities in your country? " In Albania, Macedonia, Serbia the majority of young people (58%, 54% and 61%) strongly believe that exams can be bought, while in Croatia it is the lowest proportion, 18%. It is noteworthy that in the whole sample the proportion of the worst-case scenario is very high, 41%. The test of statistical significance of these differences among the countries was performed with a Chi-2 test. As the calculated value of the test statistic is 1265.447, df = 36, with a p-value smaller than 0.01, we conclude that there is significant association between the analyzed variables. The coefficient of contingency (significantly different from zero) is 0.377, which confirms the existence of a medium to high intensity association between country and perceptions on corruption in education.

Figure 6. Association between young people's perception of education and educational status



Source: authors' work based on FES data (2019).

We were also interested in the existence of a significant association between perceived quality of education and the respondent's current educational status. While Figure 6 shows the relative frequencies of the first variable according to the response categories of the second one, the calculated value of the chi-square independence test was $\chi^2 = 48.928$, df = 16, with a p-value much smaller than 0.01, demonstrating that there is significant association between the analyzed variables, satisfaction and educational level. This important aspect suggests that the analysis should be detailed differently on the group of those who are still in the education system and we have attempted to do so in the next section.

To conclude, as an answer to the first research question RQ1, the statistical analysis confirms the existence of significant differences in the perceptions of the young people on the education systems between the Balkan countries.

Determinants of perceptions of quality of education in Balkan countries

The second research question of this paper aims to identify several significant determinants of perceptions of educational quality. Based on the results of the previous sections, including the literature review, it can be foreseen that these factors concern: the respondent's country of origin, age, gender, corruption in the education system, quality of life in school, the respondent's educational level, the adaptation of the education system for the labor market, as well as the use of the Internet for school, and school performance. The appropriate multivariate statistical method to be applied was the estimation of a binary logistic regression model, as the 5-point Likert scale variable "Perception of the quality of the education system" was transformed into a binary one, the outcome of interest being

"Good" and "Very good" perception. The variability in the proportions of this outcome by the country has been presented in Figure 4.

While preparing to estimate logistic regression models, we started from the premise that students may have a different perspective on education than young people who have left the education system. Moreover, there are questions in the questionnaire that were only asked to students. We therefore developed two separate logistic regression models for the whole sample of more than young respondents (Model 1) and for pupils and students (3972 persons) (Model 2). The sample distribution of the perception on the quality of the education system by educational status was presented in Figure 6.

The goodness-of-fit for the estimated binary logistic regression Model 1 was assessed using the Hosmer-Lemeshow test, which yielded a calculated chi-square test statistic of 11.958, df = 8, with a p-value of 0.153. Since the p-value is greater than the conventional significance level of 0.05, there is no evidence to suggest a lack of fit, indicating that the model fits the data adequately, the model's predicted probabilities match the observed event rates. Moreover, the pseudo R^2 values, Cox and Snell of 0.165, and especially Nagelkerke (which takes values within the interval 0-1) of 0.227, between 0.2 and 0.4, indicate a moderate relationship between the considered predictors and the binary outcome.

Table 2. Regression results for Model 1

Variables in the Model	*B (coeff)*	*S.E.*	*Wald test*	*df*	*Sig.*	*Exp(B)*
Respondent's sex: Female (*Ref = Male*)	.129	.052	6.073	1	.014	1.137
Respondent's age	-.022	.008	7.214	1	.007	.978
How many people live in your household altogether?	.028	.018	2.536	1	.111	1.028
Do you think that in your country, training, school and university education are well adapted or not to the current world of work? Not well adapted (*Ref = Well adapted*)	-1.559	.057	740.540	1	.000	.210
What is your highest education level completed so far? (*Ref = No formal education / incompleted primary school*)			33.539	6	.000	
Primary school	-.063	.162	.151	1	.697	.939
Vocational or technical secondary school	-.184	.176	1.096	1	.295	.832
Secondary school: university-preparatory type	-.036	.170	.044	1	.833	.965
University-level education: Bachelor degree or similar	.072	.188	.148	1	.701	1.075
University-level education: Higher than bachelor degree (MA/MSC degree)	.464	.206	5.083	1	.024	1.590
Doctoral or post-doctoral degree	1.370	.747	3.362	1	.067	3.935
Do you agree that there are cases where grades and exams are ´bought´ in institutes/universities in your country? (*Ref =1 – Not at all*)			67.642	4	.000	
2	-.241	.133	3.300	1	.069	.786
3	-.395	.109	13.037	1	.000	.674
4	-.169	.107	2.508	1	.113	.844
5 – Very much	-.636	.104	37.431	1	.000	.529
Country (*Ref = Albania*)			392.320	9	.000	
BiH	1.138	.109	109.362	1	.000	3.120
Bulgaria	1.143	.118	93.377	1	.000	3.136
Croatia	.182	.106	2.941	1	.086	1.199
Kosovo	-.388	.120	10.427	1	.001	.678
Macedonia	-.654	.133	24.078	1	.000	.520
Montenegro	.743	.138	28.776	1	.000	2.102
Romania	.330	.117	7.973	1	.005	1.391
Serbia	.785	.114	47.390	1	.000	2.192
Slovenia	.779	.114	46.978	1	.000	2.180
Constant	.736	.242	9.255	1	.002	2.087

