

Fields of Study and Youth Job Mobility Behaviors in South Korea: Analyzing Voluntary and Involuntary Job Mobility*

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While prior research has investigated job mobility patterns of highly educated youth, our knowledge of how their chosen fields of study influence these behaviors remains limited. Considering the different opportunity structures of involuntary and voluntary job mobility, this study investigates the relationship between fields of study and youth job mobility in South Korea. The study applied discrete-time multinomial logit models with nationally representative youth panel data and found a primary association between fields of study and involuntary job mobility. Moreover, theoretical fields (arts, humanities, and natural sciences) experience higher levels of involuntary job mobility than occupation-specific fields (engineering, education, medicine, and social sciences). Even after controlling for personal and workplace traits, humanities graduates in South Korea face a higher risk of involuntary job loss. The findings underscore how fields of study can influence individuals' career prospects from the start of their professional lives.

Keywords: youth job mobility, fields of study, voluntary and involuntary mobility, labor market disparities among highly educated individuals

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Introduction

Although the social sciences literature agrees on younger generations' inclinations toward frequent job shifts, the normative implications of youth job mobility remain unclear (Ryan 2001; Gangl 2003). Neoclassical economists feature the positive outcomes of youth job mobility, maintaining that youth are likely to find better-paying jobs and workplaces that better suit their aptitudes through "job shopping" (Johnson 1978; Mincer 1986; Topel and Ward 1992; Keith and McWilliams 1995). On the other hand, research often associates job mobility with negative outcomes such as increased risks of unemployment and downward social mobility (Newman 1999; Cha and Morgan 2010; Schmelzer 2012). These conflicting accounts indicate that it is an empirical rather than a theoretical question of whether job mobility harms occupational outcomes (Mouw and Kalleberg 2010).

Social stratification literature highlights the pivotal role of higher education in enabling individuals to have upward social mobility opportunities (e.g., Blau and Duncan 1967). However, nowadays, highly educated youth in advanced economies are not necessarily guaranteed advantageous positions in the labor market, as the supply of highly educated workers outweighs the demand (Bernardi and Ballarino 2016; Choi, Kim, and Kim 2020). Against this background, occupational stratification among highly educated individuals occurs partly due to their chosen field of study, as each field offers differentiated opportunities in the labor market by acquiring different types of specialized human capital (Gerber and Cheung 2008). Therefore, depending on their selected field of study, some graduates might change jobs for more occupational rewards. In contrast, those with a precarious job status may lose their jobs. Nonetheless, there are scant systematic analyses that clarify the different mechanisms of job mobility behaviors across fields of study.

This study fills this knowledge gap by investigating how fields of study influence youth job mobility behaviors in South Korea (from this point, Korea), distinguishing between involuntary and voluntary mobility.¹ Due to educational expansion in recent decades, Korea has the most highly educated youth among the Organisation for Economic Co-operation and Development (OECD) member countries, with around 70% having received

¹ Although Jeong and Min (2022) analyzed the association between fields of study and job turnover, they did not distinguish between involuntary and voluntary mobility. Moreover, they focused on individuals' first jobs only. Thus, they cannot answer the research question in this paper.

tertiary education as of 2021 (OECD 2022). Therefore, Korea focuses on workers with higher education regarding issues in the youth labor market (Lim and Lee 2019). In addition, ironically, despite the difficulties they face due to the deterioration in the youth labor market, highly educated youth in Korea frequently repeat job shifts (Kim and Uh 2010; Lee and Lim 2010; Hwang 2019).² In this regard, Korea is an interesting venue for studying the relationship between fields of study and youth job mobility.

This study uses discrete-time multinomial logit models and panel data from the nationally representative Youth Panel. Studying job mobility behaviors³ can expand our knowledge of inequality generation (Hachen 1990). Moreover, job mobility affects individuals' life chances differently in terms of happiness (Fasang, Geerdes, and Schömann 2012), earnings growth (Fuller 2008; Schmelzer 2012; Hwang 2019), and gender pay gaps (Kronberg 2013), depending on whether mobility is involuntary or voluntary. By distinguishing between involuntary and voluntary mobility mechanisms, this study offers insights into how fields of study differentiate young individuals' life chances in Korean society.

