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Access and Admission to Higher Education:

The Greek Case within a European Context (2020-2024)

National Exams Organization

Independent Authority

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Abbreviations-acronyms table

A-Level	Advanced Level
AS	Advanced Supplementary
Bac	Baccalauréat
CTA	Common Travel Area
DIA	Deutsches International Abitur
EU	European Union
GCE	General Certificate of Education
GNVQ	General National Vocational Qualification
HEI	Higher Education Institution
K12	Kindergarten to 12th grade
KMK	Kultusministerkonferenz
NEO	National Exams Organization
MAB	Minimum Admission Base
MATSEC	Matriculation and Secondary Education Certificate
n.d.	No date
NEO	National Exams Organization
NÚV	National Institute for Education, Education Counselling Centre and Centre for Continuing Education of Teachers
OCR	Oxford Cambridge and Royal Society of Arts Examinations
OECD	Organisation for Economic Co-operation and Development
OG	Orientation Group
PISA	Programme for International Student Assessment
Q	Question
SF	Scientific Field
UK	United Kingdom

This publication of the Hellenic Independent Authority, the National Exams Organization (NEO), forms part of its mission to ensure the high quality and transparency of the national entrance exams (Panhellenic Exams) for higher education in Greece. It seeks to highlight developments concerning university entry through an analysis of national data from the period 2020-2024, situating them within a broader European comparative framework.

The analysis focuses on the impact of the establishment of the Minimum Admission Base (2021) as a prerequisite for access and admission to higher education. By processing quantitative data for the period 2020-2024, the publication examines the effects of this policy on candidates' performance in the Panhellenic Exams, as well as on the redistribution of their preferences across Scientific Fields.

To situate the Greek experience within the broader European context, an Appendix with comparative data accompanies the publication on admission policy and procedures to public higher education institutions in Europe, based on a 2021 NEO study. This comparative overview highlights both common trends and distinctive national approaches, thereby contributing to the broader European dialogue on access and admission to higher education.

Over the past year, the NEO has been systematically updating its database on the examination systems across European countries. This ongoing work is supported by responses expected from the recently issued *Survey Questionnaire on Access to Higher Education* (Papamentzelopoulos et al., 2025), a tool for collecting data on European admission systems to tertiary education, which is available at: *https://eoe.minedu.gov.gr/index.php/meletes-e-o-e/276-survey-questionnaire-on-access-to-iigher-education-erotimatologio-erevnas-gia-tin-prosvasi-stin-tritovathmia-ekpaidefsi*

At the same time, through cooperation with embassies in Greece and visits to school units of participating countries, the NEO continues to update and enrich the data included in this Appendix, which refers to information up to 2021.

This publication serves as a reliable reference for the design and evaluation of educational policies, as well as a useful resource for researchers, educators, and stakeholders engaged in the continuous improvement of education in Greece and across Europe.

Dr Konstantinos Papamentzelopoulos,
Executive Director

Access to Higher Education in Greece: Data Insights from the Panhellenic Exams and the Minimum Admission Base Reform (2020–2024)

1. Introduction

Access to Higher Education Institutions (HEIs) constitutes a crucial milestone in young people's educational pathways, significantly impacting their future, both academically and professionally. The selection of HEIs by prospective students has been the focus of scientific research from the perspective of human capital investment theories and sociological models that focus on the influence of candidates' socioeconomic characteristics (Perna, 2006; Walsh & Cullinan, 2007). However, examining these factors in isolation is inadequate for a comprehensive understanding of students' decisions since multiple factors interact in the decision-making process regarding HEI selection, thus requiring a holistic approach that combines both theoretical frameworks. Alongside individual choices, enhancing broader participation in higher education primarily to support students who, due to their socioeconomic background have fewer opportunities to access HEIs (Haveman & Wilson, 2007; Ioakimidis & Papakonstantinou, 2017; Ilie et al., 2021; Dean, 2024; Loureiro et al., 2024), should be a national strategic priority for education policy (Marginson, 2016; Evans et al., 2019; Boliver et al., 2022).

In addition to policies aimed at reducing inequalities in access, the choice of HEIs is influenced by various factors that can generally be classified into intrapersonal, socioeconomic, career-related, and institution-related factors. In brief, intrapersonal factors include cognitive skills and psychological characteristics that affect academic performance and shape the personal expectations, interests, abilities, values and motivations of each prospective student when selecting a HEI (Obermeit, 2012; Meyer et al., 2021).

Socioeconomic factors include the family's social and economic capital, the aspirations/expectations of the family and the support it can provide to the prospective student (Perna, 2006; Mitchall & Jaeger, 2018), as well as the cost of living and transportation, when the HEI is distant from the student's home or tuition and other financial burdens associated with HEIs that require fees (Briggs, 2006; Briggs & Wilson 2007; Callender & Jackson, 2008; Obermeit, 2012; Szymczak & Gajderowicz, 2023).

The HEI-related factors mainly concern the minimum admission requirements, the institution's reputation, the quality of its academic programs and the available facilities (Briggs & Wilson 2007; Walsh & Cullinan, 2007; Dunnett et al., 2012; Obermeit, 2012). Ultimately, the employment prospects that arise from obtaining a university degree play a crucial role in determining a field of study for prospective students (Varga, 2006; Briggs, 2006). Indeed, the rapid development of technology, information science and artificial intelligence, as well as the growing need for data management and cybersecurity, advances in medicine and biosciences. The increasing demand for business professionals continuously create new employment opportunities, making these specific fields particularly attractive to many students (Li et al., 2017; Goel et al., 2018; Soto, 2020; Ali et al., 2022; Goulart et al., 2022; European Commission, 2024).

2. The Higher Education Admission System in Greece (General Lyceum/Upper Secondary Education)

In Greece, access to HEIs is achieved through the national university entrance exams (Panhellenic Exams), which have been a fundamental pillar of the Greek educational system since their establishment in 1964, and they remain so to this day. Although the access system has undergone several changes over more than sixty years, the Panhellenic Exams remain the primary method for access to higher education for Upper Secondary Education students who attend either General or Vocational Upper Secondary Education (day and evening schools). The significance and high value placed on these exams by Greek society are noteworthy (Tsiplakides, 2017; Anastasiadou et al., 2021; Moustaka et al., 2023) to the extent that they have consistently been a central issue of Greek educational policy (Kyridis et al., 2012). Success in the Panhellenic Exams and achieving the goal of accessing to a university, is closely linked to social recognition, social mobility and improved career and financial prospects (Benincasa, 1998; Sianou-Kyrgiou & Tsiplakides, 2011; Kyridis et al., 2012).

Although candidates come from different social and economic backgrounds, which, according to scientific research, creates inequalities and significantly affects their educational path, the Panhellenic exam system democratically offers all students the opportunity to access higher education based on their knowledge and abilities (Gouvias, 1998; Tsiplakides, 2017; Ioakimidis & Papakonstantinou, 2017; Ilie et al., 2021; Dean, 2024; Loureiro et al., 2024).

Indeed, research findings show that most secondary education students aim to access higher education through the Panhellenic Exams (Saiti & Prokopiadou, 2008). This aspiration, combined with the fact that public university education in Greece is tuition-free, a cornerstone of the Greek educational system (Danchev et al., 2024), means these exams receive significant attention in Greek society. Despite criticism directed at the higher education admission system (Kyridis et al., 2012; Ioakimidis & Papakonstantinou, 2017; Haveman & Wilson, 2007; Moustaka et al., 2023), the Panhellenic Exams are considered secure and, therefore, objective (Kantzara, 2022). As such, they remain a longstanding institution of the Greek educational system that enjoys the trust of Greek society.

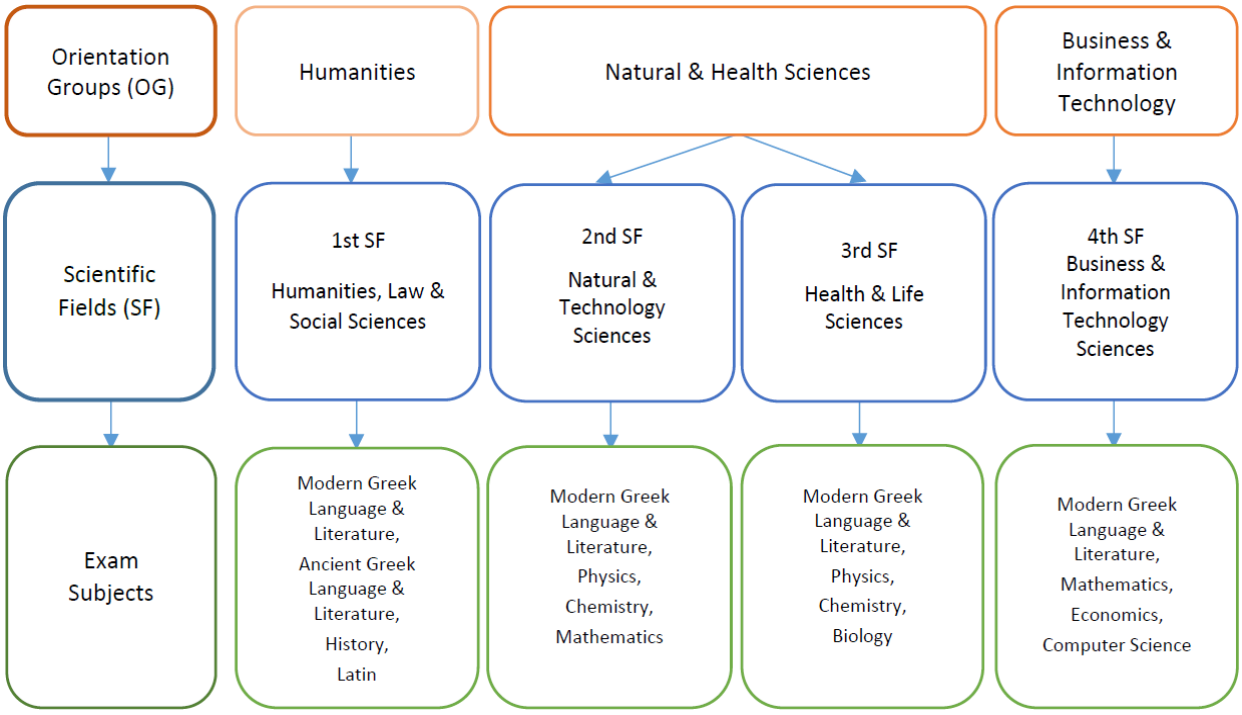


Figure 1. *Orientation Groups, Scientific Fields and Exam Subjects per Scientific Field.*

Students from General Upper Secondary Education attend for three years and follow a standard curriculum of general education subjects during their studies. In the second year, they are required to choose an Orientation Group (OG), and in the third and final year, they select a Scientific Field (SF). Alongside general education courses, students are also taught the subjects examined in the Panhellenic Exams for university admission (see Figure 1). The purpose of the SFs is to allow students to opt for their academic path by focusing on subjects relevant to the fields of study they wish to pursue in higher education. Therefore, students focus primarily on a specific range of subjects. It is worth noting that depending on their academic programs, some university departments may be accessible through more than one SF. Candidates from different SFs are assessed with the same questions in common subjects. Admission to specific departments may requires the examination of additional special subjects or the completion of a practical test (e.g., music assessments or a sports evaluation).

