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GENDER DIFFERENCES IN EDUCATIONAL OPTIONS. THE CASE OF FRAMEWORK PLANS ESTABLISHED IN ROMANIAN PRE-UNIVERSITY EDUCATION

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Abstract. This article explores high school students' perspectives on the framework plans for high school education in Romania, which have recently been the subject of public debate. Consulting students on any important detail of the instructional and educational process has become a common practice in our country in recent years, initiated by the Ministry of Education. How students perceive the impact of the proposed changes on their educational path becomes an essential component of sociological studies and educational sciences. The results presented in this article refer to a representative sample of students from Hunedoara County, on which County Center for Educational Resources and Assistance (CJRAE) Hunedoara conducted an in-depth research in February 2025. We have insisted in this article on the differences in perception between students according to their gender, to identify whether there are significant statistical differences. In our analysis, we also considered that students' perspectives may be influenced by additional variables, such as year of study, class type, quality of teaching methods, and school culture, which could further accentuate gender differences. The research hypotheses focused on: (1) gender differences in students' level of awareness, understanding, and perceived usefulness of the proposed changes to the curricular framework plans and (2) differences by academic track (and gender) regarding proposals to increase study hours. The research revealed not only the gender differences between the requests for extension of the respective classes but also, surprisingly, the tendency of students to have more hours from dominant curricular areas in other study tracks.

Keywords: framework plans, curriculum, gender differences, study tracks, curricular areas.

Résumé : Cet article explore les perspectives des lycéens sur les plans-cadres de l'enseignement secondaire en Roumanie, qui ont récemment fait l'objet d'un débat public. Consulter les élèves sur tout aspect important du processus éducatif est devenu une pratique courante dans notre pays ces dernières années, grâce à l'initiative du Ministère de l'Éducation. La manière dont les élèves perçoivent l'impact des changements proposés sur leur parcours éducatif constitue désormais une composante essentielle des études sociologiques et des sciences de l'éducation. Les résultats présentés dans cet article portent sur un échantillon représentatif d'élèves du département de Hunedoara, sur lequel le Centre départemental de ressources et d'assistance éducatives (CJRAE) Hunedoara a mené une étude approfondie en février 2025. Nous avons insisté dans cet article sur les différences de

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perception entre les élèves selon leur genre, afin d'identifier s'il existe des différences statistiques significatives. Dans notre analyse, nous avons également pris en compte que les perspectives des élèves pourraient être influencées par des variables supplémentaires, telles que l'année d'études, le type de classe, la qualité des méthodes pédagogiques et la culture scolaire, ce qui pourrait accentuer davantage les différences de genre. Les hypothèses de recherche se sont concentrées sur : (1) les différences de genre concernant le niveau de conscience, la compréhension et l'utilité perçue des modifications proposées des plans-cadres curriculaires ; (2) les différences selon la filière académique (et le genre) concernant les propositions d'augmentation du volume horaire d'études. L'étude a révélé non seulement des différences de genre dans les demandes d'extension des cours concernés, mais aussi, de manière surprenante, une tendance des élèves à souhaiter davantage d'heures dans les domaines curriculaires dominants d'autres filières d'études.

Mots-clés : plans-cadres, programme d'études, différences entre les sexes, filières d'études, domaines curriculaires.

Rezumat: Acest articol detaliază percepţiile elevilor de liceu referitoare la planurile cadru din Romania, aflate, de curând, în dezbatere publică. Consultarea elevilor cu privire la orice detaliu important al procesului instructiv-educativ a devenit o practică curentă în ţara noastră în ultimii ani, prin iniţiativa Ministerului Educaţiei. Modul cum percep elevii impactul schimbărilor propuse asupra parcursului lor educaţional devine o componentă esenţială de studii sociologice şi de ştiinţe ale educaţiei. Rezultatele prezentate în acest articol se referă la un eşantion reprezentativ de elevi din judeţul Hunedoara, asupra căruia Centrul Judeţean de Resurse şi Asistenţă Educaţională (CJRAE) Hunedoara a făcut o cercetare aprofundată în februarie 2025. Am insistat în acest articol pe diferenţele de percepţie dintre elevi după genul acestora, pentru a identifica în ce măsură există diferenţe statistice semnificative. În analizele noastre am ţinut cont de faptul că reprezentările elevilor pot fi influenţate şi de alte variabile (anul de studii, calitatea demersului educativ, cultura şcolară etc.), variabile care pot fi utilizate pentru a reliefa mai pregnant diferenţele de gen. Ipotezele cercetării au testat diferenţele de gen în ce priveşte gradul de informare, de cunoaştere şi de utilitate percepută despre propunerile de modificare a planurile cadru curriculare. O altă ipoteză a testat diferenţele după filiere şi gen în ce priveşte propunerile de extindere a orelor de studiu. Cercetarea a relevat nu numai diferenţele pe genuri între cererile de extindere a orelor respective ci şi, surprinzător, tendinţa elevilor de a avea mai multe ore din arii curriculare dominante în alte filiere de studiu.