The Youth Labor Market and Youth's Job Mobility Behaviors in Korean Contexts

Like other East Asian societies, the world once regarded Korea as having strong internal labor markets (ILM), benefiting their employees through the provision of seniority-based earnings, firm-based welfare systems, and a high level of job stability (Hamilton and Biggart 1988; Cheng and Kalleberg 1996; Kye 2008). However, due to changes in Korean firms' business strategies to introduce the American business model that pursues profits through downsizing (Davis, Diekmann, and Tinsley 1994), ILMs in Korea began to crack in the early 1990s (Kye 2008). The 1997 Asian economic crisis spurred the breakdown of ILMs in Korea as the International Monetary Fund's intervention led to massive layoffs (Lee 1998; Saito 1998). As a

² Cumulative job shift rates for three and five years of labor market experience are estimated at 30.5% and 47.5% among those holding associate degrees, respectively (Hwang 2019). The rates of bachelor's and postgraduate degree holders comprise 25.3% and 36.7%, respectively (Hwang 2019). These estimates are based on Youth Panel data between 2007 and 2016.

³ Job mobility can include intra-firm mobility through promotion, inter-firm mobility through employer changes, and the transition to unemployment. In this paper, I do not consider intra-firm mobility.

countermeasure to job losses, the Korean government encouraged flexible management practices such as increasing part-time and contract employment (Keum 2008). As a result, quantitative evidence from Korea shows that ILMs in the post-crisis period lost their influence in hindering employees' job changes (Kye 2008; Choi 2016).

Consequently, job mobility has become common since the 1990s in Korean society. However, two conflicting perspectives exist regarding the frequent job transfers of Korean youth. Some researchers focused on the negative aspects of frequent job transfers originating from the dual structure of the Korean labor market. Although the Korean labor market experienced a gradual recovery after the financial crisis, it was a "dualistic recovery" in that long-tenured, middle-aged, regular workers primarily enjoyed improved job stability, while young, non-regular workers retained an insecure status (Cho 2008). Moreover, Korean firms increasingly relied on inexpensive labor during economic downturns to protect their core workers by hiring youth for precarious positions, such as contract and low-wage jobs (Song 2020). The rising job instability among youth forced them to change employers frequently (Kang 2016; Lee et al. 2017), and the rigid dualistic structure of the labor market limited their opportunities to improve working conditions (Cho 2008; Cho, Lee, and Jung 2014; Jeong, Lee, and Cho 2018). Additionally, frequent job shifts among youth often result in high unemployment rates under harsh labor market conditions (Moon and Hong 2017), further deteriorating the younger generations' occupational outcomes.

On the other hand, some young individuals may succeed in improving their working conditions through job changes. Frequent job shifts after the 1997 Asian financial crisis ameliorated labor market inequalities among Korean employees, with increased upward mobility opportunities for low-status workers (Choi 2016). Similar empirical evidence is found for youth, especially among those in jobs with poor working conditions, such as simple labor and service jobs (Lim and Lee 2018). Despite the dualistic characteristics of the Korean labor market, young workers with tertiary education are most likely to experience upward mobility through job shifts from non-regular to regular employment, with more than 60% having such a history (Keum and Yi 2016, p. 148).

Another factor contributing to frequent job changes among young people is overeducation due to an oversupply of workers with certain educational gradients (higher education, in this context) that exceeds the demand in the labor market. Research identifies an association between overeducation and job mismatch, low job satisfaction, and low pay (Nam and

Kim 2014). Therefore, highly educated young individuals improve job matching over time through job shifts (Park 2018). Thus, given Korea's weak ILMs, it would be a rational strategy for young, inexperienced workers to pursue a flexible career path by searching for new opportunities for upward mobility rather than staying with current employers who may not provide reliable protection in the long term (Choi 2016, p. 1050).

Theoretical Framework on Job Mobility and Labor Market Outcomes

I discussed why Korean youth are often likely to experience job mobility. Some have no choice but to leave employers because of their precarious status in the labor market. Meanwhile, others tend to purposely change their jobs to earn better occupational rewards and improve their work environment. The next section investigates the theoretical assumptions explaining the mechanisms underlying youth job mobility behaviors.