The Panhellenic Exams take place annually after completing the final grade of Upper Secondary Education. They serve as a unified and centralized exam system conducted under the supervision and responsibility of the Hellenic Ministry of Education, Religious Affairs and Sports.

Based on the scores achieved by the candidates, they are ranked in descending order. This ranking, combined with their choices of higher education departments, determines annual minimum admission requirements for each university department. Each candidate's total score is calculated using the following formula (1):

$$S = (s1 \cdot w1 + s2 \cdot w2 + s3 \cdot w3 + s4 \cdot w4) \cdot 1000 \quad (1)$$

Where:
S is the total score;
s1, *s2*, *s3* and *s4* are the candidate's scores in the four exam subjects;
w1, *w2*, *w3* and *w4* are the weight coefficients of each subject. These coefficients vary depending on the requirements of each university department, are expressed as a percentage and cannot be lower than 20%. The sum of the coefficients equals 100%.

Candidates must achieve scores that are equal to or higher than the Minimum Admission Base (MAB). This MAB is determined by a coefficient set by the HEIs and is based on the average scores of all candidates per SF. To be eligible to apply to specific HEIs, candidates must meet or exceed this requirement. The MAB is calculated using the following formula (2):

$$B = \left(\frac{Ms_1 + Ms_2 + Ms_3 + Ms_4}{4}\right) \cdot k \quad (2)$$

Where:

Ms_1, Ms_2, Ms_3 and Ms_4 are the average scores of all candidates within each SF for each of the four subjects;

k is the MAB coefficient, set individually by each university depending on its admission requirements and ranges from 0.80 to 1.20;

B is the MAB, which varies by department.

The number of available places in HEIs is fixed, meaning many candidates may not be admitted to their first-choice institution. In Greece, students have only one opportunity each year to gain admission to the HEI of their choice. Their admission depends on the scores they achieve in the Panhellenic Exams, which will determine the HEIs they can attend.

For nearly all students completing the final grade of Upper Secondary Education, participation in the Panhellenic Exams and their resulting score are the sole means of accessing public higher education institutions (except for candidates applying to the Athens School of Fine Arts, which administers its own exams). Notable examples include Austria's admission system, which has implemented educational policies allowing students to enroll freely in as many university programs as they wish, with some requiring entrance exams and others not (Loder, 2024), or Finland's admission system, where universities, in collaboration with the Ministry of Education, can choose admission methods, whether through entrance exams, final upper secondary exams, or a combination of both. In some cases, interviews and additional assignments are also considered (Isopahkala-Bouret, 2019).

In light of the theoretical framework regarding access to higher education in Greece, this research aims to pose and answer the following research questions:

Q1. What conclusions can be drawn from the candidates' score data in the Panhellenic Exams?

Q2. What conclusions can be drawn from implementing the MAB about the number of admitted students in higher education?

Q3. What conclusions can be drawn from the distribution of candidates per SF and Field of Study?

3. Materials and Methods

This research focuses on the statistical data of the Panhellenic Exams from General Upper Secondary Education, as the corresponding sample is larger than that of Vocational Upper Secondary Education. Specifically, in 2024, the total number of candidates applying to higher education from General Upper Secondary Education was 74,638, while the corresponding number from Vocational Upper Secondary Education was 14,973. As previous studies have pointed out, students who complete lower secondary education predominantly continue their studies in Upper Secondary Education, eventually aiming to access HEIs through the Panhellenic Exams (Kassotakis & Verdis, 2013).

The research includes quantitative data for the period from 2020 to 2024. The implementation of the MAB spanned the years 2021-2024, with 2020 included to provide comparative data prior to its establishment. The data used in this research were sourced from the databases maintained by the Hellenic Ministry of Education, Religious Affairs and Sports.

Data analysis followed the principles of descriptive statistics. This approach suggests that quantitative research can reveal qualitative trends, which are subsequently interpreted and understood through qualitative approaches (Bryman, 1988; Tebes & Kraemer, 1991; Uher, 2022). According to Campbel "*all quantitative research ultimately has a qualitative foundation*" (Uher, 2022: p. 2524).

An approximate method was used to calculate the average score of candidates per SF and per subject its year. Specifically, the mean values of the score distributions were derived from the available data for each respective year. The score data are presented as percentage within the two highest quartiles of the 0-20 grading scale, based on the available data in the same scale provided by the Hellenic Ministry of Education, Religious Affairs and Sports. This scale was chosen because it allows for a straightforward calculation of the percentage of candidates who failed to surpass a score of 10 on the 0-20 grading scale in each subject and SF. Additionally, it provides valuable insights into the distribution of scores above 10, helps identify which score has the highest score percentage cluster above 10, and reveals qualitative indicators related to the subjects being examined.

Since some university departments are accessible through two or more SFs, allowing access from multiple OGs, it was deemed appropriate to categorize university departments into broader fields of study for more comprehensive conclusions.

For this purpose, we utilized the Fields of Study employed in a Eurostat study (European Commission, 2024), adapting them accordingly to meet the needs of this research.

Finally, the quantitative analysis was enhanced by a qualitative approach and the presentation of findings based on a three-level categorization and content analysis, aligned with our research questions:

a. Candidates' performance in the Panhellenic Exams,

b. occupancy rate of higher education departments and

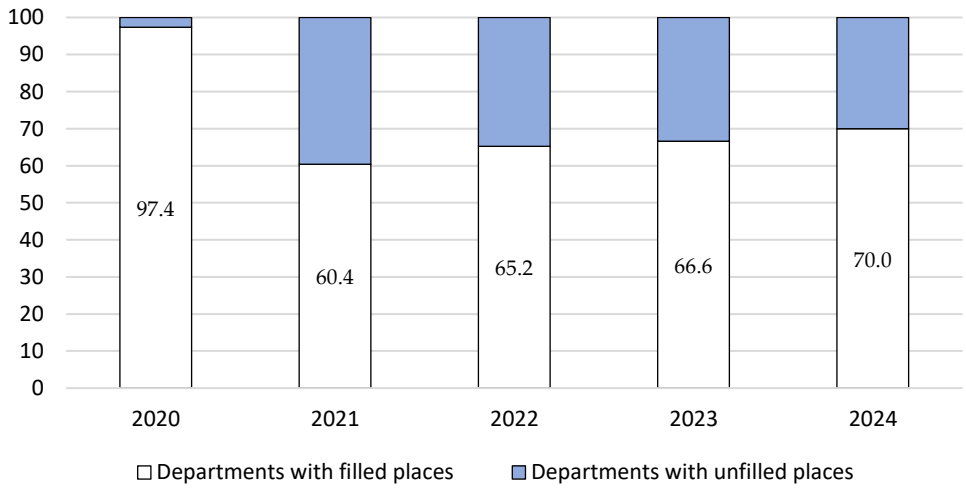
c. number of candidates per SF and their distribution across Fields of Study.

4. Results

Until 2020 (and in preceding years), most candidates gained access to higher education. However, since 2021, when the MAB was introduced, it has been observed that the available places in HEIs are not being filled. That is primarily due to the implementation of the MAB, which prevents candidates with very low scores from being eligible for admission to HEIs.

A notable example can be observed when comparing data from 2020 and 2021, the first year of MAB implementation (Chart 1).

Chart 1. *Percentage (%) of filled places in higher education departments by candidates from General Upper Secondary Education, 2020-2024.*



More specifically, regarding the number of unfilled places and excluding the first year of MAB implementation when the number of available places was higher, over the years 2022-2024, there has been a reduction in the number of unfilled places (Table 1).

***Table 1**. Available HEI places, successful candidates, unfilled places and percentage (%) of places filled, 2020-2024.*

Year	Available HEI places	Successful candidates	Unfilled places	Percentage (%) of places filled
2020	60,750	60,451	299	99.5
2021	67,797	50,052	17,745	73.8
2022	59,975	49,144	10,831	81.9
2023	61,178	50,440	10,738	82.5
2024	61,931	51,819	10,112	83.7

Analysis of aggregated data for 2024 indicates that out of 453 higher education departments, not all available places were filled in 136 departments (30%). In comparison, the percentage for 2023 was 33.4%. In 40 out of the 136 departments (14 located in major urban centers and 26 in regional areas), the occupancy rate was below 30%. These specific departments consistently show low enrollment rates from 2020 to 2024. It is noteworthy that most of these departments belong to the field of Humanities and Social Sciences (Chart 2).