Cuvinte cheie: planuri cadru, curriculum, diferenţe de gen, filiere de studiu, arii curriculare.

1. Introduction. Considerations about the Framework Plans

The framework curricula are reference documents that establish the structure and organization of the national curriculum for each education cycle. They determine the compulsory and optional subjects, the number of hours allocated to each subject, and their distribution during the years of study. Currently, high school education in Romania operates based on the framework plans approved in 2009. However, in the context of social and educational changes, a new version of the framework plan is under public debate, which proposes greater curricular flexibility, including by increasing the number of optional

subjects in the CDEOS category (Curriculum at the Student's and School's Decision). These changes aim to better adapt to the needs and interests of students, giving them greater freedom in choosing their educational path. The Ministry of Education and Research (2025) has published the current draft framework plans for high-school education, with the official consultation period running from January 31 to March 6, 2025.

Within the document, it is specified that is proposes *a curricular paradigm centred on predictability, equity, flexibility and relevance*, the stakes being truly ambitious: avoiding overload, the possibility of adjustments along the way, the imposition of specialization (for the final grades), flexibility for students' options and, last but not least, an educational offer attentive to the requirements of the labour market. It is then mentioned as a center of interest, 'the fulfilment of the potential of each student', regardless of the course or study profile. The curriculum must not only be clarified, but also permanently evaluated. The directions of development are based on: transversal competences, basic competences in disciplinary and interdisciplinary contexts, new technologies, educational inclusion, cultural diversity, teachers' competences, the needs of the labour market, collaboration between educational actors at all levels, periodic updating of the curriculum, monitoring, evaluation and revision of the curriculum (Ministry of Education and Research, 2025).

During that period, numerous meetings and debates took place, attended by representatives of teachers, trade unions, parents, and students. Such debates are considered current practices, if we refer, for example, to the OECD, which ensures permanent consultation of all those involved in the teaching process, from teachers to managers of educational institutions, as well as students/learners (OECD, 2019a, 2020). In 2024, the OECD has proposed a broad analysis on the flexibility and autonomy of the school curriculum (OECD, 2024c), which it considers part of a broader reflection on the future-oriented curriculum.

2. Gender differences in educational choices

Gender differences in educational choices are of great interest for social research and beyond. The interest in certain subjects, the choice or rejection of other subjects are often linked to social stereotypes. For example, the fact that girls are dominant in preferences for the humanities and biology but avoid physics or information technology (IT) specialization, has already been highlighted in an OECD study (2019b). The same study recalled that girls usually outperform boys in 'reading skills'; boys, in turn, slightly outperformed girls in mathematics (but there are 12 countries where girls are better); in science, girls outperformed boys by 2 points on average, performing better in 34 countries; girls are much less interested in a career in Information Technology (the study cited above approximated 15% of girls with an interest physics or Information Technology).

Another suggestive report prepared by the European Commission (2021), entitled *She figures 2021 – Gender in research and innovation – Statistics and indicators*, provides additional data on orientation discrepancies between boys and

girls. That is why numerous programs „to tackle gender stereotypes in girls' and boys' education and career interests" (EC, 2021, p. 125) have been initiated. In over 30 countries, an event known as Girls' Day is organized, and according to the same report, in Germany, girls in grades 5-10 visit companies, universities, and research institutes to increase the interest on different fields. As a result of these activities, 70% of the girls' report discovering professions they are interested in, and 41% expressed interest in pursuing different internships at those companies. Another initiative called Boys' Day deals with male students, so that they can explore areas such as health or education (fields considered feminine). After such events, the boys' interest in these fields increased significantly.

