

## Abstract

# Korean Educational Longitudinal Study (KELS2005): An Analysis of the Lives and Achievements of Early Adulthood after Graduation from High School

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This study analyzes the data of the 8th survey of the『Korean Educational Longitudinal Study 2005』, a second survey of the second stage. Using the 1st to 8th year KELS 2005 dataset, this study provides a description of “the cognitive and non-cognitive development of early adulthood.” In addition, four issues are analyzed in-depth, namely “the lives and achievements of early adulthood after graduation from high school”; “the nature of disadvantaged students’ involvement in college lives (low-income students, first-generation college students, female students in science and engineering majors),” “college students’ career maturity and associated factors,” and “characteristics and achievements of college entrance repeaters,” “high school graduates’ performance in the labor market.”

The chapter Ⅱ analyzes the cognitive and non-cognitive development of participants. In

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the 8th follow-up data, the mean of educational expectations of the whole group was four year college or higher but a large portion answered "I did not make the decision yet." The overall expectations of students on their future were high; they would have a better life than now. The relationships between parents and the respondents showed that the emotional support of parents has gradually increased and it was the highest in 2012.

We also analyze the change of time usage and the extent of participation in political activities of respondents depending on their career or educational status. The amount of reading decreased consistently, but increased slightly after the respondents graduated from high school. A half of the respondents in their first or second year after graduated from high school answered that they never experienced an excessive drinking. After high school graduation, participants seldom participated in political activities, but the ratio of participating in election sharply increased because of the presidential election in 2012. 29.11% of the students responded that they have served for volunteer works more than once. Most of them did the volunteer work in Korea in local social service centers. Most answered that they participated in volunteer works 'to help others.' The survey about self-directed learning shows that participants mostly learned new information through internet and seldom had field trips to historical, industrial, or natural places. In general, participants recognized that self-directed learning is helpful and printed materials were most helpful. Regarding the size and characteristics of social network, respondents had six to seven close friends. The frequency of contact with friends tends to decrease in the second year than the first year after high school graduation. Students mostly eat, drink, chat or communicate through SNS with close friends.

When it comes to self-conception, the mean of students' academic self-conception is about 'fair' but the mean of non-academic self-conception is above the 'fair.' The need for cognition is above 'fair'; the mean of females' was higher than that of males'. The interpersonal relationship competency was the highest among the various competencies.

Participants' level of social trust was below 'fair' and they regarded civil consciousness slightly important. About family lives, respondents showed high consciousness of gender equality in family lives and upheld conservative attitudes toward cohabitation, childbirth, and divorce. Participants' expectations of economic assistance from parents varied: it was

highest for college tuition and the allowance during the job search period and wedding cost were followed while their expectations were low for graduate school tuition or child-rearing expenses.

Last but not least, we investigate the mental and physical health of the high school graduates. The overall stress levels of respondents were low and about 20% of them answered that they had experienced suicidal impulse. The most prevalent reason of the suicidal impulse was ‘social isolation and loneliness.’ The result showed that most respondents’ life satisfaction and their perception of health were above ‘fair’ level. Respondents’ mental health condition showing through their stress level, suicidal impulse and life satisfaction was highly correlated with their overall health.

In the chapter III, we investigate disadvantaged students’ involvements in college lives and related factors. Compare to other disadvantaged groups, low-income students showed relatively active cognitive involvements. When it comes to behavioral involvements, the mean of disadvantaged students’ overall involvements in classes were lower than that of the all participants in the 7th year, but both the mean of low-income students and that of female students in science or engineering majors were higher than average in the 8th year data. On the other hand, in cases of the negative student behaviors, the overall mean of disadvantaged students was lower than average, whereas the mean of first-generation college students was similar to or higher than average. In the 8th year dataset, negative behaviors of low-income students increased and became more frequent than average. In particular, the mean of low income first-generation college students was much higher than average. In terms of interactions with professors related to classes or other things, the mean of all lower-income students was lower than average both in the 7th and 8th year. In the 7th year data, most disadvantaged students’ academic interactions with colleagues in college were lower than average. However, the 8th year data showed that female students in science or engineering majors or those from low income families in science or engineering majors, and first-generation college female students in science or engineering majors had higher level of academic interactions with colleagues in college than average. On the other hand, in terms of social interactions with colleagues, disadvantaged students showed lower mean than average both in the 7th and 8th year.

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Survey regarding educational satisfactions and the sense of belonging in universities and departments showed that the mean of disadvantaged students, low-income students, female students in science or engineering majors, and first-generation college female students in science and engineering majors, were higher than average in the 7th year, but in the 8th year, except the sense of belonging in school, the rest were lower than average. In terms of continuation in college, the mean values of low-income students, female students in science or engineering majors, and low-income female students in science or engineering majors were higher than average in the 7th year, but in the 8th year, the mean values of all of them were lower than average. Disadvantaged students experienced alienation in department higher than average in the 8th year. In particular, students from low-income families, first-generation college students, low-income female students in science or engineering majors, and first-generation college students from low-income families reported higher levels of alienation in department than average.

