

Gender segregation in professional pre-higher and higher education

Introduction, methodology and summary
of the research



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● Introduction and methodology

Russia's full-scale invasion of Ukraine has significantly changed the labor market, both the supply and the demand. Millions of workers have been leaving the market due to mobilization and forced displacement abroad. The demand for labor has also been affected by the needs of (current and future) recovery and the development of the defense industry.

The labor market in Ukraine is vertically and horizontally segregated by gender: men dominate in management positions, while women are more prevalent in industries and activities with lower value added or in positions with lower compensation. At the same time, the outflow of labor force also has a gender aspect: the majority of the mobilized are men, while the majority of asylum seekers abroad are women. Under these conditions, horizontal gender segregation not only limits the personal development and fulfillment of the talents of individual workers but also deprives the labor market of the flexibility which is so essential in difficult circumstances.

Even though the country's proper recovery requires the war to end and fair peace to be established, urgent recovery measures have already begun and continue. In any case, this process, which will take place alongside Ukraine's EU integration, demands significant effort, human resources, and competences. Education is the key institution that provides these skills and knowledge. Gaining relevant education may have a significant impact on the capacity of various social groups, both men and women, to participate in recovery processes. In addition, education and the acquired competences will also affect the roles played by different people in the corresponding processes. In view of this, inequalities in education may affect how the recovery will be organized and which inequalities will be reinforced or provoked as a result.

Education is one of the key institutions for socialization. In addition to mastering hard and soft skills, preparing for obtaining a profession and actively participating in the life of one's community and society in general, education also makes a significant contribution to shaping one's values, views, and social practices. The process of recovery and changes in the country may require social discussions about the vision of the future and the new rules for coexistence in society after the war. The values and discourses that will be popular at the

relevant time may determine the decisions, strategies, and discourses that will be chosen and implemented. In view of this, ensuring gender equality in any area of life requires the implementation of corresponding policies in education.

For the purpose of their implementation, the Strategy for Implementing Gender Equality in Education until 2030 was adopted in December 2022. Among other things, it states that the implementation of the principle of ensuring equal rights and opportunities for women and men in education in Ukraine is linked to the need to overcome gender stereotypes while developing education policies, because the seemingly equal treatment of people of different genders does not actually provide equal opportunities in the conditions of existing gender stereotyping, but instead reinforces and perpetuates inequalities.¹

The Strategy for Overcoming the Gender Pay Gap for the Period until 2030 defines one of the causes of this gap as the high degree of gender segregation in the labor market (horizontal and vertical): men are dominant in management positions, while women are more prevalent in fields and activities with lower value added or in positions with lower pay.²

At the same time, none of the aforementioned Strategies tackles the issue of gender segregation in education, even though it is a very prominent manifestation of the problem of gender inequality, particularly the widespread ideas about the stereotypical roles of women and men in society, as well as a potential field for discrimination. Similarly, the problem of horizontal gender segregation in the labor market is impossible to consider without the corresponding segregation at the educational levels after which men and women enter the labor market.

This brief aims to describe the horizontal gender segregation in professional pre-higher and higher education in Ukraine as of 2024. In this text, horizontal gender segregation refers to under- or overrepresentation of members of one of the genders in a certain field of education and a certain

¹ The Strategy for the Implementation of Gender Equality in Education by 2030 was approved by the Cabinet of Ministers of Ukraine on December 20, 2022, No. 1163-r: <https://zakon.rada.gov.ua/laws/show/1163-2022-%D1%80#n198>

² On approval of the National Strategy for Overcoming the Gender Pay Gap for the period up to 2030 and approval of the operational plan of measures for its implementation for 2023-2025: <https://ips.ligazakon.net/document/kr230815?an=25>

specialization. We define the fields and specializations where there are over 70% of members of any one of the genders as segregated. The analysis also singles out a group of specializations where members of one of the genders make up the overwhelming majority of over 90%.

This brief seeks to search for answers to the following questions:

- how widespread horizontal gender segregation in professional pre-higher and higher education is, how many specializations and students it affects;
- whether gender segregation varies depending on the education level, region, education institution, and form of payment for tuition;
- whether the behavior of women and men differs while choosing their specialization and the education institution they apply to.

The data used for the analysis is obtained in response to a public information request from the Inforesource State Enterprise, which manages the Unified State Electronic Database on Education (USEDE).³

In order to avoid a large margin of error, the analysis only includes specializations where over 100 students are studying as of 2024. For doctoral programs the threshold is 10 students. Unless stated otherwise, all the calculations pertaining to specializations in the text are listed for the specializations defined above.