In Belgium, another initiative, named 'Girls Day, Boys Day' „invites girls and boys to discover the world of work by presenting them professions with "female" connotations but practised by men and with professions with "male" connotations but practised by women" (Wroblewski, 2018, p. 64). The aim was to encourage students to avoid stereotypes in their own choices. In the Netherlands, similar activities are organised to stimulate girls' interest in exact sciences and technology.

Many other studies have pointed out that gender differences are more cultural than biological. Girls tend to exclude themselves from areas considered "masculine", and boys avoid "feminine" ones due to social pressure. Schools that apply gender-conscious guidance policies succeed in bridging this gap.

The choices during high school will have an impact on an already unequal labour market. The cited report also shows that

> *despite EU legal and policy commitments, a range of gender inequalities persist, not least in R&I. These include segregation of women and men PhD graduates across different fields of study, the under-representation of women in Science and Technology occupations (including entrepreneurship and innovation), gender differences in researchers' working conditions, gender inequalities in career advancement and decision-making, and more* (EC, 2021, p. 18).

According to an information note published by the French Ministry of National Education, at the beginning of the 2023 school year, artistic subjects, including "plastic arts", were more frequently chosen by female students, with percentages of more than 80%. In the case of the subject "Foreign and regional languages, literatures and cultures" (LLCER), 72.6% of the students who chose this specialization were girls. On the other hand, boys predominate in the choices of the subjects "Digital and computer sciences", "Engineering sciences and physical sciences" or "Physical education, sports practices and culture", the percentages being over 70% (Dauphin, 2024).

Also, the trends in the choice of A-level subjects in the UK are indicated in an article published by Thompson (2023), which highlights that, between 2021 and 2022, girls were the majority in subjects such as psychology, sociology, English, art

and design, while boys dominated in physics, computer science, advanced mathematics.

Educational choices and gender differentiations have been intensively studied in recent decades. For example, Eccles et al. (1983) presented a model entitled ”Expectation-Value” to explain academic motivation and educational choices, including in the context of gender differences. Within this model, it is considered that performance and educational choice are determined by two key concepts: expectancy, i.e., how well students think they will perform, and task value, how important an activity is for them. The impact of gender socialization on these two dimensions is analysed, revealing that girls and boys develop different expectations and values depending on gender. Parsons et al. (1984) empirically test the model, the results showing that gender differences in motivation arise not from different abilities, but from social expectations (gender roles), differentiated feedback from parents and teachers, early experiences, and learning opportunities. Girls tend to underestimate their skills in mathematics, even if they perform well, due to the lower value attributed to this field and the low expectations of success (Parsons et al., 1984).

Summarizing the perspective of Eccles et al. (1983), educational choices are not only a reflection of abilities, but especially of values and expectations, which are socially formed. Thus, girls may avoid areas such as mathematics or physics not because they can't, but because they don't expect them to perform and don't consider them relevant or interesting (low value). These perceptions are influenced by parents, teachers, the media, and the dominant culture.

Another author, Fan (2011), applies the Expectation-Value model to examine social influences on school motivation and gender differences. His study shows that teacher-student relationships and the academic values of the peer group influence students' task values, with significant differences between boys and girls. It is also highlighted that these values and educational expectations are related to the academic commitment of students, with notable gender differences.

Research by Wang & Degol (2013) uses the ”Expectancy-Value” model to understand individual and gender differences in career choices in STEM fields. The authors discuss how sociocultural, contextual, biological, and psychological factors influence interests and choices in STEM, highlighting the specific barriers women face in these fields. The results show that girls have a wider range of interests and abilities, but they choose non-STEM fields because they feel more competent and motivated there. The authors believe that interventions should be designed not only to increase girls' interest in physical sciences, computer science, and engineering, but also to increase boys' interest in biological and health sciences.