This study analyzes the interaction effect of various characteristics of disadvantaged students in college. First-generation college students from the low-income family showed active participation in cognitive involvements compared to disadvantaged students with only one or two characteristics, whereas the continuation of the interaction with professors, the groups that have more than one characteristic are noticeably lower than the groups that have only a single characteristic.

In the case of the low-income student, ‘intrinsic motivation’ and ‘involvement in extra curriculum’ variables have the highest effect size on ‘8th year student involvement’ in order, when 7th year students involvement was taken account for. Among the lower-income students, the students who are majoring in Social science, show higher student involvement than those who are majoring in Engineering, Arts or Athletics. Also, it shows that ‘on-campus part time jobs’ affect positively the lower-income students, but ‘off-campus part time jobs’ do not. ‘Pragmatic-climates’ variable also shows positive effect on students involvement of the lower-income students. In particular, the lower-income students who are attending ‘community college’ or ‘non-Seoul metropolitan area college’ have higher student involvement in some types. On the other hand, among the lower-income students, there is no significant difference of student involvement between

students who are majoring in Natural Science and Social Science. And also, the types of university do not affect student involvement significantly neither. In the case of the first-generation college students, 'self-efficacy' is the most significant variable, 'intrinsic motivation', 'involvement on extra curriculum', and 'involvement on school programs' in order. Unlike the lower-income students, in the case of the first-generation college students, students who are majoring in 'Natural Science', 'Engineering', or 'Arts or Athletics' show a higher involvement than majoring in Social Science. Furthermore, the results of the first-generation college students show that 'on-campus part time jobs' have a positive effect on student involvement but 'off-campus part time jobs' do not. In college-level variables, attending 'community college' and 'national or public university' have a positive effect on the student involvement among the first generation college students. It is founded that all the variables, 'competition', 'pragmatism', and 'passion of professor' in college are great help to the first-generation college students to have academic satisfaction, a sense of belonging in school and department, and school continuation decision. When it comes to the factor of student involvement among female students who are majoring in Science or Engineering, student involvement was most strongly affected by the intrinsic motivation', 'involvement on extra curriculum' and 'involvement on school programs' in order. It is noteworthy that 'off-campus part time jobs' of female students who are majoring in Science or Engineering has a positive effect on 'academic interaction among colleague'. Also, female students who are majoring in Science or Engineering are affected positively by 'pragmatic climate' in college, but 'competitive climate' in college has a negative effect. In addition, in the case of students who do not belong to any disadvantaged groups, 'intrinsic motivation' has the most significant effect on student involvement, and 'self-efficacy' also has a positive effect on student involvement. On the other hand, as 'on-campus part-time job time' increased, alienation in department significantly increased. It indicates that the effect of part-time job is different between disadvantaged group and non-disadvantaged group. In the variable of college-level, same as other disadvantaged group, students who are attending 'community college' show high interaction with professors either case of class related or non-class related. And the cognition of 'competition', 'pragmatism' and 'teaching'

enthusiasm' in college has a positive effect on student involvement.

In the chapter IV, we analyze a descriptive of career maturity of college students. After that we analyze the changes of the career maturity between before college entrance and after college entrance, and why it changes. First, in the analysis of change of career maturity by gender, male students show higher career maturity than female students at the first stage. But the gender gap of career maturity tends to decrease by time as much as the change rate of career maturity of male students is lower than female students.

Second, we analyze the difference of career maturity by college type and location. The results show that there are annual significant differences by college type on planning ability, self-understanding, career behavior, and career maturity. On the other hands, in terms of annual differences by college location, there are significant annual differences on planning ability, career attitude, and career maturity. And also, in all of the categories of career maturity, the interaction between the types and the college location is significantly positive. There was not a significant difference of career maturity between university students and community college students when the students were at high school. However after entering college, community college students have more improved career maturity than others. Next, we compare career maturity by locations of college. In the case of university, the students in Seoul metropolitan area university have higher level of career maturity than others university students. On the other hand, there is any significant difference between community college students who are attending Seoul metropolitan area and non-Seoul metropolitan area college. The career maturity significantly increases as students entered college when control variables are taken account for. But, there is not a significant change by year in career attitude. The career maturity was improved in the category of planning ability, self-understanding, and career behavior, but the attitude toward a job. The level of career maturity was not affected by family-income, parental education, and whether they are from double income family or not. When it comes to supports from parents, academic supports have a significant effect on every category of career maturity but career behavior. On the other hand, the emotional supports from parents did not have any significant effect on career maturity. When parents have a huge influence on the decision about entering college and choosing a major, the level of career