Motivations Behind Job Mobility Behaviors

While scholars have studied job mobility behaviors in various social science disciplines, sociologists emphasize the opportunity structures under which workers change their employers, distinguishing the causes of job mobility between voluntary and involuntary mobility (Tuma 1976; Hachen 1990; Rosenfeld 1992). Researchers have used the reward–resource model in this regard. This model assumes that individuals voluntarily change their employers to maximize their rewards given their resources (Tuma 1976; Sørensen 1977; Sørensen and Tuma 1981). For example, jobholders seek to improve their opportunities for career advancement or earnings increases through job changes, given their human capital, such as educational attainment and job-specific experience. Therefore, individuals voluntarily change employers when their expected earnings or occupational attainment exceeds their current job rewards (Tuma 1976, p. 339).

When individuals enter the labor market for the first time, their expected and actual job rewards tend not to match, resulting in frequent job shifts (Sørensen and Tuma 1981).⁴ However, as individuals spend more time

⁴ Similarly, economists believe job mobility occurs because employers and employees have imperfect information about the optimal job match (Jovanovic 1979b). Young workers change their

at a given workplace, they change jobs less frequently (Tuma 1976). This decrease in job mobility is because employers reward the accumulation of firm-specific skills (Jovanovic 1979a; Dolton and Kidd 1998). By offering such premiums, employers encourage loyalty and effort, which helps retain employees and prevent frequent job changes (Lazear 1979). This situation implies that younger employees with less job experience are more likely to change jobs than their older counterparts.

The segmented labor market model and the closed and open employment relations model assume polarized labor markets (Doeringer and Piore 1971; Sørensen and Kalleberg 1981; Sørensen and Tuma 1981; Sørensen 1983). These two theories highlight disparities in job rewards, including wages, working conditions, employment stability, and job advancement opportunities. The segmented labor market model posits that employees in external labor markets have higher job turnover rates than those in internal labor markets (Doeringer and Piore 1971; Ryan 2001), as the former offer poorer working conditions than the latter, causing voluntary job changes (Takenoshita 2008; Kanbayashi and Takenoshita 2014). Employers typically view mature workers as more skilled than younger ones in a segmented labor market (Ryan 2001). As a result, younger workers find themselves in insecure, secondary positions, frequently changing jobs until opportunities in primary roles become available (Ryan 2001, p. 56).

The closed and open employment relations model further assumes that employers' lack of adequate protection forces some workers out of their jobs (Sørensen and Kalleberg 1981; Sørensen and Tuma 1981; Sørensen 1983). While workers with closed employment relations are insulated from dismissals regardless of their job performance and skills, employers easily replace those with open employment or those whose employment continuity depends on employers' decisions when a much cheaper labor force becomes available (Sørensen and Kalleberg 1981; Sørensen and Tuma 1981; Sørensen 1983). Therefore, the closed and open employment relations model emphasizes the involuntary mobility of precarious workers.

In Korea, workers with non-regular contracts employed at small and medium-sized enterprises (SMEs) are part of the peripheral sectors (Cho 2008; Keum 2008; Song 2014). Specifically, they are in external labor markets with open employment relations. Workers in these sectors receive less pay, have lower job security and social protection, and have fewer job training

jobs frequently as they learn about their occupational tastes and capabilities only after experiencing jobs (Johnson 1978; Jovanovic 1979b).

opportunities than those with regular contracts and those hired by large firms (Cho 2008; Keum 2008; Song 2014, 2020).⁵ Although previous studies have not distinguished between voluntary and involuntary youth mobility patterns, empirical evidence indicates a high probability of job shifts among young individuals hired as non-regular employees and working at SMEs (Keum and Yi 2016; Hwang 2019). Prior studies analyzing voluntary mobility have found similar results—those employed on a non-regular basis and holding contracts in SMEs tend to have high job turnover intentions (Sung and Ahn 2016) and thus voluntarily leave their employers (Moon and Hong 2017).

Field Choices and Disparities in Job Mobility Behaviors

While scholars recognize education as a general type of human capital (Becker [1964] 1993), fields of study are specialized human capital offering different types of occupation-specific knowledge and skills (Daymont and Andrisani 1984; Kalmijn and van der Lippe 1997; van de Werfhorst and Kraaykamp 2001; Shauman 2006). In contrast to general human capital, specialized human capital cannot be universally applied because workers can only use it in limited work environments (Becker [1964] 1993). While there is no guarantee that one would appreciate the value of specialized human capital at work, individuals might refrain from investing in this type of human capital unless they expect sufficient rewards to outweigh the possible risks and costs. Consequently, employers indirectly encourage individuals to invest in specialized human capital through premium earnings (Shauman 2006) when their occupations and fields of study match their skills (van de Werfhorst 2002).