***Chart 2.** Distribution of departments with occupancy rates <30%, 2024.*

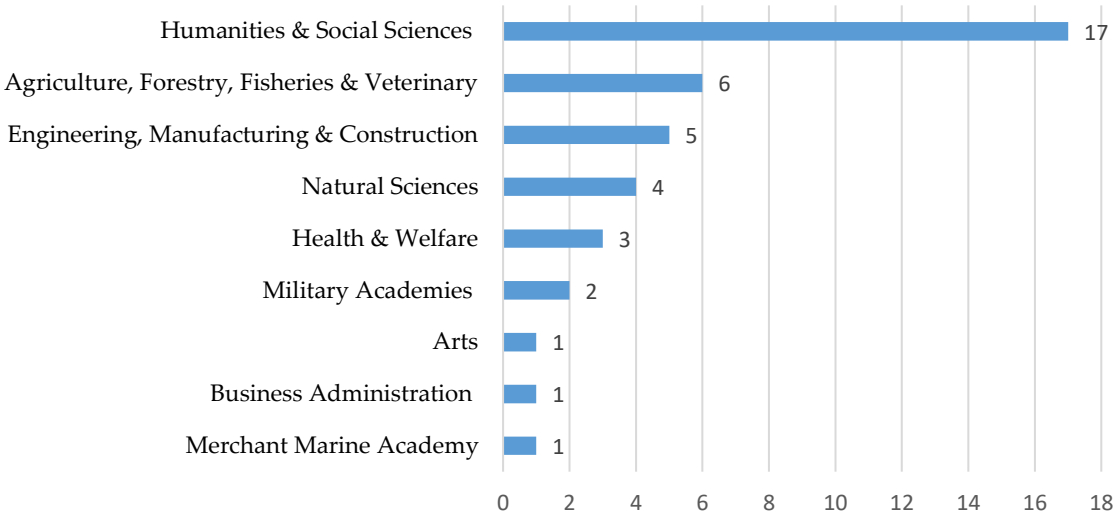
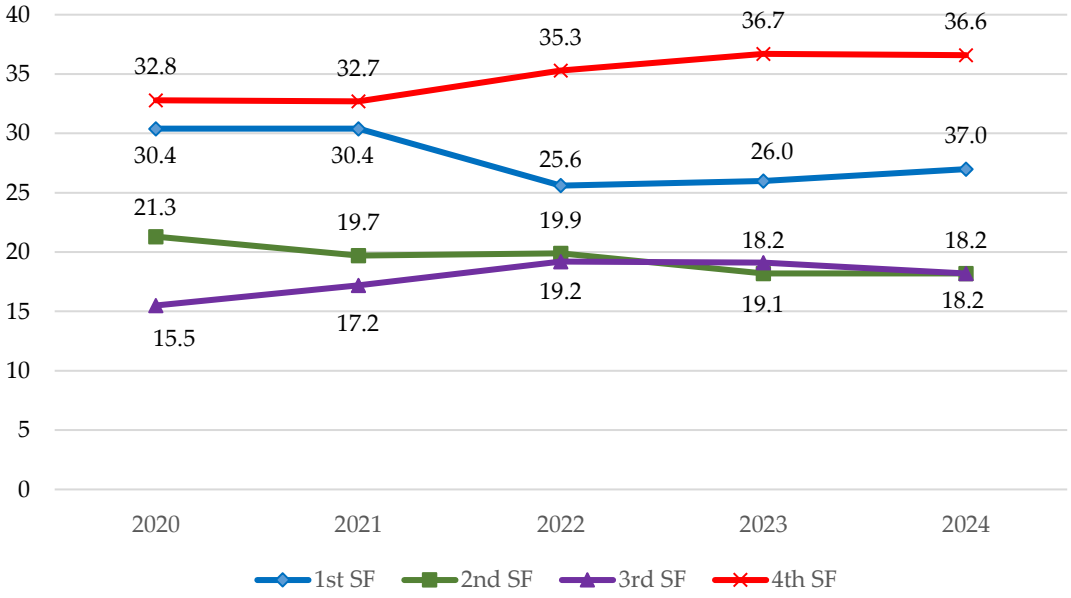


***Table 2**. Number and percentage (%) of candidates from General Upper Secondary Education per SF in the Panhellenic Exams, 2020-2024.*

Year	1st SF	2nd SF	3rd SF	4th SF	Total number of candidates
2020	21,617	15,193	11,020	23,394	71,224
2021	22,624	14,685	12,810	24,400	74,519
2022	18,286	14,204	13,680	25,177	71,347
2023	18,857	13,218	13,893	26,641	72,609
2024	20,141	13,585	13,571	27,341	74,638

Chart 3. Percentage (%) of candidates from General Upper Secondary Education (Day Schools) per SF, 2020–2024.



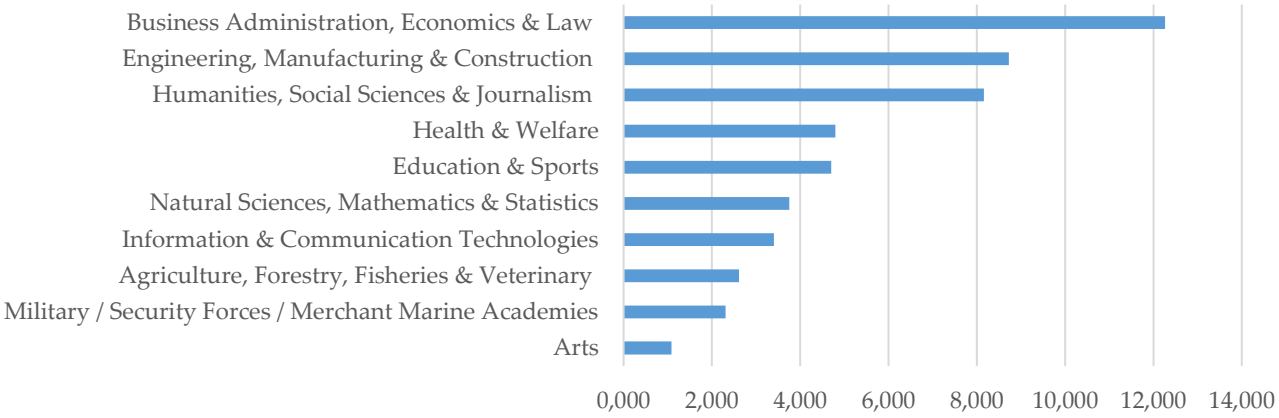
Regarding the number of candidates per SF, based on the comparative study of the quantitative data for 2020-2024 (Table 2 and Chart 3), the most significant increase in candidates, reaching 3.8 percentage points from 2020 to 2024, is observed in the 4th SF. Notably, for 2024, it is recorded for the first time that the number of candidates in the 4th SF exceeds the combined total number of candidates in the 2nd and 3rd SF. Similarly, there is a 2.7 percentage point increase from 2020 to 2024 in the 3rd SF. In contrast, the 1st SF has experienced a decrease of 3.4 percentage points in candidate numbers from 2020 to 2024. A similar decrease of 3.1 percentage points is recorded in the 2nd SF over the same period.

In Table 3 and Chart 4, the distribution of successful candidates admitted to HEIs in 2024 is presented by Field of Study, alongside the percentage of filled available places and the percentage of successful candidates compared to the total number of successful candidates. This specific grouping of departments by Field of Study provides more accurate data regarding young people's access to higher education. As previously mentioned, depending on the curriculum structure and the disciplines it offers, a higher education department may be accessible through two or more SFs. It should be noted that the field of "Education Sciences" includes higher education departments that exclusively prepare students for professional roles in education and childhood care. However, departments from other fields of study that offer mandatory or optional pedagogical and teaching competence programs during undergraduate studies also provide access to primary and secondary education studies.

***Table 3**. Distribution of successful candidates in higher education by Field of Study, 2024.*

Field of Study	Available HEI places	Successful candidates	Percentage (%) of places filled	Percentage (%) of total successful candidates
Business Administration, Economics & Law	13,894	12,262	88.3	23.7
Engineering, Manufacturing & Construction	9,956	8,729	87.7	16.8
Humanities, Social Sciences & Journalism	10,816	8,161	75.5	15.7
Health & Welfare	5,499	4,794	87.2	9.3
Education & Sports	4,705	4,705	100.0	9.1
Natural Sciences, Mathematics & Statistics	5,053	3,749	74.2	7.2
Information & Communication Technologies	3,549	3,408	96.0	6.6
Agriculture, Forestry, Fisheries & Veterinary	3,827	2,614	68.3	5.0
Military / Security Forces / Merchant Marine Academies	3,222	2,313	71.8	4.5
Arts	1,410	1,084	76.9	2.1

***Chart 4**. Distribution of successful candidates in higher education by Field of Study, 2024.*



The data in Table 3 highlight the full occupancy of available places in Education and Sports Sciences, the high fill rate in ICT Sciences (96%), and the high fill rates (over 87%) in Engineering, Manufacturing and Construction, Business Administration, Economics and Law Sciences, and Health and Welfare. The highest number of students is observed in Business Administration, Economics, and Law Sciences. In general, the distribution of successful candidates in higher education aligns with the distribution recorded in the European Union (European Commission, 2024).

Based on the data in Table 4, the average score of candidates in the 1st SF remained relatively consistent from 2020 to 2024, with only slight fluctuations. The five-year average score for this period is 11.33. Similarly, the 4th SF demonstrates stable performance variation, with a five-year average of 10.30, the lowest among the four SFs.

Regarding the performance in the 2nd (average: 11.92) and 3rd SF (average: 11.87), it is noted that from 2020 to 2022, the average scores of candidates in the 3rd SF were higher than those in the 2nd SF. However, this trend reversed in the last two years. Notably, in the 2024 exams, candidates in the 2nd SF had achieved the highest average score among all SFs.

***Table 4**. Average score (Grading scale 0-20) of candidates from all OGs per subject and year and overall average score per SF and year, 2020-2024.*

Years	Modern Greek Language & Literature	Ancient Greek Language & Literature	History	Sociology[1] Latin	Overall average Score	
2020	11.73	10.19	10.22	12.29*	11.11	1st SF
2021	12.28	10.36	10.11	11.72*	11.12	
2022	12.77	10.93	10.68	10.85	11.31	
2023	13.39	10.86	10.10	12.56	11.73	
2024	13.45	10.64	8.96	12.43	11.37	
Years	**Modern Greek Language & Literature**	**Physics**	**Chemistry**	**Mathematics**	**Overall average Score**	
2020	12.13	11.28	10.11	12.04	11.39	2nd SF
2021	12.98	11.17	11.21	12.47	11.96	
2022	13.26	10.91	11.43	11.75	11.84	
2023	14.06	11.19	11.10	12.86	12.30	
2024	14.06	9.70	12.50	12.17	12.11	
Years	**Modern Greek Language & Literature**	**Physics**	**Chemistry**	**Biology**	**Overall average Score**	
2020	12.79	10.82	10.33	12.58	11.63	3rd SF
2021	13.52	10.79	11.72	12.46	12.12	
2022	13.78	10.30	11.64	12.38	12.02	
2023	14.25	9.97	10.77	11.53	11.63	
2024	14.31	8.66	12.27	12.60	11.96	
Years	**Modern Greek Language & Literature**	**Economics**	**Computer Science**	**Mathematics**	**Overall average Score**	
2020	10.08	11.86	10.83	6.52	9.82	4th SF
2021	10.75	12.50	11.28	6.93	10.36	
2022	11.40	12.15	11.49	6.81	10.46	
2023	11.98	10.74	11.81	7.27	10.45	
2024	12.05	11.41	11.41	6.85	10.43	

[1] *Candidates were examined in the subject of Sociology and not in Latin.*

Regarding the commonly examined subject across all SFs, Modern Greek Language and Literature, there has been a steady increase in average scores in all four SFs. The most significant increase from 2020 to 2024 was observed in the 4th SF, with a rise of 1.97 points. The highest recorded average score was 14.31 in the 2024 exams for candidates in the 3rd SF. Overall, from 2020 to 2024, candidates from the 3rd SF consistently achieved the highest average scores in this subject.