Legewie & DiPrete (2014) show that high school climate significantly influences choices in STEM. Boys are more encouraged towards the exact sciences, while girls give up physics or computer science more easily in those school environments where gender stereotypes dominate. The differences are not only related to skills, but also to school culture, the support of teachers and colleagues. The authors show the effect of two concrete characteristics of high school on STEM

specialization plans in college: high school curriculum in STEM and gender segregation of extracurricular activities. These two factors have a substantial effect on the gender gap in STEM specialization plans.

The study by Breda & Napp (2019), which analyses individual-level data on 300,000 15-year-old students in 64 countries, reveals that in most countries, girls perform only slightly worse than boys in mathematics, but their reading lead is much higher. This gives girls a comparative advantage in subjects related to reading/literature rather than mathematics, directing them towards humanities careers, where they feel they shine more.

The national longitudinal study (conducted in the USA) by Perez-Felkner et al. (2017) shows how beliefs about one's abilities in mathematics are strong predictors for choosing a path in the STEM field. Girls frequently underestimate their skills and avoid subjects ”perceived as difficult”, and boys remain more confident in their abilities when faced with challenging math.

The persistence of the gender gap in skills and especially in elections is discussed in many OECD studies. For example, an OECD analysis (2015) reveals that girls perform better than boys in reading in all OECD countries. Boys are more likely to repeat school years and drop out of school. In mathematics, boys have only slightly better results. However, girls are more likely to attend tertiary education, but remain underrepresented in STEM.

A recent OECD study (2024a) highlights the fact that boys and girls have similar graduation rates in secondary education, but differences arise in the choice of fields of study. Girls dominate in education, health and the arts, and boys in engineering, ICT and construction. Women earn less than men on average, even with higher levels of education.

Another OECD analysis (2024b) shows that girls continue to outperform boys in tertiary education: 52% of young women (20-34 years old) have completed higher education, compared to 39% of men. However, women are underrepresented in STEM fields and in leadership positions. Progress is being made, but gaps persist in key areas, especially in the choice of specialisations.

3. Methods: participants, instrument, hypothesis

The debate on the Ministry of Education and Research plans and proposals for change, conducted at the level of CJRAE Hunedoara, also included a quantitative study based on a questionnaire, applied in February 2025 to a representative sample of high school students in the county (the sample size was 1164 students, the margin of error of 2.7%, at a 95% confidence level). The sample structure was as follows:

Table 1. Sample structure

Variables	Features	Common	Percent
Class	Grade IX	313	26.9
	Grade X	349	30
	Grade XI	344	29.5
	Grade XII	158	13.6

Variables	Features	Common	Percent
Gender	Male	485	41.7
	Female	679	58.3
Residence environment	Urban	923	79.3
	Rural	241	20.7
Track/specialization	Theoretical-real	427	36.8
	Theoretical-human	227	19.6
	Vocational	164	14.1
	Technological	343	29.5

The research aimed to do a gender-based analysis to see to what extent there are significant differences between boys and girls in terms of their choices and preferences in a range of dimensions included in the questionnaire.

The research focused on several specific objectives: to assess the degree of information of boys and girls about proposals for draft framework plans and the extent to which they contribute to personal and professional development; differentiated evaluation of school curricula according to the gender of respondents; identifying the main difficulties perceived by boys and girls in the current educational system; identification of the additional demand for teaching hours, depending on the courses and the gender of the students.

Following the objectives pursued, we also tested the following statistical hypotheses:

H1. There are significant statistical differences according to the gender of the students in terms of the possession of the information on the launch of the new framework plans, the degree of knowledge, and the degree of perceived usefulness of it.

H2. There are statistically significant gender differences in proposals for changes to the framework plans.

H3. The proposals to extend the number of hours reserved for educational subjects are significantly different according to the course of study, the gender of the subjects, and the class of study.

4. Research results

In the research conducted in Hunedoara County, the area of interest was much broader, starting from students' opinions and representations regarding the framework plans that were relatively recently opened for public debate. The fact that only half of the pupils had heard of the launch of the draft framework plans for public debate should not be understood as a disadvantage, given the general interest of young people in their training and eventual integration into the labour market.