Source: authors' work in IBM SPSS 26 based on FES data (2019).

Note: Ref in the above table specifies the reference category or level of a qualitative variable.

Post estimation, we analyzed the classification table, which shows that the model adequately predicts 71.6% of the estimated probability values, considering 0.5 as cutoff probability.

Model 2 employs the sub-sample of young people in education (n=3792 persons) and it contains some additional variables and adds new information to the previous model. Thus, we introduced variables related to student status such as: Satisfaction with quality of life at school, Using the internet for studying, Average hours of study per day, Educational level, Average from previous academic year. Along with these, we also considered the variables employed in the Model 1: Country of origin, Sex, Age, Perception of corruption, Adapting your studies to the job market, Number of persons in the household. These demographic and system-related variables constitute a set of factors that have the potential to explain perceptions of educational quality.

For this second binary logistic regression model, the Nagelkerke R^2 is 0.245, between 0.2 and 0.4, showing a moderate relationship between the predictors and the binary outcome of satisfaction with the quality of education. The Hosmer-Lemeshow goodness-of-fit test was implemented to check whether the model adequately describes the data and the calculated value of the chi-square test statistic was 6.211, df=8, with a p-value of 0.624, much greater than 0.05. If the probability associated with the test were less than the 5% significance level, it would have indicated a poor fit.

Table 3. Regression results from Model 2

Variables in the Model	*B*	*Wald*	*df*	*Sig.*	*Exp(B)*
Respondent's sex: Female (*Ref = Male*)	0.011	0.021	1	0.885	1.011
Respondent's age	-0.019	1.228	1	0.268	0.981
Country (*Ref = Albania*)		221.373	9	0.000	
BiH	1.329	67.308	1	0.000	3.778
Bulgaria	1.177	41.030	1	0.000	3.245
Croatia	0.317	3.881	1	0.049	1.372
Kosovo	-0.576	11.709	1	0.001	0.562
Macedonia	-0.696	12.511	1	0.000	0.499
Montenegro	0.554	7.428	1	0.006	1.739
Romania	0.490	6.895	1	0.009	1.632
Serbia	0.753	20.031	1	0.000	2.123
Slovenia	0.936	33.249	1	0.000	2.549
Use of the Internet for studying (*Ref = Often – at least ones a week*)		3.130	2	0.209	
Never	-0.213	0.930	1	0.335	0.808
Sometimes	-0.147	2.579	1	0.108	0.864
Average hours of study per day (*Ref = 0-1 h*)		15.080	3	0.002	
1-2 h	0.067	0.343	1	0.558	1.069
2-3 h	0.337	8.132	1	0.004	1.400
More than 3 h	0.381	8.817	1	0.003	1.463
Respondent's current education status (*Ref = In school / high school / vocational school*)		14.752	3	0.002	
Undergraduate student	0.207	2.900	1	0.089	1.230
Student in a Master's or Doctor's degree program	0.154	0.673	1	0.412	1.166
Enrolled in some other form of education or training	-0.737	6.979	1	0.008	0.479
Do you think that in your country, training, school and university education are well adapted or not to the current world of work? Not well adapted (*Ref = Well adapted*)	-1.542	340.385	1	0.000	0.214
Do you agree that there are cases where grades and exams are ´bought´ in institutes/universities in your country? (*Ref =5 – Very much*		18.457	4	0.001	
Not at all	0.401	6.382	1	0.012	1.494
2	0.101	0.418	1	0.518	1.107
3	0.160	2.206	1	0.137	1.173
4	0.394	15.441	1	0.000	1.483
Previous academic year average grade (*Ref = Mostly 4-5/9-10*)		1.333	3	0.721	

