

## Abstract

# Development of Strategies by Sector for Reducing the Gender Gap in the Labor Market (III): focusing on Gender Segregation across Fields of Study

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This study confirmed that gender segregation by field in higher education partly forms the gender gap in the labor market. Based on the findings, it proposed policy tasks for girls, including career policies, higher education policies, and youth vocational training, to narrow the gender gap in the youth labor market. Although the gender gap in higher education opportunities has disappeared, such chances for higher education in engineering, which are closely related to quality jobs, are still largely taken by men. The

OECD-ILO (2015) decided to monitor gender equality in opportunities for higher education in engineering in order to fill the gender gap in the rate of economic activity participation. In Korea, large businesses have favored science and engineering-majored job applicants around since 2013, and this preference will be likely to widen the gender gap in the young adult labor market. The main findings of this study are as follows:

First, analysis on the gender segregation of major for college graduates, conducted with Duncan index, revealed that the gender major separation in four year university dropped from 40.2 to 30.7, although the index of junior college was held constant. Yet, male-dominant majors in engineering did not show any significant change. While the employment rate among graduates who studied one of the eight male-dominant majors in four-year university is higher than the national average of 64.2 percent, the rate is below national average among those who majored in what both men and women prefer. This below-average-rate is also found in the half of the majors for which much more women than men opt.

Second, the analysis of gender occupational separation using the Duncan index showed that the index fell in the 1990s and 2000s, but remained stagnant during the 2009–2019 period. The separation of occupations by gender has been resolved more in the four-year or higher population than in the two-year junior college graduate population, and in the mid-30s compared with other age groups. Experts and those engaged in specific trades took up more portions both in male-dominant and female-dominant occupations than those not did, while administrative or sales positions were found gender-mixed areas. In 2018, 38.9 percent of female workers found their jobs in female-dominant jobs, 52.2 percent in gender-mixed and 8.9 percent in male-dominant. On the other

hand, 44.7 percent of male workers were hired in male-dominant jobs, 48.7 percent in gender-mixed and 6.6 percent in female-dominant.

Third, there are four reasons why female four-year college graduates failed to enter the male-dominated majors, that is, engineering: The ratio of female students choosing natural sciences course in high school is significantly lower than that of male students (47.3% for male students and 28.3% for female students); Female students have fewer access than male students to high school elective subjects which are closely related to engineering majors, for example, Physics II; There are more girls than boys who have not received career counseling and career education on university major selection from their high school; 64.5% of the female students in the humanities and social sciences answered that they had been interested in science and engineering majors or related occupations since primary school, but their interest did not lead them to such majors in university.

Fourth, a small portion of female students who study male-dominant majors, which are all engineering ones, found more difficulties than male students or other female students of different majors, in adapting to college curriculum and setting up career/employment plans after graduation. Compared with other female students, it was more difficult for them to accommodate the overall atmosphere of their department and to study in earnest from the sophomore year. Engineering-major women desire to get a job or start a business in their field of study. And this is not different from engineering male students. But 42.2 percent of engineering-major women responded positively that the window of opportunity unfairly widely opens to men. 25.4 percent of those respondents said that they had been restricted or experienced

inequality because of gender.

Fifth, the Carmel & Maclachlan index (0.2075), which indicates occupational gender segregation, was divided into two – 0.1556, major factor, and 0.0950, labor market factor. The sum of the two factors (0.2506) is greater than the Carmel & Maclachlan index (0.2075), which means there is an offsetting effect between labor market factor and major factor.

Sixth, Extended Regression Model (ERM) showed that there is relationship among gender segregation by field of study, occupational gender segregation and wage. In other words, both gender-mixed and male dominant jobs were significantly higher in wages compared with female dominant jobs; those with male-dominant majors were more likely to transfer to male-prevalent jobs, while those with female-dominant ones less likely to do so.

Finally, based on the above findings, the study proposed the followings: policy tasks that foster female talents in engineering and convergence science, higher education policies that strengthen professional human resources training in the humanities-natural science curriculum, and measures that resolve gender division in vocational training for young people.

Research areas: education, labor•employment

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