For example, approximately 80 percent of students confirmed that school schedules are busy or very busy, and more than half consider that the hours of study per week are too many. In this context, students bring to attention a series of legitimate grievances: the fatigue felt at school, the excess of theory during

classes, content that they consider unsuitable for their training, the lack of career counselling. If students want to increase the number of hours in some subjects, at the same time they also want to reduce the hours in other subjects. The measures for such situations are relatively blocked (concerning subjects/disciplines that are intended to be increased/reduced/optional at the same time). However, students advocate that a series of subjects should no longer be compulsory, but only optional, that more emphasis should be placed on practice (direct/interactive), that there should be a modular system of grouping subjects with optional choice, the introduction of new subjects (e.g. financial education or health education/sex education), free options for choosing Baccalaureate subjects depending on the course of study, intensification and diversification of preparation for the Baccalaureate. The students are followers of the modernization of the school infrastructure (with a focus on digitalization), but also of the efficient use of current facilities (with the addition of canteens with natural products). Regarding the actual teaching activity, the students denounced the shortcomings of the evaluation system, as well as the increase in the degree of involvement of teachers. All these proposals can be differentiated by study classes, by courses or by the gender of the respondents.

Below we will briefly present the testing of statistical hypotheses as follows:

H1. There are significant statistical differences according to the gender of the students in terms of the possession of the information on the launch of the new framework plans, the degree of knowledge, and the degree of perceived usefulness of it.

The statistical analysis of the entire sample showed that only 590 students (51.7%) said they had heard of the framework programs, recently put up for public debate. We continued the analysis on the degree of knowledge and perception of the usefulness of the cadres, in terms of personal and professional development. The descriptive results were as follows:

Table 2. Descriptive analysis of the variables, *knowledge,* and *usefulness* of framework plans

	N	Minimum	Maximum	Mean	Std. Deviation
Knowledge	590	1	5	3.039	1.1072
Usefulness	590	1	5	3.114	1.1737
Total	590				

The data reveal a level that exceeds the middle of the [1,5] interval for knowledge and usefulness of the new framework plans (because of the averages slightly exceed the value of 3). To test the statistical hypothesis, we deepened the analysis only on the sample of 590 students. The association analysis applied to this subsample showed that there are no significant differences between boys and girls in terms of the possession of information on the launch of the new framework

plans in public debate (Chi Square = 1.66, df=1, p=0.198). All these students were questioned about the degree of knowledge of the respective framework programs. The analysis did not reveal significant differences between genders, after we tested the hypothesis with the help of a nonparametric test *Two independent samples* (U=40496.5, Z=-0.622, p=0.534). In other words, there are no gender differences: we cannot say that boys or girls know the content of those plans better. Finally, the students were asked to what extent they consider the framework plans (for personal and professional development) to be useful. Also in this case, we did not find significant differences between genders (U=38981, Z=-1.396, p=0.163). In all cases, the hypothesis was not confirmed.

H2. There are statistically significant gender differences in proposals for changes to the framework plans.

These differences are visible in the following table:

Table 3. Proposals to amend the Framework Plans

Proposals	Male (%)	Female (%)
I would reduce the total number of hours per week	67	62
I would introduce more hours of practical training	36	30
I would increase flexibility in choosing options	41	50
I would reduce the number of compulsory subjects	51	53
I wouldn't change a thing	4	6

From the statistical analysis, we deduced that the two variables are associated (Chi Square = 16.93, df=5, p=0.005). In other words, there are significant differences according to the gender of the respondents: boys agree to a greater extent with the *reducing the number of hours per week* and with *introduction of more hours of practical training*, while the girls rather agree with the *increasing flexibility in choosing options* and with *Reducing the number of compulsory subjects*. The hypothesis is confirmed.

H3. The proposals to extend the number of hours reserved for educational subjects are significantly different according to the course of study, the gender of the subjects, and the class of study.