Additionally, Table 4 indicates the consistently low average scores of 1st SF candidates in Ancient Greek Language and Literature and History. In Physics and Chemistry, the differences in average scores between candidates in the 2nd and 3rd SF were minimal. Candidates in the 2nd SF had a higher five-year average score in Physics (10.85 vs. 10.11), while those in the 3rd SF had a slightly higher average in Chemistry (11.35 vs. 11.27). Finally, candidates in the 4th SF recorded very low average scores in Mathematics compared to those in the 2nd SF.

Tables 5-7 present the percentage of candidates' scores above 10 for all exam subjects categorized by SF. Table 5 presents the percentage for the Modern Greek Language and Literature subject, which is common across all fields. Table 6 shows the percentage for subjects commonly examined across two SFs. Table 7 contains subjects not commonly examined. This table includes Latin, examined in the 1st SF, and not Sociology, which was only examined for two years.

Table 5. *Percentage (%) of candidate scores above 10 per SF in Modern Greek Language and Literature.*

Subject	s[1] / Year	10≤ s <11	11≤ s <12	12≤ s <13	13≤ s <14	14≤ s <15	15≤ s <16	16≤ s <17	17≤ s <18	18≤ s <19	19≤ s <20	SF
Modern Greek Language & Literature	2020	9.63	11.49	12.99	13.11	11.59	8.48	5.08	2.06	0.49	0.03	1st SF
	2021	7.63	9.54	11.17	12.11	12.78	10.76	7.90	4.16	1.38	0.08	
	2022	6.85	8.86	12.42	14.16	14.32	12.23	8.65	4.46	1.09	0.11	
	2023	5.44	7.16	9.59	12.37	14.68	14.75	12.35	7.32	2.27	0.20	
	2024	5.54	7.27	10.90	13.68	15.78	15.06	11.17	6.26	2.06	0.20	
	2020	10.73	13.90	15.60	15.15	12.82	8.10	4.34	1.66	0.33	0.02	2nd SF
	2021	7.80	10.20	14.04	14.92	15.68	12.21	8.47	3.50	0.95	0.05	
	2022	6.20	10.51	14.72	17.03	16.51	13.71	8.47	3.23	0.85	0.07	
	2023	3.93	6.71	10.56	15.00	17.63	17.93	13.14	7.08	1.80	0.20	
	2024	3.76	7.04	11.02	16.37	18.90	17.60	12.65	6.27	1.44	0.12	
	2020	7.83	11.10	14.11	15.57	15.48	11.14	7.52	3.20	0.75	0.09	3rd SF
	2021	5.15	7.88	9.93	13.22	14.82	15.04	12.55	7.29	2.19	0.16	
	2022	4.01	6.60	11.08	14.24	17.14	16.23	12.64	6.83	2.05	0.14	
	2023	3.48	5.51	8.24	12.15	15.43	17.84	15.88	10.35	3.16	0.34	
	2024	2.86	5.44	8.55	13.10	17.09	18.54	15.29	9.41	2.97	0.24	
	2020	13.34	13.54	11.83	8.90	5.74	3.16	1.22	0.34	0.06	0.01	4th SF
	2021	10.72	12.15	12.55	11.32	8.65	5.62	2.80	0.98	0.16	0.01	
	2022	10.26	12.74	14.43	13.83	10.87	6.73	3.31	1.15	0.17	0.02	
	2023	8.33	11.06	13.07	14.29	13.42	9.38	5.53	2.15	0.36	0.02	
	2024	8.91	11.37	14.46	15.31	12.86	9.51	4.87	1.78	0.37	0.02	

[1]*scores*

The subject in which most candidates from all SFs achieve scores above 10 is the Modern Greek Language and Literature (Table 5). Candidate scores in this subject across all SFs are primarily concentrated in the third quartile of the 0-20 grading scale. The average percentage of scores in the 10-<15 range for candidates in the 1st, 2nd, 3rd and 4th SF is 54.2%, 61.3%, 52.0% and 58.8%, respectively. However, it is noted that the percentage of high-achieving candidates with scores between 18 and 20 is very low. The highest percentage of scores above 10 is recorded by candidates in the 3rd SF with a five-year average of 90.4%, while the lowest is recorded in the 4th SF with a five-year average of 70.7%.

***Table 6**. Percentage (%) of candidate scores above 10 per subject and SF.*

Subject	s[1] / Year	10≤ s <11	11≤ s <12	12≤ s <13	13≤ s <14	14≤ s <15	15≤ s <16	16≤ s <17	17≤ s <18	18≤ s <19	19≤ s <20	SF
Mathematics	2020	5.06	5.74	5.68	6.74	6.78	7.83	7.79	6.84	6.60	7.81	2nd SF
	2021	4.75	4.84	5.09	5.10	5.40	6.33	8.32	9.36	10.13	8.88	
	2022	5.26	5.57	6.12	6.69	7.06	7.40	7.51	7.51	6.50	5.38	
	2023	4.57	5.21	5.69	5.82	6.90	7.81	8.71	9.92	9.59	8.19	
	2024	6.63	7.39	7.93	8.09	7.60	7.48	7.31	6.78	6.25	5.16	
	2020	4.36	3.87	3.59	3.05	2.55	2.24	1.70	1.30	0.97	0.76	4th SF
	2021	4.46	3.91	3.28	2.79	2.64	2.47	2.55	2.48	1.81	0.85	
	2022	4.35	3.84	3.67	3.27	3.02	2.70	2.37	1.72	0.98	0.53	
	2023	4.52	3.85	3.67	3.71	3.52	2.98	2.71	2.48	1.76	0.78	
	2024	5.37	5.15	4.44	3.43	2.79	2.07	1.56	1.07	0.74	0.42	
Physics	2020	4.91	4.54	4.92	5.14	5.46	5.14	5.82	6.69	6.96	8.92	2nd SF
	2021	4.70	4.16	4.38	4.59	4.72	5.05	5.24	6.18	7.04	9.94	
	2022	4.81	4.98	5.10	4.64	4.93	5.39	5.49	6.18	6.35	7.09	
	2023	4.95	4.63	4.89	4.43	4.82	5.18	5.35	6.02	6.84	9.48	
	2024	4.86	5.21	5.05	4.68	4.54	4.52	4.39	4.01	3.83	4.01	
	2020	4.63	4.99	4.56	4.45	4.54	5.35	5.01	5.70	6.30	9.51	3rd SF
	2021	4.26	3.84	3.58	3.69	4.03	4.15	4.90	5.71	7.03	11.36	
	2022	4.78	4.23	3.83	3.92	4.17	4.67	4.99	5.44	6.70	7.43	
	2023	4.04	4.10	4.06	3.92	4.18	4.32	4.57	5.35	5.69	7.32	
	2024	4.58	3.72	3.98	3.82	3.58	3.53	3.54	3.60	3.42	3.22	
Chemistry	2020	6.56	6.43	6.12	5.83	6.07	5.71	5.62	4.37	3.26	1.28	2nd SF
	2021	4.78	4.91	5.74	5.48	5.85	6.87	7.47	7.97	6.46	2.88	
	2022	5.11	6.10	5.45	5.69	6.08	6.53	6.66	6.74	6.66	5.78	
	2023	5.25	5.45	4.88	5.28	5.16	5.61	5.66	5.73	6.36	7.39	
	2024	5.81	5.74	6.27	6.36	6.57	6.74	7.13	7.56	8.76	7.86	
	2020	5.79	5.68	5.73	5.38	6.01	5.96	5.78	5.29	4.62	2.15	3rd SF
	2021	4.30	4.39	4.29	4.41	5.15	6.03	7.59	9.80	10.53	4.85	
	2022	4.46	4.44	4.82	5.18	5.49	6.03	6.77	7.92	8.64	7.90	
	2023	4.38	4.45	4.26	4.46	4.42	4.99	5.28	5.97	6.45	8.96	
	2024	5.28	5.65	5.41	5.20	5.64	5.48	6.26	7.14	9.46	10.43	

[1] *scores*

In Mathematics, a common subject for the 2nd and 4th SF, there is a significant difference in candidate performance between these SFs (Table 6). More than 7 out of 10 candidates in the 4th SF fail to achieve a score above 10, with most scores falling in the first quartile of the 0-20 grading scale (i.e., between 0 and <5). Their highest concentration of scores above 10 is between 10 and 11. In contrast, candidates in the 2nd SF achieve higher scores in Mathematics. Nearly 7 out of 10 scores above 10, with the highest concentration of scores above 10 between 15 and 20, resulting in a five-year average of 38.3%.

In Physics and Chemistry, common subjects for the 2nd and 3rd SF, a high percentage of high-achieving candidates score between 18 and 20 in both SFs, except Physics in 2024 and Chemistry in 2020 (Table 6). Over the five years, the 2nd SF shows a slightly higher percentage of high achievers in Physics compared to the 3rd (five-year average 14.1% vs. 13.6%), while the opposite applies to Chemistry, where the 3rd SF records a higher average (14.8% vs. 11.3%). In both subjects, the highest percentage of candidates (except in Physics in 2024) is found in the 15-20 score range, which corresponds to the fourth quartile of the grading scale. Specifically, for the 2nd SF, the five-year averages in Physics and Chemistry are 30.2% and 30.6%, respectively. For the 3rd SF, they are 27.8% and 34.1%, respectively.