Mostly 1-2/5-6	-0.257	1.227	1	0.268	0.774
Mostly 2-3/7-8	-0.067	0.358	1	0.550	0.935
Mostly 3-4/8-9	-0.052	0.303	1	0.582	0.950
Quality of life and stress at school (*Ref = Very easy and completely stress free*)		26.470	4	0.000	
Very hard and stressful	-0.753	9.942	1	0.002	0.471
Quite hard and stressful	-0.618	9.617	1	0.002	0.539
Hard and stressful to some extent	-0.469	6.299	1	0.012	0.626
Easy and not particularly stressful	-0.124	0.407	1	0.523	0.884
Number of persons in the dwelling	0.048	3.402	1	0.065	1.049
Constant	0.289	0.571	1	0.450	1.336

Source: authors' work in IBM SPSS 26 based on FES data (2019).
Note: Ref in the above table specifies the reference category or level of a qualitative variable.

Unlike the Model 1 (for the whole sample of young people), in Model 2 specific to pupils and students, *age and gender* are not significant variables. Therefore, considering the homogeneity of the sample, these two demographic characteristics do not influence the probability of positively perceiving quality in education.

On the other hand, *Educational level* is a significant determinant for the perception of the education quality. Young people with higher education (master's/doctorate) are less likely than young people with primary education to perceive quality as good or very good.

Country is a very relevant significant factor. In the following countries the likelihood of young people to rate positively is lower: Kosovo and Macedonia - compared to Albania, the reference country. In all other countries the probability that young people positively value education is higher. Two countries stand out, Bulgaria and Bosnia and Herzegovina, which have the highest coefficients in the regression model (1.177 and 1.329, respectively). Bulgaria is more than 3 times more likely to have a favorable quality rating, and Bosnia and Herzegovina is almost 4 times more likely to have a favorable quality rating, compared to Albania. This shows that young people are most satisfied with the quality of education in Bosnia and Herzegovina, followed by Bulgaria, and least satisfied in Kosovo and Macedonia. These findings partly correspond with the share of GDP allocated to education, as Bulgaria and Bosnia and Herzegovina both spend above the regional average and show a higher likelihood of positive ratings, while Albania has one of the lowest levels of education funding and the lowest perception of education quality. *Family size* is a significant factor (at a 10% significance level) and the results suggest that young people living in larger families will be more likely to rate the quality of education positively. This confirms that family status plays a role in the perception of educational quality (Akareem & Hossain, 2016). Larger family size may reduce the amount of parental support or supervision each child receives regarding school, which can shape how supported or satisfied they feel with their education.

The economic analysis of the Educational variables adds new insights to our results.

Perceived quality of life at school is a factor that strongly negatively affects perceptions of the quality of education. Young people who have an unfavorable perception of life and stress at school are much less likely to rate the quality of education positively. Stress is therefore a psychological factor which has a major impact on the quality of the education system and which needs to be recognized by pupils and teachers. Stress levels among students have been shown to correlate with their perceptions of educational quality. Existing evidence that high levels of stress are associated with poorer quality of life in university students, which can extend to their academic experiences. Additionally, other studies on perceived stress and learning satisfaction found that while some stress can enhance learning satisfaction, excessive stress, particularly when leading to burnout, negatively affects students' satisfaction with their education (Sen et al., 2023).

Young people who feel that *education is not adapted to the labor market* are also less likely to rate the quality of education positively. Young people from Balkan countries are most interested in acquiring skills that are viable in the labor market as they are affected by the school-to-work transition. If education is theoretical, outdated, or disconnected from real-world skills or job prospects, students may see it as low quality, even if instruction or facilities are otherwise good. To improve the transition from school to work, regardless of the economic climate, education systems should aim to ensure that

young people have the skills needed in the labor market. The Organisation for Economic Co-operation and Development (OECD) reported in 2019 that higher education institutions that closely align their curricula with labor market demands tend to produce graduates who are better prepared for employment (OECD, 2019). This alignment enhances students' perceptions of education quality and their readiness for the workforce.