The research on the framework plans and the students' reporting to them also included the evaluation of 19 disciplines. The students were asked to specify which of these subjects they want additional hours of training in, as well as the subjects for which they consider that the number of hours should be reduced. We will deal here with the first of the options: what were the students' choices regarding the subjects/disciplines that they consider more important for their preparation, and for which they would request overtime. An overview of all those disciplines, as well as their distribution by tracks and gender of respondents, can be found in the following table (which contains percentage data):

Table 4. Differences in Options for Study Subjects

Required disciplines:	Theoretically real		Theoretically human		Vocational		Technological	
	Male	Female	Male	Female	Male	Female	Male	Female
Physics	47.7	46.2	6.4	2.7	4.9	13.5	27.2	34.1
Foreign Language 2	36.8	12.4	1.3	0.7	9.8	3.2	12.7	5.3
Specialized theory	33.7	9.4	48.7	13.4	19.5	9.5	48	16.5
Mathematics	32.1	46.2	34.6	53	19.5	27	23.1	40.6
Romanian	25.4	50.9	6.4	5.4	4.9	4.8	5.2	11.2
Biology	16.1	20.5	19.2	32.2	19.5	21.4	19.1	21.2
Latin	13.5	12	19.2	15.4	51.2	27	6.4	9.4
Specialized practice	13.5	14.5	16.7	11.4	24.4	44.4	44.5	41.8
Foreign Language 1	12.4	21.4	23.1	28.2	26.8	34.1	8.7	29.4
Socio-human disciplines (psychology, sociology, economics, philosophy)	11.4	6.4	9	1.3	9.8	4.8	11.6	5.9
Information and communications technology (ICT)	11.4	6.4	1.3	1.3	2.4	2.4	8.7	3.5
History	9.3	24.4	0	4	2.4	3.2	2.3	4.1
Arts/Music	8.3	8.1	19.2	40.3	14.6	25.4	6.9	20.6
Physical education	7.8	1.3	17.9	4	2.4	4	12.1	4.7
Computer science	6.7	3	35.9	47.7	31.7	27	19.1	14.7
Geography	5.7	3	26.9	21.5	17.1	15.1	20.8	14.7
Personal Development and Career Counseling	4.1	6.4	2.6	9.4	17.1	22.2	17.3	14.1
Chemistry	1.6	0	3.8	0.7	0	0.8	0.6	0.6
Religion	1	5.6	3.8	4.7	14.6	4.8	4	6.5

Certain trends can be seen in the table above. We can thus see to what extent certain subjects are of greater interest to students or to what extent they are evaluated differently according to the courses of study. Due to the size of this table, the statistical analysis of differences by gender or field of study proves to be difficult to apply. That is why we resorted to distributing the subjects in the table by curricular areas, as follows:

Table 5. Coding of subjects by curricular areas

Curricular areas	Disciplines included
Language and communication	Romanian, Foreign Language 1, Foreign Language 2, Latin
Mathematics and Natural Sciences	Physics, Mathematics, Chemistry, Biology
Human and society	Social and Humanistic Disciplines, History, Religion, Geography
Arts	-

Curricular areas	Disciplines included
Technologies	ICT, Computer Science, Specialized Theory, Specialized Practice
Physical education and sports	-
Counselling and guidance	-

a. Analysis of the requirements of the curricular areas by the course of study

From the statistical analysis, the distribution of the respective curricular areas according to the study tracks was as follows:

Table 6. Distribution of curricular areas by course of study

	Tracks			
	Theoretically real	Theoretically human	Vocational	Technological
Language and communication	80.6	43.2	62.9	39.9
Mathematics and natural sciences	73.3	64.8	48.5	57.1
Human and society	32.6	32.2	29.3	33.5
Arts	8.2	33.0	22.8	13.7
Technologies	43.1	72.2	68.9	72.9
Physical education and sports	4.2	8.8	3.6	8.5
Counseling and guidance	5.4	7.0	21.0	15.7

The statistical analysis showed a significant association between the variables (Chi Square = 417.95, df = 21, p = 0.000). In other words, there are significant differences between the tracks regarding the demand for overtime for the respective curricular areas, the hypothesis being confirmed. For example, 80.6% of the respondents from the real theoretical profile request overtime, dominantly in *Language and Communication* or *Mathematics* and *Natural Sciences*. These demands seem to be contradictory: on the one hand, students request an increasing number of hours in the *Language and Communication* discipline (a sign of a relative lack of emphasis on such disciplines, considering the study track) and, on the other hand, students request an increased number of hours in *Mathematics and natural sciences*-precisely in the discipline considered basic in terms of the high school track. Surely, such a situation needs to be further investigated in order to reach a balance of the respective demands.