maturity significantly decreased. Participation in private education is positively related to self-understanding. In the analysis of student characteristic, the difference between gender shows that female students have a higher level of career maturity than male student. The development of self-concept has a positive effect on career maturity. The relationship with teachers and classmates, reading books, and self-study time has a positive significant influence on the subcategory of career maturity. Academic performance did not significantly affect total career maturity. But, as educational achievement increased, career attitude significantly decreased. There is no significant effect of participation in part-time job in panel data analysis. Students who have decided a college where they want to go have higher level of career maturity than students who have not. Likewise, students who have decided a job what they want to be have higher level of career maturity than students who have not. With reference to the effect of types of school on career maturity among college students, there is no evidence that there is difference on career maturity by high school types, but the career attitude of academic high school graduates is significantly higher than students who are graduated from other types of school. In terms of career development activities, we analyze the effect of career counseling and participation in career exploration that are conducted by all high schools and colleges. The result shows that the degree of participation on career education is significantly related with the level of career maturity. In last, the analysis of the characteristic of college and experience after college entrance shows that the students who entered college and have a major what they planned are more likely to have higher career perception than students who did not. Pragmatic climate and satisfaction with relationship in college affect some categories in career maturity. And also the participation in extra-curricular activities has a positive effect on planning. When control variables are taken account for, there are no significant differences by types of college and college location on the change of career maturity. But, students, who attend Seoul-metropolitan area college, are more likely to have higher level of career behavior than students who are studying at non-Seoul-metropolitan area college.

In chapter V, we analyze the characteristic of repeaters, what factors that make students repeat the college entrance exam, and the result of repeating. The reason why

pure-repeaters, who do not enter college and repeat college admission, chose repeating college entrance exam is that they are not satisfied with the college what they got an admission or they do not have any admission from colleges. Male students are more likely to try again college entrance than female students. The male students is more than female student in the case of pure-repeaters, however female students are more than the male students in case of half-repeaters who decide repeating college entrance exam while attending a college or working-repeaters who repeat college entrance exam while working. As the family monthly income and father's education increased, students are more likely to choose repeating the college entrance exam. The higher students have educational aspiration, the more students choose repeating college entrance exam. In the case of pure-repeaters, they have the highest educational aspiration, half-repeater and repeaters who are working in order. Furthermore, when background variables including the 12th grade national college entrance exam rate are same, the lower students have school grade, the more they choose repeating the college entrance exam. There is no significant difference on repeating the college entrance exam by birth order, but pure-repeaters are not likely to be the first in birth order and half-repeater are more likely to be the first in birth order. When it comes to psychological traits to decide to repeat the college entrance exam, this study analyzes what factors make them to decide to repeat the college entrance exam. The result shows that the more they had private education in 12th grade, the more they choose to repeat the college entrance exam. Also, the repeaters, who had longer self-directed learning time, have higher possibilities to choose repeating. The ratio of students who never drink alcohol during repeating the college entrance exam is high. Otherwise, in the case of students who do not repeat the college entrance exam, most of them responded that they drink alcohol once to twice in a week. In the repeaters, pure-repeaters never drink at all, but in the case of half-repeaters, they drink alcohol more than working-repeaters. When it comes to repeaters' high school backgrounds and the characteristics, when high school is located in metropolitan cities and applied school equalization policy, students are more likely to repeat the college entrance exam. And in the case of students from high schools where school equalization policy is applied, they choose repeating more than students from high schools where the policy is not applied.

When control variables are taken accounted for, the result also shows students who are graduated from high school where school equalization policy applied are more likely to choose to repeat the college entrance exam. Students who are graduated from special purpose high schools are more likely to choose to repeat the college entrance exam than students who are graduated from academic high schools or vocational high schools. However, the types of graduated high school do not significantly affect to repeat college entrance. It is different to what we expected that special purpose high school students could repeat more the college entrance than other students who are graduated academic high schools or vocational high schools. Students who have never taken career education in a high school are more likely to be a pure-repeater. On the other hand, students who have taken career education are more likely to be a half-repeater or working-repeaters. But, in explanatory model, there is no evidence that career education in 12th grade affects to decide repeating.