According to Table 7, a low percentage of candidates in the 1st SF achieve scores above 10 in Ancient Greek Language and Literature, with a five-year average of 56.7%. In History, the corresponding five-year average is 47.9%, meaning that most candidates fail to surpass a score of 10. In contrast, Latin (1st SF) and Biology (3rd SF) are subjects where most candidates' scores lie within the highest quartile of the 0-20 grading scale. The average percentage of candidates scoring between 15 and 20 from 2020 to 2024 is 40.8% and 40.7%, respectively.

In contrast to the low scores observed in Modern Greek Language and Literature and Mathematics by candidates in the 4th SF, higher scores are achieved in Economics and Computer Science. In both subjects, the highest percentage of candidates is recorded in the upper quartile of the 0-20 grading scale for the 2020-2024 period, with an average percentage of 40% in Economics and 36.6% in Computer Science. Finally, it is worth highlighting the high rate of top-performing candidates scoring between 18 and 20 in both Economics and Computer Science (five-year average 22.8% and 19.3%, respectively).

Table 7. *Percentage (%) of candidate scores above 10 per subject and SF.*

Subject	s[1] / Year	10≤ s <11	11≤ s <12	12≤ s <13	13≤ s <14	14≤ s <15	15≤ s <16	16≤ s <17	17≤ s <18	18≤ s <19	19≤ s <20	SF
History	2020	3.24	3.00	3.02	3.35	3.64	4.38	5.46	7.47	8.93	6.71	1st SF
	2021	3.67	3.36	3.36	3.56	3.83	4.62	5.35	7.43	8.39	5.26	
	2022	4.07	3.83	3.83	3.86	4.38	4.64	5.04	6.83	8.41	7.15	
	2023	4.18	4.18	4.08	4.01	4.15	4.30	5.26	6.08	7.22	5.80	
	2024	3.66	3.31	3.29	3.08	3.24	3.47	4.14	5.09	6.43	4.42	
Ancient Greek Language & Literature	2020	6.43	6.42	6.12	6.35	6.35	6.14	5.96	5.11	3.16	0.79	
	2021	7.11	3.36	6.84	6.90	6.47	6.22	5.94	4.48	2.99	0.84	
	2022	9.03	9.58	9.87	9.03	8.13	6.69	4.70	3.50	1.91	0.36	
	2023	8.38	7.53	7.76	7.07	6.77	5.86	5.56	4.66	3.48	1.39	
	2024	9.33	8.85	8.78	8.00	7.09	6.22	5.05	3.60	1.81	0.37	
Latin	2022	4.16	4.01	4.06	3.86	4.49	4.77	5.44	6.13	6.92	11.04	
	2023	4.24	4.49	4.66	5.15	5.71	6.32	6.89	7.83	9.87	12.87	
	2024	3.80	3.95	4.15	4.58	4.78	5.43	6.69	8.13	9.97	14.20	
Biology	2020	5.06	5.96	6.44	6.96	6.99	8.20	8.24	8.71	8.58	6.63	3rd SF
	2021	3.51	4.22	4.40	5.48	6.13	7.48	9.01	10.44	10.37	7.41	
	2022	5.17	4.99	5.50	6.41	6.81	7.43	8.62	9.77	8.86	5.71	
	2023	5.09	5.31	5.13	5.12	5.25	5.57	6.55	7.22	7.90	7.49	
	2024	4.32	4.77	4.69	5.16	5.33	6.04	6.77	8.32	10.15	12.19	
Economics	2020	3.18	3.27	3.41	3.44	3.82	4.25	5.04	6.46	8.76	18.62	4th SF
	2021	3.66	3.47	3.79	4.19	4.70	5.14	6.13	7.49	9.75	17.37	
	2022	4.42	4.50	4.62	4.97	5.11	5.30	5.67	6.89	8.87	14.26	
	2023	4.47	4.57	4.63	4.83	5.09	5.07	4.90	5.26	6.84	9.51	
	2024	3.52	3.64	4.12	4.32	5.13	5.37	6.01	6.80	8.18	12.01	
Computer Science	2020	4.51	4.91	4.36	4.60	4.36	4.83	5.19	6.01	6.81	9.67	
	2021	3.89	4.18	3.70	4.23	4.45	4.61	5.20	6.36	8.14	13.56	
	2022	4.94	4.81	4.76	4.97	5.45	5.66	6.40	7.19	8.66	7.30	
	2023	4.65	4.76	4.62	4.31	4.42	5.11	5.73	7.17	9.88	10.86	
	2024	3.90	3.76	3.90	4.19	4.54	4.73	5.44	6.54	8.97	12.74	

[1] *scores*

4. Discussion

Participation in the Panhellenic Exams is the primary pathway to tertiary education for the vast majority of students completing Upper Secondary Education. This fact, combined with the anxiety experienced during the exam period, is positively correlated with high-stress levels, pressure, disappointment, and worry about the scores they will achieve (Moustaka et al., 2023). Success in these exams, similar to academic performance in general (Vassiloudis et al., 2017), is influenced by a range of factors, both endogenous, relating to individual cognitive and emotional characteristics, as well as health and quality of life, and exogenous, referring to the family, school, and social environment in which the student grows and socializes, along with the socioeconomic capital transmitted through the family. Among these factors, proper exam preparation plays a significant role (Kantzara, 2022) and emerges as a key element.

To achieve better results in the exams, most students engage in intensive and demanding preparation, not only during the final year of Upper Secondary Education (Moustaka et al., 2023). Since school grades in general education subjects are not considered for higher education access in Greece, students often make minimal effort in general education courses and focus primarily on the subjects in which they will be examined. The emphasis on access to HEIs has gradually overshadowed the educational/pedagogical role of the Upper Secondary Education, reducing it to a preparatory stage for tertiary education (Michelakaki, 2011; Polymili, 2019). At the same time, there has been an increase in private shadow education (private tutoring), through which many candidates prepare for the exams (Michelakaki, 2011; Kassotakis & Verdis, 2013; Giavrimis, 2025). During this preparation, the primary learning strategy becomes rote memorization of the examinable material, a practice that does not promote the development of students' critical and creative thinking (Sidiropoulou & Avgitidou, 2021; Papaoikonomou, 2024). This issue may also explain the consistently low performance of secondary school students in the PISA exams, where Greek students systematically score below the international average (Kelpanides et al., 2016; Danchev et al., 2023; Kounetas al., 2023).

Nevertheless, contrasting this with the high average scores in Modern Greek Language and Literature for candidates in the 1st, 2nd, and 3rd SF and the high scores in Mathematics and Physics for candidates in the 2nd and 3rd SF, according to the quantitative data on scores, these SFs attract candidates of a higher academic level.

Regarding the first research question of this research, namely, the conclusions drawn from the candidates' scoring data, the following point is emphasized: the qualitative trends that emerge from the statistical data, combined with studies conducted by the National Exams Organization, a scientific body responsible for higher education entrance exam matters, on specific subjects from the perspective of the Panhellenic Exams (Papamentzelopoulos et al., 2022; Papamentzelopoulos, 2023; Laina, 2023; Papageorgiou 2023), suggest a convergence of findings. These findings suggest that, although exam topics require candidates to demonstrate critical thinking and scientific literacy, rote memorization of the examinable material is prioritized over the acquisition of critical knowledge. That is reflected in the consistently low scores of most candidates in Mathematics (4th SF) and in Ancient Greek Language and Literature and History (1st SF) in the Panhellenic Exams.

Concerning the second research question and regarding the conclusions drawn from the implementation of the MAB, the following is noted:

Before 2021, the year in which the MAB was established, the percentage of available places filled reached full capacity, as almost all candidates were admitted to a HEI. However, based on the Annual Reports of the Hellenic Authority for Higher Education, Greece has consistently ranked last among all European countries in the indicator "graduate percentage among enrolled students." The recorded rates are around 9%, significantly lower than the European average of around 24% (HQA, 2018; HQA, 2019; HAHE, 2020; HAHE, 2021). This fact contributed to the establishment of the MAB in 2021 by the Hellenic Ministry of Education, Religious Affairs and Sports to ensure the academic conditions for successful attendance and timely completion of studies in higher education.

During the transitional year of 2021, when the MAB was first implemented, nearly four in ten university departments had unfilled places, totalling 17,745, as candidates who failed to achieve a score equal to or above the MAB could not apply for admission to HEIs. After 2021, the percentage of filled available places gradually increased, a change that can be attributed to adjustments in the MAB coefficient made by individual university departments. HEIs that did not achieve satisfactory enrollment lowered their MAB coefficient, which led to a lower score threshold, thereby increasing the number of admitted students. From 2021 to 2024, nearly 10,000 places in higher education departments have remained unfilled each year. Research indicates that specific university departments, primarly those of regional universities, experience extremely low enrollment rates each academic year, with occupancy rates below 30%.

In 12 of these departments, the number of admitted students ranges between one and ten. Consequently, the data suggests that these departments may face sustainability challenges in the future.

Concerning the third research question, namely the conclusions drawn from the distribution of candidates by SF and Field of Study, the following is noted:

a. A decrease in the number of candidates by 3.4 percentage points over 2020-2024 is observed in the 1st SF. Notably, the most significant decrease compared to 2020 occurred in 2022, specifically by 4.8 percentage points. In the following years, 2023 and 2024, an increase in candidates for this SF is recorded. This observed decline can be attributed to various factors. One significant factor is the perception that many professions related to the 1st SF are saturated in the Greek job market and do not lead to immediate professional integration.