From the same Table (no. 6), we observe that students from the vocational track imperatively demand an increase in Technological classes (certainly this type of subject being under-represented in that profile). We observe a relatively constant demand for the area of *Human and Society* in all fields of study. A significant increase is observed in the Vocational and Technological tracks in terms of the need for *Counseling and Orientation* hours. All these differences can be punctually deepened by decision-makers, for better teaching productivity.

b. Analysis of the requirements of the curricular areas according to the gender of the respondents

From the statistical analysis, the distribution of the respective curricular areas according to the gender of students was as follows:

Table 7. Curricular areas distributed by gender

	Gender	
	Male	Female
Language and communication	53.8	62.3
Mathematics and natural sciences	56.7	68.0
Human and society	33.0	31.8
Arts	10.1	21.5
Technologies	70.5	54.6
Physical education and sport	10.5	3.2
Counseling and guidance	9.7	11.9

The statistical analysis showed a significant association between the variables (Chi Square = 107.57.95, df = 7, p = 0.000). The hypothesis is confirmed: there is a statistically significant difference between students' requests for overtime by their gender. We observe, for example, the dominant figures for girls' requests for the area *of Language and Communication* (62.3%), *Mathematics and Natural Sciences* (68%), and *Arts* (21.5%). We also observe the higher percentages of boys in the areas of *Technology* and *Physical Education, and Sports.*

c. Mixed analysis of curricular areas by tracks and gender

By bringing together the curricular areas, the courses of study, and the gender of students, we can also observe the gender differences within each course of study. We have obtained the following situation of overtime requests:

Table 8. Curricular areas distributed by courses and gender

Curricular areas Required:	Tracks							
	Theoretically real		Theoretically human		Vocational		Technological	
	Male	Female	Male	Female	Male	Female	Male	Female
Language and communication	75.6	84.6	42.3	43.6	73.2	59.5	30.1	50.0
Mathematics and natural sciences	65.8	79.5	53.8	70.5	39.0	51.6	52.0	62.4
Human and society	27.5	36.8	33.3	31.5	39.0	26.2	37.6	29.4
Arts	8.3	8.1	19.2	40.3	14.6	25.4	6.9	20.6
Technologies	56.5	32.1	82.1	67.1	61.0	71.4	83.2	62.4
Physical education and sports	7.8	1.3	17.9	4.0	2.4	4.0	12.1	4.7
Counseling and guidance	4.1	6.4	2.6	9.4	17.1	22.2	17.3	14.1

The results of the analysis of the association between the variables can be found in the following table (no. 9):

Table 9. Differences between curricular areas by gender, in all fields of study

Pearson Chi-Square Tests				
	Tracks			
	Theoretically real	Theoretically human	Vocational	Technological
	Gender	Gender	Gender	Gender
Chi-square	57.543	38.249	11.199	59.742
Df	7	7	7	7
Sig.	.000*	.000*	0.05*	.000*
Results are based on nonempty rows and columns in each innermost sub-table.				
***. The Chi-square statistic is significant at the .05 level.**				

From the above table we deduce that there are statistically significant differences between boys and girls, if we refer to the theoretical real track (Chi Square = 57.54, df = 7 and p = 0.000), to the theoretical human track (Chi Square = 38.24, df = 7 and p = 0.000) or the technological track (Chi Square = 59.74, df = 7 and p = 0.000). In the case of the vocational track, the differences are slightly attenuated, but remain significant (Chi Square = 11.19, df = 7, and p = 0.05). All these conclusions can be extensively examined if we start from the previous table with the specification of the statistical differences between boys and girls:

a. The girls are rather inclined to ask for the supplementation of the subjects included in the following curricular areas: *Language and Communication, Mathematics and Natural Sciences, and Human and Society*. Boys are more interested in *Technologies* and *Physical Education, and sports.* As far as *Counseling* is concerned, the data are very close.
b. Theoretical-human track: Girls want more overtime for *Language and Communication*, *Mathematics and Natural Sciences, Arts and Counseling*; boys ask for extra hours for the *Human and Society* curricular areas – the figures for girls being very close, but also for *Technologies* or *Education and Sport.*
c. Vocational track: for this track, the statistical differences are significant overall, although the percentages for the two genders are more balanced than in the other cases. Surprisingly, boys ask for overtime for *Language and Communication* or *Human Man and Society.*
d. The technological track (Girls dominate in terms of the demand for overtime in curricular areas such as *Language and Communication*, *Mathematics and Natural Sciences,* but also in the demand for overtime in the artistic field – in an environment dominated by technical thinking in general).