Lastly, this study analyzes how much score of repeaters is improved and whether they get a college admission or not. Comparing to 12th grade of the national college entrance exam rate, the rate of repeaters is improved 0.75 rates in average. In the case of pure-repeaters, the results of the all models consistently show that pure-repeaters tend to enter more competitive colleges than the colleges where they were expected to enter in the previous year. It indicates that pure-repeaters more likely to enter better colleges successfully. The lower repeaters had school grade or the national college entrance exam in 12th grade, the higher they are likely to have a rate and enter better colleges. When repeaters have same school grade or background traits, repeaters who have a lower rate in the national college entrance exam tend to enter better colleges by improving the national college entrance exam score. When repeaters refrain from drinking alcohol or have higher academic self-concept during repeating, it positively affects to improve the national college entrance exam, but it does not have any significant effect on success on college admission. On the other hand, when they went to private institutions and took "all subjects" course for the national college entrance exam and had lots of self-directed learning time, they are more likely to improve the score and enter better colleges. When it comes to the high school location whether the school is applied the school equalization

policy or not, the repeaters who are graduated from the equalized high schools are more likely to choose repeat than who did not, but there is no significant difference in the degree of improvement of the national college entrance exam score and the chance of entering better colleges. With regarding to the effect of types of graduated high school, special-purpose high school is positively associated with improvement in the score. It indicates that students who are graduated special-purpose high school tend to get higher score of the national entrance exam than other students who graduated academic high school or vocational high school. However, there is no significant relationship between the success of repeating and graduating from special-purpose high school. The effects of pure-repeaters are not consistently shown by the models.

In the chapter VI, this study analyzes the outcome of under-college educated younger workers in labor market. The track of high school is the strongest variable to predict a working condition of the student. The vocational school graduates tend to get a job earlier and be in better working condition than the academic school graduates. And also, they are more likely to get more income than the academic school graduates. Also, the vocational school graduates have less turnover possibility while unemployed. When career counseling, decision-making, and characteristics of job are taken account for, the positive effect of the vocational high school variable decreased or disappeared. Female are more likely to get earlier and better jobs. On the other hand, female have higher turnover possibility while unemployed. The effect of income level is not consistent in the models. The effects of gender on working condition are not stable such that it is hard to say positively about the effect of gender. It is possible that these inconsistent results of gender are driven by the different life-cycle between male and female like joining the army service. In family background variables, only household income has a significant effect on the outcome in labor market. The higher they have household income, the earlier they get a better job. Also, they have a lower possibility to turnover while unemployed. However, there is a significant negative interaction effect of family income and time on the possibility of employment and getting good working position. It indicates that the effects of family income on the possibility of employment and getting good working position tend to decrease over time. Cognitive and non-cognitive abilities such as school grade of middle school and high school, and

competency has no significant effect on employment. Only school grade of high school has effect on employment, unemployment, and being hired a better job possibility. Career maturity (planning) has a negative effect on transition to labor market but has positive effect on a wage. Career education or career preparation does not have a significant effect on employment. An internship experience and career preparation promotes transition to labor market but these are not related to the quality of job such as a wage or better jobs. Career preparation is very effective only at earlier and it decreases its effectiveness. Employment pathway affects a current wage. Those who are hired through an official network such as teacher's reference or an internship get paid more than who are hired by open appointment. Employment pathway tends to affect the wage by means of characteristics of job such as company size, employment type, types of job.

We discovered several implications for education policies based on the findings. First, some changes are required for the improvement of career education in the secondary and higher education levels such as introducing high-quality career education in an early education level, providing career exploration opportunities for disadvantaged students who plan to go to college, supporting self-learning and career exploration at all education levels, and running education programs and curriculum for career development focused on college students during freshman and sophomore years. Also, it is important to involve parents for a successful career development of students and provide them with career education, too. Second, it is crucial to establish a systemic framework to provide support for disadvantaged students in ways that meet students' diverse needs. An introduction of residential college would be an alternative to build the educational environment that facilitates the convergence of various disciplines and core knowledge and information. Besides, disadvantaged students with more than one characteristic of difficulties are needed to be discovered in an early year of college and get more opportunities for academic advising, and the overall educational support for disadvantaged students must be provided with the long-term based consistency. Also, the enhancement of the practical side of education in college and the increase of informal education programs would be helpful for the successful career development of disadvantaged students in higher education institutions. Given the variety of difficulties that disadvantaged students face in college

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and thereby the risk of those students' drop-out, it is better to regard them as "poor adults" not "mere students." Third, our college entrance system needs to be improved. Fourth, some changes are needed to improve the career education at the high school level such as the improvement of work-based programs and the dissemination of outstanding career development programs, and the reinforcement of link between high school and related industry. Fifth, it is important to improve social system that has discriminated people based on their educational backgrounds, to provide programs that enable socioeconomically marginalized youth to continue their higher education after they start to work and to build a national database system that tracks young people who did not enter any higher education institutes. Last but not least, we suggest some studies for an in-depth understanding of the mental health of young people, particularly, to decreased suicidal attempts of youth, and follow-up studies on repeaters. Also, some suggestions were made to improve the quality of data provision and utilization of 『Korean Educational Longitudinal Study 2005』 and 『Korean Educational Longitudinal Study 2013』.

**Key words :** Korean Educational Longitudinal Study 2005, disadvantaged students in college, low-income class, first-generation college students, female students in science and engineering, early adulthood, workers with high school diploma, repeaters, career maturity, labor market outcomes