Furthermore, it should be considered that candidates' preferences change over time and are influenced by job market trends, technological developments and social changes. In recent years, an increased demand for studies in fields such as Information Technology, Technology, Health and Business Administration has led to a decline in candidate interest in the Humanities.

b**.** From 2020 to 2024, a gradual decrease of 3.1 percentage points is similarly observed in the number of candidates in the 2nd SF. In contrast, a 2.7 percentage point increase is recorded during the same period in the 3rd SF. This trend may be attributed to candidates' perception that specific departments within the 3rd SF are considered a safer future choice due to the strong employment prospects and consistent demand for professionals in these areas. However, the natural and health sciences are rapidly evolving fields, continually offering new challenges and opportunities for research and innovation. Technological advancement and developments in medicine and biosciences constantly create new employment opportunities. This element of continuous development, combined with the high social recognition of the associated professional sectors, makes them attractive to many candidates (Li et al., 2017; Goel et al., 2018; Soto, 2020; Ali et al., 2022; European Commission, 2023; European Commission, 2024).

c. There is a clear shift of candidates towards the 4th SF. A gradual increase in candidates is observed, amounting to 3.8 percentage points from 2020 to 2024. If corresponding data from 2018 (not included in the present research) is considered, the increase reaches 9.4 percentage points. In 2024, it is noted for the first time that the number of candidates in the 4th SF (27,341 candidates) exceeds the combined number of candidates in the 2nd and 3rd SF (13,585 and 13,571 candidates, respectively).

In 2024, the lowest MAB, the minimum grade (on a 0-20 grading scale) required for candidates to be eligible to apply to a university, was 8.31 for the 4th SF. For the 1st, 2nd and 3rd SF, the lowest MABs were 9.14, 9.72 and 9.59, respectively. More candidates likely chose the 4th SF due to the lower MAB. A second reason is that more candidates select the 4th SF, as it includes fields of study that are in high demand in the job market. This outlook for professional employment (Krpálek, 2021) is a significant incentive for many candidates. Therefore, the number of potential candidates seeking access to departments in this SF is increasing.

5. Conclusions

The present research aimed to statistically document the quantitative data from the Panhellenic Exams and present the qualitative trends and changes during the period 2020-2024, using corresponding data related to candidates' performance in the exam subjects, the number of students admitted to higher education, and how this is connected to the implementation of the MAB and the distribution of candidates per SF and field of study.

The conclusions drawn from this research can be summarized as follows: From the nearly universal access to higher education by candidates before 2021, the establishment of the MAB set minimum academic criteria for higher education entry, as candidates who fail to achieve the minimum score set by the MAB have no access to HEIs. Regarding candidate performance in the Panhellenic Exams, special concern arises for Mathematics in the 4th SF and Ancient Greek Language and Literature and History in the 1st SF due to consistently low performance by most candidates during the 2020-2024 period. In Greece, a dialogue has already begun among relevant stakeholders regarding the restructuring of exam subjects, with a focus on instructional strategies that promote critical and creative thinking, as well as scientific literacy. The trends observed in admissions per Field of Study are in line with European Union data, according to Eurostat (European Commission, 2023; European Commission, 2024), as well as the annual report by the Hellenic Authority for Higher Education (HAHE, 2024). Most admitted students pursue degrees in Business Administration, Economics, and Law. There is also a full occupancy rate of available Education and Sports places, as well as a high occupancy rate in ICT-related fields. Notably, candidates from the 4th SF have access to all these Fields of Study except Law. That is precisely why the 4th SF is so attractive to most candidates.

The prospect of professional employment offered by university departments with strong job market demand is a key incentive for many candidates. At the same time, the lower MAB in the 4th SF encourages many candidates to choose this SF, as they believe they have a better chance of accessing higher education. Additionally, some candidates may perceive that subjects within the 4th SF, such as Economics and Computer Science, are generally less demanding than those in other fields —particularly the 2nd SF— due to the high percentage of top-performing students. Finally, qualitative data analysis reveals that candidates do not consider specific regional university departments and those perceived as offering limited professional prospects, at least within the Greek context, as appealing options.

This research undoubtedly has some limitations. It is primarily based on quantitative analysis rather than on inferential statistical techniques. Therefore, it cannot delve into deeper psychocognitive or socioeconomic correlations with candidates' outcomes in accessing HEIs. It cannot conclude or test hypotheses about the population. However, it is the first time since the establishment of the MAB that access to data for higher education has been systematically examined at three levels, which is a notable strength of this re-search. It outlines the state of higher education access in Greece from 2021 to 2024 and serves as a foundation for future research in this field.

Future research should focus on whether the MAB, as an educational policy reform, has successfully achieved its established goals as well as the socioeconomic factors that influence young people's access to higher education and the outcomes for those who do not have access. The conclusions drawn will significantly contribute to advancing dialogue in the field of education policy in Greece, while also fostering a critical re-evaluation of educational approaches at the international level.

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Appendix: The Admission procedure to Public European University Institutions (2021)

Background

In October 2021, the NEO published a study in the Greek language entitled "*Studying the way of admission to tertiary education in European countries*" (Papamentzelopoulos, Papageorgiou, & Fragkoulia, 2021), which included the examination systems of the European countries of the Schengen area as well as the candidate countries to join the Schengen agreement, and the United Kingdom and Ireland as member states of the Common Travel Area agreement (European Commission, n.d.; European Parliament, 2022)[1].

Division of Education Systems

Based on compulsory education (primary and lower secondary education), education systems in Europe are divided into systems (Orr et al., 2017; Iceland.is):

(a) with a single structure involving the provision of education for both primary and lower secondary education levels, without individual distinction between them, based on a standard general education curriculum;

(b) with a standard core curriculum providing for the completion of primary education and the transition to lower secondary education, where a standard curriculum is followed;

(c) with a differentiated structure, which, after completing primary education, allows students to follow different educational pathways starting at the beginning or during lower secondary education.

[1] Common Travel Area (CTA) is recognised under the Treaty of Amsterdam and is not dependent on the European Union (EU) and the membership of the United Kingdom (UK) and Ireland.

Secondary Education Certificate

Completing upper secondary education is a prerequisite for access to higher education. In all European countries, an upper general secondary education certificate, the minimum requirement for admission to higher education, is awarded.

The secondary education certificate is awarded based on the results obtained in the final examinations and the work done either in the last year or during upper secondary education, apart from Hungary and Poland, where the general secondary education certificate may be awarded without a final examination but based on the performance of the students during the last year. However, this certificate does not contribute to the admission of students to higher education. Additionally, in Spain and Sweden, the secondary education certificate is awarded based solely on a continuous assessment of students during the final year or years of general secondary education. A combination of final examinations and continuous assessment is used to award a secondary education certificate exists in Estonia.

Types of Access to Higher Education

A 2017 European Commission study on education issues classifies EU countries into four types based on how students enter higher education, considering the interaction of three factors: Schools, universities and students (Orr, et al., 2017).

Based on this typology, EU countries follow one of the four types of access to higher education:

Type 1: Selection by schools. According to this type, admission to universities is determined solely by the successful attendance and skills acquired by the student during the type of secondary education they followed. Universities play no role in the admission of students.

Type 2: Selection by Higher Education Institutions (HEIs). This type is the opposite of the first type, as the general criteria for access to higher education are set by the universities themselves. To a limited extent, there is a form of pre-selection in secondary education.

Type 3: Least selection. In this case, admission to universities is primarily based on national examinations administered externally (not by the school), which means that candidates compete in studies with common subjects. In some countries (excluding Greece), students can choose admission either by taking national examinations, through a higher secondary education certificate grade, or by passing additional tests set by the universities.

Type 4: Double selection. This is a hybrid system with admission to higher education depending on two factors: a) the grade of the upper secondary education certificate, and b) additional criteria set by the university schools.

Examinations

In most European countries, the general secondary education certificate is awarded through externally set examinations, the scores of which are used to assess students' performance at school. In most countries, these exams are divided into written and oral components, with exclusively written examinations held in Portugal, Greece, Cyprus, Lithuania, and Bulgaria.

In several countries (Denmark, Portugal, Luxembourg, and Greece), the Ministry of Education administers external examinations. In contrast, in some countries (Austria, Belgium, Spain, Sweden, and the Czech Republic), the teachers of the school units are responsible for administering the examinations. In Norway, independent examination boards are responsible for administering the examinations.

Although in European countries, the minimum requirement to ensure access to higher education is an upper secondary education certificate, other admission procedures, such as participation in entrance examinations, may be added. These procedures make it easier to limit the number of admissions, either where the number of applicants exceeds the institution's capacity or because it is a national *numerus clausus* system[2].

Across Europe, higher education, its links to research, and innovation contribute to individual and social progress, as well as the development of a highly skilled workforce and active citizens. Therefore, widening access to higher education is a priority for EU countries.

Methods and Objective

Main Pillars of the Study

The main pillars of the present study were the studies of the European Commission, such as "Study on the impact of admission systems on higher education outcomes, *Volume I: Comparative report*, European Commission, Brussels, 2017" and "*The Structure of the European Education Systems, Schematic Diagrams*, European Commission, Brussels, 2020".

[2] *Numerus clausus* is the closed admission number of students determined by university departments and faculty based on regulations.

It was essential to communicate with the Ministries of Education of the countries in question and collect data from their official websites. In addition, descriptive information and statistical data from the European "Eurydice" network were utilised. Although the primary objective was to meet and discuss in person with the cultural attachés in Greece of the European countries in question[3], this was not possible during the conducted research due to the COVID-19 pandemic.

Objective of the Study

The study aims to present the theoretical part and the implementation, i.e., how European higher education admission systems operate in European countries. The higher education admission system serves as a transitional stage between secondary and higher education as well as a link to the labour market for some individuals. A process of guidance, selection and matching is found in the European systems for higher education admission, allowing students to graduate with the skills needed for the modern digital and networked knowledge society and the world in general. Access to higher education is a process that begins much earlier and is closely tied to the student's entire secondary education.