5. Conclusions

This article emphasized the importance of differentiating the framework plans in pre-university education based on students' gender, starting from their questioning and their involvement in defining/constituting the new curricular framework plans. The initial research carried out in Hunedoara County aimed to be a broad consultation, included in the public debate on the respective framework plans. A questionnaire applied to a representative sample of students was used to conduct a differentiated analysis of students' perceptions based on gender.

A first hypothesis aimed to test gender differences in terms of having the information on the launch of the new framework plans, the degree of knowledge, and their perceived degree of usefulness. We found that out of the entire sample, only 51.7 percent of the students were aware that the respective framework plans had been launched for public debate. The testing of the statistical hypothesis followed the path of this subsample, and we found that there were no differences according to the gender of the students in terms of ownership information on the launch of the new framework plans for public debate, the degree of knowledge of those plans, or perception of their usefulness. The first hypothesis revealed a particularly homogeneous sample of students, with no significant differences according to the gender of the respondents, from which we deduce the general interest of the students in the respective framework plans.

For the second hypothesis (H2) we found a statistically significant difference between genders: boys agreed to a greater extent with the *reducing the number of hours per week* and with *introduction of more hours of practical training*, while the girls rather agreed with the *increasing flexibility in choosing options* and with *Reducing the number of compulsory subjects*.

The evaluation of the requests for additional hours of various disciplines within the H3 hypothesis brought a series of important results in terms of differentiations by study tracks and, within them, of the differences between genders. To simplify the analysis, we have recoded the subjects according to curricular areas. We found that most students from the theoretical real track (80.6%) dominantly requested overtime at *language and communication* or *Mathematics and natural sciences* (hence the contradiction that this field is rather 'masculine'). Students from the Vocational Branch asked for an increase in classes with a technological character. We have noticed a relatively constant demand for the area of *Human and society* in all fields of study. A significant increase is observed in the Vocational and Technological tracks in terms of the need for *Counselling and guidance*. Next, we found a statistically significant difference in students' requests for overtime (from all tracks) based on their gender. The girls' requests were centred on the area of *Language and communication* (62.3%), but also *Mathematics and natural sciences* (68%). The boys additionally asked for hours from the *Technologies* or *Physical Education, and Sport*.

Finally, we considered that gender differences within each track can be a much more applied point in our analysis. We have thus found a series of notable differences by gender, and the conclusion we can draw is that students from certain

tracks suggest supplementing with hours in curricular areas that are dominant in terms of formative influence in other tracks of study. For example, girls from the theoretically real track ask for an additional number of *Language and communication* (as they are overrepresented in the theoretically humanistic track). In their turn, the girls in the theoretically human track are also asking for more hours *of Mathematics and Natural Sciences* (overrepresented in the theoretically real track). Also, the boys in the vocational track ask for overtime hours rather associated with the theoretical human track. Finally, girls in the technological track are asking for additions to *Language and Communication*, *Mathematics, and Natural Sciences classes,* specific to other tracks. We believe that such slips should be treated with interest, and from a sociological perspective, it is recommended to continue the research through qualitative techniques.

In conclusion, the results presented reveal gender differences in the proposals for optimizing the framework plans, as well as the perceived need to increase the number of hours allocated to school subjects. These can be a confirmation of international study data, which reveal gender differences in academic interests in adolescence (Su et al., 2009), with girls preferring *People* and the boys *Things* or reports from other countries indicating gender-different choices of deepening and optional subjects in the final years of high school (Dauphin, 2024). Our results may also be congruent with research showing that educational choices predominantly reflect values and expectations (Eccles et al., 1983), with girls' major choice of mathematics indicating not a preference, but a desire to compensate with additional training for a lesser-known terrain.

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