The results show that in Balkan Countries, the corruption in the education *system* affects the quality of education; it shows that young people who strongly agree that there is corruption are more likely to rate the quality of education positively (compared to the reference category). Studies in countries like Romania, Serbia, and Ukraine show a clear link between perceived corruption in education and low satisfaction or negative perceptions of system quality. Heyneman's foundational paper explains how corruption in education undermines institutional trust and reduces quality perceptions globally (Heyneman, 2004). For instance, if teachers are corrupt (e.g., selling grades or demanding bribes), students may stop engaging seriously with learning, leading to a sense that the system is ineffective or illegitimate. Corruption can also divert funds away from quality improvement, resulting in poor facilities or outdated curricula.

The students' performance is clearly associated with their satisfaction with the education system. The average number of hours of study per day is also a significant factor (at the 5% significance level). Young people who study more will be 46% more likely to rate the quality of education positively compared to the reference category. Students who get good grades or feel they're learning effectively often view the system as fair, effective, and supportive. More study hours can lead to better understanding and higher satisfaction with how subjects are taught. Mihanović et al. (2016) found that academic performance and engagement were significant predictors of students' satisfaction with and perception of higher education quality. This conclusion is now demonstrated for all the young people in Balkan countries, engaged in education.

Variables related to *grade average in the previous school year and Internet use in schools* do not significantly influence the likelihood of positively perceiving the quality of education.

Post estimation, we analyzed the classification table, which shows that the model adequately predicts 71.3% of the estimated probability values.

In summary, the analysis identified several key determinants of young people's satisfaction with the education system. These include the country of origin, the perceived adaptation of education to the labor market, perceived stress or quality of life in school, corruption perceptions, time spent studying, and family size. Variables such as gender and age showed significance in the general population but not among current students, while academic performance and internet use were not consistent predictors.

5. Conclusions

This research examines the factors influencing young people's satisfaction with the quality of the education system, as well as the variations in satisfaction across different countries from the Balkans. The statistical data used in the study is sourced from the FES 2018/2019 database, which includes responses from over 10,000 individuals across 10 Balkan nations, including Romania.

Bivariate analysis shows that there are differences between countries in the quality of the education system. In Macedonia, Kosovo and Albania the majority of students have a very bad opinion and in other countries (Bulgaria and Bosnia) the perception of the majority is good and very good.

Our results show that age and gender significantly affect the perception at the population level between 14-29 years old (model 1) and gender gaps are confirmed: boys are more critical than girls. This confirms the results from the literature (Çera et al., 2018, Akareem & Hossain, 2016) and the bibliometric analysis.

The logistic regression models developed confirm the significant differences between countries. Bulgaria is 277% more likely to rate quality favorably and Bosnia and Herzegovina 224% more likely to rate quality favorably. This shows that young people are most satisfied with the quality of education in Bulgaria, followed by Bosnia and Herzegovina, and least satisfied in Kosovo and Macedonia. The other explanatory factors that have a significant positive influence in Model 2 are:

Educational attainment, adaptability of the system to the labor market, number of hours of study, household size.

As with any empirical study, this research is subject to several methodological and interpretative limitations. First, the use of self-reported data from a single cross-sectional survey limits the ability to draw causal inferences. Respondents' answers may also be influenced by social desirability bias or cultural norms regarding satisfaction. Moreover, some key variables such as education quality and corruption are based on subjective perceptions, not objective institutional metrics. These limitations suggest caution in generalizing the findings beyond the Balkan region or inferring long-term trends.

These findings carry significant implications for public policy. The strong connection between education and labor market relevance highlights the urgency of curriculum reform to include more practical, skill-based learning, supported by closer collaboration between education ministries, employers, and labor experts. Corruption in educational institutions, which undermines both quality and trust, must be tackled through transparent evaluation systems and strict enforcement of academic integrity. At the same time, the influence of school climate and stress on student satisfaction underscores the need for more supportive learning environments, including enhanced counseling services and mental health training for educators. Cross-country differences in satisfaction levels also point to the value of regional cooperation, where countries with higher-performing education systems—such as Bosnia and Herzegovina or Bulgaria—can serve as models for peer learning and policy exchange.

The paper provides relevant arguments for increasing the role of public education and the quality of education systems in the Balkans. During economic downturns, public investment in education could be a sensible way of countering unemployment and investing in future economic growth through skills development (Susanto and Padilla, 2024). In addition, public investment could be directed towards potential employers in the form of incentives to hire young people.

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