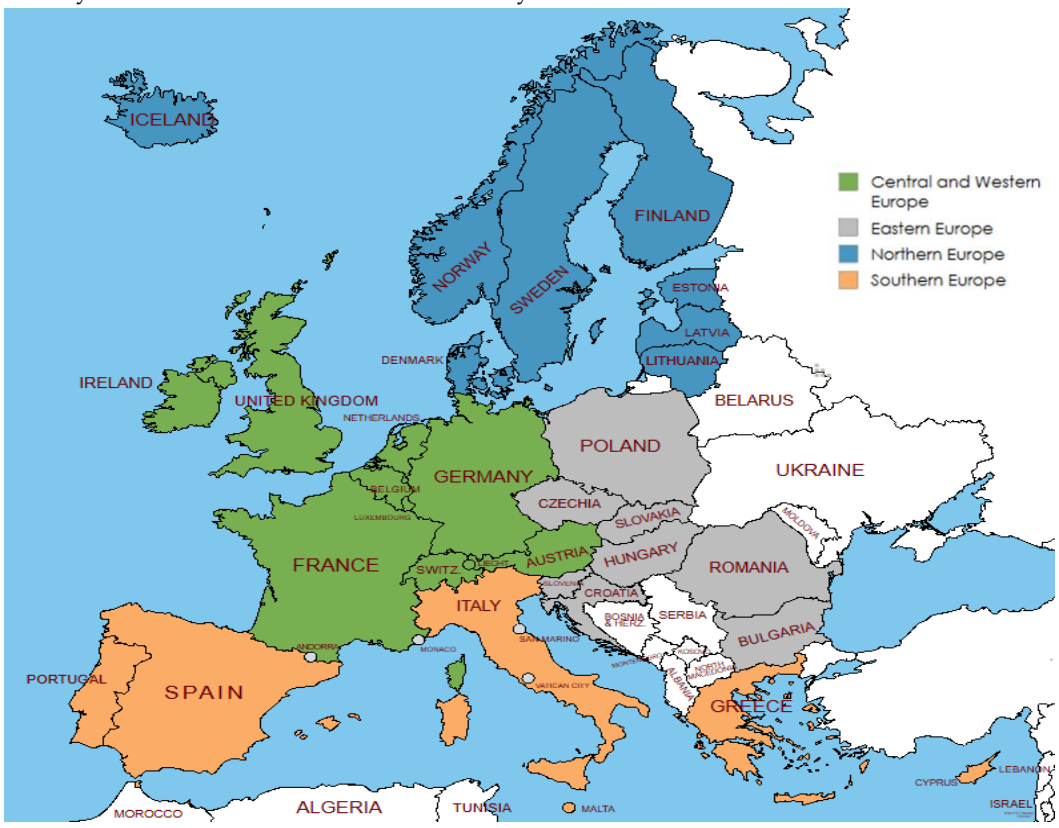

***Figure 2**. Geographical division of the examined countries [Map created with MapChart (www.mapchart.net)].*

[3] In this study, the countries examined are classified as European countries in general.

Structure of the Study

An introductory part concerning the study's objective, conducted by the NEO, is followed by specific interest sections that delve into the educational field of admission procedures to university institutions, e.g., division of education systems, secondary education certificates awarded, types of access to Higher Education, and entrance examinations. Individual data on the European higher education admission systems in the European countries questioned in this study are included.

The order in which the European countries' higher education entrance examination systems are listed and presented is based on their geographical location in the European area (Figure 2): Central and Western Europe, Eastern Europe, Northern Europe, and Southern Europe.

Concluding remarks and discussion close the study .

Systems of access to higher education in European countries

In this section, individual data on European higher education admission systems in European nations are reported.

Central and Western Europe

United Kingdom

England: What characterises the English system of access to higher education is the flexibility of admission and the various options available to candidates (UK Department for Education, 2013; OCR, a, b, n.d.). Wales following the British legacy system, has national, timed, written exams at fixed dates; Wales has also introduced an additional Baccalaureate qualification, and the International Baccalaureate functions as an alternative upper-secondary qualification. Coursework tasks and school-based assessments account for approximately 20% of the final grade required for access to higher education. Having launched the Curriculum for Wales for implementation in 2022, Wales is one of the countries that has introduced a new curriculum supporting the development of soft skills and broadening the capacities of learners (Stobart, 2021).

Scotland*:* Scotland and Wales have introduced an additional Baccalaureate qualification (Stobart, 2021) and follow the British legacy system. Scotland has national, timed, written exams with a flexible entry age at fixed exam dates. Coursework tasks and school-based assessments contribute to the final grade, varying by subject and are assessed and externally moderated by the teacher.

Northern Ireland: Admission to higher education institutions requires courses for the General Certificate of Education (GCE) Advanced Level (A-Level), the General National Vocational Qualification (GNVQ) or the GCE Advanced Supplementary (AS). There is the possibility of taking GNVQs or a combination of GNVQs and A-levels. Students can choose the subjects in which they are tested in (Education in Northern Ireland, n.d.).

France

The French education system is characterised by "lifelong" assessment and examination. The essential examinations take place at the national level and are common to all students. Apart from the national exams for the famous Baccalauréat (Bac) –a secondary education diploma– a national exam is also required for the high school diploma (Diplôme National du Brevet). Also, it should be noted that even if one manages to get into a University, s/he is subject throughout his/her studies to a strict selection by the Universities themselves. In other words, in France, it is not evident that you will eventually get a degree once you have entered university. A mixed system (categories of Schools/Universities with different entry criteria) is followed for access to universities, with Bac being the most common (Ministère de l'Éducation nationale et de la jeunesse, n.d.).

Germany

Each federal state is responsible for the education it applies, while the responsibility for and coordination of the educational policies of all federal states lies with the Standing Conference of Ministers of Education and Culture (Kultusministerkonferenz-KMK). The education system is characterised by flexibility. Although it is subdivided into different types of schools with different curricula, students can, under certain conditions, move from one type of school to another. The aim is to develop knowledge and skills while also providing vocational expertise. Access to higher education requires a certificate of general qualification for university entrance (Abitur), which is awarded at the end of upper secondary school after successful completion of the post-compulsory general education (Gymnasium) and participation in a central examination (Bundesministerium für Bildung und Forschung, n.d.; European Commission, Eurydice, n.d.; German way, n.d.).

Austria

Admission to higher education is through examinations centrally set by the Federal Ministry of Education. The compulsory written examinations are in German, Mathematics and a foreign language (English, French, Italian or Spanish). (Deutsches Internationales Abitur (DIA), n.d.; K12 Academics, n.d.; European Commission, Eurydice, n.d.; Bundesministerium für Bildung, Wissenschaft und Forschung, n.d.).

Belgium

Consists of three communities –Flemish, French and German-speaking– responsible for education. A secondary education certificate enables access to higher education (Belgium.be., n.d.; European Commission, Eurydice, n.d.; Vlaanderen, a, b, n.d.).

The Netherlands

The education system combines centralised education policy with decentralised school management. Written national examinations and school examinations are used for access to higher education. The final score is the average of the school examination score and the national examination score (European Commission, Eurydice, n.d.; Rijksoverheid, n.d.).

Switzerland

Switzerland has four official national languages. Each canton is responsible for the education provided in its region. The ministers of education from all cantons participate in the Swiss Conference of Ministers of Education to coordinate educational work at the national level. A secondary education certificate is a prerequisite for accessing higher education, which is obtained through final examinations conducted by each canton according to guidelines established centrally by the Swiss Conference of Cantonal Ministers of Education. (Educa.ch, n.d.; Schweizerische Konferenz der Kantonalen Erziehungsdirektoren a, b, c, d, n.d.; Schweizerische Eidgenossensschaft, n.d.).

Luxembourg

Education in Luxembourg is diversifying to meet the needs of its multi-ethnic and multilingual student population. For the final examinations required for university admission, students select their examination subjects based on the conditions outlined in the Ministry of Education's specific documents.

The Ministry of Education sets a weighting factor for each branch of science (European Commission, Eurydice, n.d.; Ministère de l'Éducation nationale, de l'Enfance et de la Jeunesse, n.d.).

Liechtenstein

Due to its small size and population, Liechtenstein is unable to offer a comprehensive education system at all levels. Neighbouring education systems have influenced the structure of the education system. The Matura diploma, awarded at the end of upper secondary education, allows entry to any higher education programme without further examination (Liechtenstein.li, n.d.; Liechtensteinisches Landesgesetzblatt, 2001, no. 139).

Ireland

National examinations are required for both lower secondary and upper secondary school leaving certificates. A preparatory year, known as Transition Year, is provided between lower secondary and upper secondary school, aiming to provide students with career guidance and workplace exposure. A characteristic feature of TY is highlighting areas of work and business expertise in the local community and connecting young people with it. Admission to higher education institutions is also based on national-level examinations, with the main feature being the minimum marks required in the subjects examined for admission to university schools. It is the only country where, since 2020, candidates pay a fee to participate in the exams (Department of Education "Ann Roinn Oideachais", n.d.; Citizens' Information, n.d.; Citizens' Programme, n.d.; State Examinations Commission, n.d.; Curriculum on line, n.d.; European Education Directory, n.d.).

Southern Europe

Italy

Admission to higher education varies, ranging from free access through the certificate of secondary education to high-level national entrance examinations, depending on the type of school the candidate wishes to attend. Upper secondary education is a 5-year course. At the end of the fifth year of upper secondary education, national final examinations (written and oral) are held. Students receive a diploma that gives them access to higher education (Educazione & Scuola, a, b, n.d.; Ministero dell'Istruzione, dell'Università e della Ricerca, a, b, n.d.).

Spain

The existence of autonomous communities in Spain with distinct local Ministries of Education gives the Spanish education system a particular interest due to the considerable variations in both the local primary and secondary curricula, as well as admission system to higher education. Admission to higher education is through examinations, which differ from one autonomous community to another and have the same general admission grade requirement determined by each faculty; the final grade of examinations also considers the grade of the secondary education certificate (European Commission, Eurydice, n.d.; Aunion, 2020; Ministerio de Educación y Formación Profesional, n.d.).

Portugal

Portugal has made significant improvements in its education system, yielding substantial results in the performance of primary and secondary education students. At all levels of compulsory education, alternative pathways with vocational and artistic programmes are provided , enabling as many students as possible to complete their studies. Admission to higher education is through the upper secondary education certificate examination (Direção-Geral daEducação, a, b, c, n.d.).

Malta

Malta's education system was based on the British model, featuring distinct roles for the central education authority and the autonomy of schools and students from a centrally imposed curriculum. At the end of primary education, students are nationally assessed in Mathematics, Maltese, and English. The secondary education certificate is awarded upon completion of compulsory education. In upper secondary general education, students are prepared for the national entrance examinations for higher education, a prerequisite for continuing studies at the University of Malta. The Senate and the Council of the University of Malta establish the University Examinations Council (Matriculation and Secondary Education Certificate Examinations Board-MATSEC), which is responsible for conducting university entrance examinations and determining the syllabus for these examinations (European Commission, Eurydice, n.d.; L-Università ta' Malta, a, b, n.d.).