³ Unified state electronic database on education: <https://info.edbo.gov.ua/>

● Summary

The learning outcomes from secondary education and the results of entrance exams are higher or not significantly lower (depending on the subject) for women than for men. Despite this, the choices of specializations and fields of knowledge while moving on to the next education levels are different for the two genders.

All fields and specializations can be categorized into three types: gender-segregated in favor of men (the share of male students is over 70%), gender-segregated in favor of women (the share of female students is over 70%), and unsegregated (the share of students of either gender does not exceed 70%).

In 2023, there were **fields of knowledge** that were gender-segregated in favor of men at all levels of professional pre-higher and higher education. At the Professional Junior Bachelor and Junior Specialist levels, as well as the Bachelor, Junior Bachelor and Specialist levels, about one third of the fields belonged to this category; at the Master level, almost half of the fields did; whereas at the Doctor of Philosophy level, the majority of the fields were gender-segregated in favor of men. There were no fields that were gender-segregated in favor of women at the Master and Doctor of Philosophy levels; at the other education levels, one third or fewer fields belonged to this category.

At all education levels, the share of **specializations** that are gender-segregated varies between 58% and 71%. The specializations that are segregated in favor of men mostly include engineering, mechanical engineering, transportation, and agrarian specializations. The specializations that are segregated in favor of women are in the fields of education, health care, art, and humanities. 52% to 73% of all students study gender-segregated specializations at all education levels. A significant share of both women and men study specializations that are segregated in favor of their own gender, although this share is higher for men. This may affect the reinforcement of gender stereotypes regarding certain fields of knowledge or occupations.

An analysis of the dynamics of gender segregation **over time** at all education levels, except for Doctor of Philosophy, has shown that during 2018–2023, most specializations did not change their status in terms of gender segregation: they remained either segregated in favor of men or women, or

gender-neutral, like before. Despite this, the gender distribution of freshmen students changed in many specializations in 2022–2023; in particular, the share of men increased in most specializations.

An analysis of horizontal gender segregation of fields in **macroregions** of Ukraine has shown that the share of women in the most segregated fields is almost the same between regions, which demonstrates that the segregation is a nationwide trend and is not caused by factors that only characterize a specific region.

A comparison of the degree of horizontal gender segregation at 30 largest **higher education institutions** in Ukraine has shown that, despite variations in the degree of horizontal gender segregation in many fields depending on the education institution, the most segregated fields are segregated at most institutions.

An analysis of the gender aspect of **education trajectories** has shown that in general, the number of specializations in which the share of men at the Doctor of Philosophy level is notably higher than at the Junior Bachelor, Bachelor, and Specialist levels increased in 2023 compared to 2021. In 2023, there were twice as many specializations where we observed an increase of over 10% in the share of men between education levels than in 2021. Moreover, at 17 out of the 78 examined specializations, the increase of the share of men between education levels was over 30% in 2023, even though there were no specializations with such a high indicator in 2021. At the same time, there was not a single specialization in 2023 where we could observe a significant increase in the share of women at the Doctor of Philosophy level compared to the Junior Bachelor, Bachelor, and Specialist levels.

A comparison between the ratio of women paying their own tuition to women whose tuition is paid from the state budget and the ratio of men paying their own tuition to men whose tuition is paid from the state budget at the specializations that are the most segregated in favor of either of the genders as of 2024 has shown that at all education levels, the share of women whose **tuition is paid from the state budget** is higher than the share of men in the same category, but there are more men in terms of absolute numbers. This indicates that the women applying for these specializations have sufficiently high grades to be accepted to budget-paid places.

A comparison of **average competition grades** between female and male applicants for specializations at the Bachelor education level in 2023 has shown that there is no significant difference between the genders for most of the examined specializations. However, the average grade of female applicants is higher for 40% of the specializations, whereas the average grade of male applicants is only higher in one specialization. Among the specializations where the average grade of women is higher, the majority are gender-segregated in favor of men or unsegregated by gender. The only specialization that is gender-segregated in favor of women and shows a higher average grade among women is Journalism. The only specialization where the average grade of men is higher, Chemistry, is unsegregated by gender.

The shares of women and men who applied to education institutions in 2023 for specializations at the Junior Bachelor, Professional Junior Bachelor and Bachelor levels in **the same region where they graduated high school** correspond to regional trends, and belonging to a certain gender is not a determining factor.

An analysis of trends of **being accepted to higher education institutions depending on the priority of applications** among men and women in 2023 who were accepted to budget-paid places at the Junior Bachelor, Bachelor, and Master levels has shown that there was no significant difference between the genders.