Greece

Admission to higher education is based on participation in national examinations, which are held after completing upper secondary education. In Grade 2 of upper secondary education, students choose one of two orientation groups: Humanities or Sciences. In Grade 3 of upper secondary education, they choose an orientation group with subjects from the following groups: Humanities (Humanities, Law and Social Sciences), Natural Sciences, and Health (Natural Sciences and Technology and Health and Life Sciences) and Business and Information Technology (Business and Information Sciences). Applicants are tested in 4 subjects according to their chosen orientation group, for which the higher education institutions have set weighting factors. For all orientation groups, the examination of Modern Greek Language and Literature is common (Papamentzelopoulos et al., 2022). They then prepare a form with their selections, taking into account the minimum general admission grade requirement determined by each faculty after the national examinations (Papamentzelopoulos et al., 2021).

Cyprus

From the first grade of secondary school, students can choose among four groups of orientation courses. In the 3rd grade of high school, the "Pancyprian Examinations" are conducted, which serve both as final school examinations (granting of the Secondary School Diploma) and as entrance examinations for higher education (granting of the grade of access/ranking). Cypriot candidates can apply for admission to higher and upper secondary educational institutions in Cyprus and Greece with the General Ranking Grade they obtained from the Pancyprian Examinations (Ministry of Education and Culture, 2008; Ministry of Education and Culture, Pedagogical Institute, n.d.; Ministry of Education and Culture, Sports and Youth. Examinations Service, a, b, n.d.; Ministry of Education and Culture, Sports and Youth. Higher Education Directorate, n.d.).

Northern Europe

Iceland

Undergraduates in Iceland must pass a form of matriculation exam to access a university. Vocational and technical courses have lower requirements, only stating that the applicants have some experience in their chosen field of study. Institutions can set their admission criteria (Student Refugees, n.d.).

Finland

Finland has a long history (dating back to 1852) of National Examinations, through which the Certificate of Access to Higher Education is obtained, demonstrating the institution's reliability and validity. There are no years of study listed, but the cycles of study and secondary education curriculum can be completed in 2-4 years. Usually, however, upper secondary education lasts three years (from age 16 to19). National Examinations are held twice a year (in Spring and Autumn), and students can allocate the subjects they will be tested on into three examination periods. There is also the possibility of retaking the examination in case of failure or if one desires to improve their score. This arrangement, as well as the possibility to choose the difficulty level of the subjects tested, relieves the Examinations of their exhausting and demanding nature, giving candidates multiple opportunities. Admission to higher education is mainly by obtaining the Access Certificate through the National Examinations, but admission opportunities are also provided in other ways (flexibility) (Ylioppilastutkintolautakunta Studentexamensnämnden, n.d.).

Sweden

Admission to higher education can be obtained in three different ways: a. by applying with the grades of the upper secondary school leaving certificate (there are no examinations to obtain it); b. by participating in national examinations; and c. in some schools by presenting a project. Candidates may use the three admission routes without excluding any of the others [World population review, n.d.; Organisation for Economic Co-operation and Development (OECD), n.d.; Sweden.se, n.d.].

Norway

Norway has recently revised the legislative framework for education and syllabus versions in primary and secondary education. Admission to higher education is through a general upper secondary education certificate and additional admission criteria set by the universities (specific grades in secondary education subjects, etc.) (European Commission, Eurydice, n.d.; Norwegian Agency for Quality Assurance in Education, n.d.; Norwegian Directorate for Education and Training, n.d.).

Denmark

The Danish education system offers excellent flexibility, allowing as many students as possible to complete compulsory education, upper secondary education, and ultimately access higher education. For this purpose, an optional class is envisaged at the end of compulsory secondary education, enabling students to choose the direction they wish to take with greater certainty. Access to higher education is based on the upper secondary school leaving certificate, which students obtain through a national examination. Upper Secondary Certificate grades can be improved by re-examination if the student wishes to attend a school that requires a specific level or grade in a selected subject. In addition, credit is given to prospective students who have already gained work experience before commencing their studies, thereby ensuring more informed choices in their career choice (Ministry of Children and Education, n.d.; European Commission, Eurydice, n.d.; Ministry of Higher Education and Science, n.d.; Ministry of Higher Education and Science, 2020).

Latvia

Access to universities is free, only with the grade of the upper secondary education certificate, for which there are in-school examinations (European Commission, Eurydice, n.d.; Academic Information Centre, n.d.).

Estonia

Graduation from upper secondary education requires students to complete a study program consisting of at least 96 subjects to at achieve satisfactory degree, to pass the state and upper secondary school examinations (subjects tested are those taught), and to carry out a project or practical work throughout their studies. The state examinations, in addition to the school-leaving examination, are also entrance examinations for higher education and include an examination in three subjects: the Estonian language, mathematics and a foreign language (Papamentzelopoulos, Papageorgiou, & Fragkoulia, 2021; the Republic of Estonia, Ministry of Education and Research, n.d.; Kalja, Pruuden, Tamm & Tyugu, 1989).

Lithuania

Admission to higher education is based on the scores of candidate students in the examinations, in-school or national, in which they participate in order to graduate from upper secondary education.

In Lithuania, there are national Matura examinations, that lead to universities, and in-school Matura examinations that lead to a secondary education certificate and, conditionally, to universities. Students' choice of whether to take the school or national examinations affects the faculties to which they have access. Participation in the national Matura examinations carries more weight and provides access to more prestigious HEIs schools (European Commission, Eurydice, n.d.; Association of Lithuanian Higher Education Institute for Centralised Admissions, n.d.; Orr et al., 2017; Haj, Geanta & Orr, 2018).

Eastern Europe

The Czech Republic, Hungary, Poland, Slovenia, Slovakia

Admission to higher education based on obtaining the national Matura/Maturita diploma, a national-level examination that provides access to higher education. Students give exams in 4-5 subjects, 2-3 of which are compulsory (national language, mathematics, and foreign language). In some university schools, additional exams are offered. The education system is decentralized (European Commission, Eurydice, n.d.; National Institute for Education, Education Counselling Centre and Centre for Continuing Education of Teachers (NÚV), n.d.; Ministry of National Resources, n.d.; Magyarország Kormánya, n.d.; Ministerul Educației și Cercetării, Ordin, n.d.; Ministerstwo Edukacji i Nauk, 2020; Národný inštitút vzdelávania a mládeže, n.d.).

Romania

At the end of upper secondary education, final examinations are held in two main subjects (Romanian language and literature, and one foreign language), and three additional subjects depending on the specialisation chosen by each student. Only students who hold a *diploma de baccalaureate* have the right to higher education. The admission way, set by the Ministry of National Education, establishes the HEIs. The selection criteria rely on the average mark obtained by the candidates at the national exam (Examen de Baccalaureate) and in various subjects studied during high school, as well as the mark obtained at an entrance examination entirely organised by the higher education institution (European Commission, Eurydice, n.d.).

Croatia

The secondary education final exams also serve as entry examinations for university studies, encompassing three compulsory subjects (Croatian language, mathematics, and a foreign language) and one optional subject. The exams are held at two levels (basic and advanced), which means, apart from the different weighting of subjects, a differentiation in the final score in favour of those who have chosen the advanced level (Oktatási Hivatal, n.d.; Nacionalni centar za vanjsko vrednovanje obrazovanja, n.d.).

Bulgaria

Upon completing secondary education, a certificate of secondary education completion is awarded, granting access to higher education. The Bulgarian Ministry of Education and Science conducts state examinations for the Certificate of Secondary Education award, with two compulsory subjects, Bulgarian language and literature and one optional subject (European Commission, Eurydice, n.d.; Project "National Coordinators for Implementation of the European Agenda for Adult Learning'', n.d.).

Concluding Remarks

Taking into account the data used in this study, as well as the typology of access to higher education in European countries, the following conclusions can be drawn:

1. Overall, European countries have adopted a decentralised system of education. Coordination and any reforms in the field of education come from the country's Ministry of Education. However, supervision of school operations and all kinds of administrative and pedagogical activities is carried out at the regional level (cantons, federal states, etc.). That also applies to the exams for access to higher education. In several countries, the Ministry is only involved in the general circulars with guidelines for the regional commissions, which conduct the examinations. However, the topics of the exams are common to all students.

2. In most countries, compulsory education covers 9-12 years. From there on, the student chooses whether to follow a vocational orientation (lower and higher vocational education) that leads to the labour market or an academic orientation, which leads to admission to university departments. Regardless of the route a student chooses, there is considerable flexibility in the education system. Such opportunities are given so that no one is denied access to higher education, even if it was not their original intention.

3. Over the last decade, most EU countries have undertaken significant reforms in education, including revising the legislative framework for education, implementing curriculum reform, and introducing new teaching modules.

4. In some countries, at the end of compulsory education, students must attend a mandatory prior year between compulsory and upper secondary education to choose the direction they wish to take.

5. As for the university admission procedure, European countries conduct central examinations at the end of the school year with standard examination tests in 3 or 4 subjects. The subjects in which most European countries examine candidates for admission to secondary education, leading to higher education, are national language, mathematics, and a foreign language. Beyond that, it is up to the universities to set additional criteria, such as an examination in one or more subjects or even a minimum admission grade requirement (e.g., Greece, Hungary).

6. In central and eastern Europe, access to higher education is provided by obtaining a higher secondary school certificate through national examinations called *Matura*. Austria, Liechtenstein, the Czech Republic, Poland, Hungary, Slovenia and Slovakia offer this diploma.

7. In Latvia, university admission is free, with the only requirement being a secondary education certificate.

8. Finally, in some examination systems, where the secondary education final examinations also serve as entrance examinations for higher education, the examinations are conducted at two levels: basic and advanced. That, apart from the different weighting of subjects, means a differentiation in the concentration of the final score in favour of those who have chosen the advanced level. In this way, those candidates who have taken the primary level are excluded from high-demand schools.

The significance of the concluding remarks obtained in the present study serves as an overall view of the admission procedures to university institutions in European countries, as indicated. Its informative character serves as a tool for citizens, whether in Europe or other countries globally, as well as a background for further research in other countries and the educational field generally. Bi- and multilateral comparative studies on admission procedures would also be of scientific interest as future research objectives.

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