However, exceptionally, the humanities do not offer occupation-specific knowledge but rather general skills and cultural capital (van de Werfhorst and Kraaykamp 2001; van de Werfhorst 2002), making it difficult for their degree holders to secure matching occupations (Wolbers 2003). Even in cases where humanities graduates hold matching occupations, the labor market does not necessarily evaluate the market values of their degrees positively because the market does not regard their skills as occupational (van de Werfhorst 2002; Ortiz and Rodriguez-Menés 2016). Moreover, the market

⁵ Workers employed in SMEs are less likely to enjoy high levels of employment protection because they are less capable of dealing with economic crises and thus have higher risks of bankruptcy than large firms (Takenoshita 2008).

assumes humanities graduates to be less competitive in job competitions because the field is less selective and the degree is relatively easy to earn (Reimer, Noelke, and Kucel 2008). Empirical studies support these theoretical assumptions by examining how humanities graduates will likely face labor market disadvantages in advanced economies such as Europe, Korea, and the United States. Humanities degree holders tend to earn less (Daymont and Andrisani 1984; Bobbitt-Zeher 2007; Yoo, Chung, and Chun 2014), experience frequent unemployment (Reimer et al. 2008; Lim and Lee 2019), hold non-regular employment contracts (Giesecke and Schindler 2008; Jung, Lee, and Shin 2011), and receive fewer job offers of regular contracts from large firms (Kil and Choi 2014).

In summary, although the vertical level of educational attainment is the same among tertiary-educated individuals, humanities graduates enjoy fewer pecuniary rewards from work. Moreover, humanities graduates tend to suffer poor job quality due to their employment in peripheral sectors such as non-regular positions and SMEs. In Korea, highly educated young workers in low-earning and non-regular positions are likely to voluntarily move to another workplace, experiencing increased pay (Kim and Uh 2010) and transitioning to regular positions (Keum and Yi 2016). Therefore, Korean youth tend to have job mobility intentions when they engage in non-regular employment, work for SMEs, and have low earnings (Sung and Ahn 2016; Chung 2019). These findings align with the reward–resource model, which assumes that workers try to achieve upward mobility through voluntary moves. Therefore, *humanities graduates voluntarily change their employers* (Hypothesis 1).⁶ At the same time, humanities graduates' employment in peripheral sectors may lead to unintended job loss because of weak employment protection. Thus, *humanities degree holders experience involuntary job mobility* (Hypothesis 2).

Data and Methods

Data

This study draws upon the Youth Panel from the Korea Employment Information Service, nationally representative panel data that began being

⁶ Possibly, workers in shrinking industries may experience voluntary job turnover if blooming industries offer better employment opportunities. However, according to Hwang (2019), who studied job mobility behaviors of Korean youth using the Youth Panel data, differences across industries were not statistically significant.

collected in 2007 with 10,206 respondents representing the 15- to 29-year-old Korean youth population. The units of analysis are person-year observations. This study uses all available samples from 2009 (Wave 3) to 2020 (Wave 20), excluding those from 2007 and 2008 (Waves 1 and 2), where the questionnaire did not include employment contract durations (fixed versus non-fixed). Following previous research on youth inequality (Jeong et al. 2018), I defined “youth” as respondents aged less than 35 years. The interest group in this study includes individuals with tertiary degrees (associate, bachelor, or postgraduate) who engage in paid work, excluding self-employed and family workers. These selection criteria comprise 10,664 person-year observations (male 45.2%, female 54.8%).

Methods

This study tested the hypotheses by employing discrete-time multinomial logit models that analyze person-year data for more than one event of interest (Allison 2014). Prior research demonstrates these models’ usability when studying the determinants of “competing risks” (or different kinds) of job mobility patterns, such as involuntary and voluntary mobility (Takenoshita 2008; Kanbayashi and Takenoshita 2014) and upward and downward mobility associated with job shifts (Kye 2008; Choi 2016). Discrete-time multinomial logit models can be applied to repeated event data by creating discrete-time records for every time point at which the individual is observed, regardless of whether events have already occurred (Allison 2014).⁷ As job mobility behaviors are repeatable, dependence among multiple observations for each individual should be corrected by robust standard errors (Allison 2014).⁸ The study used the “mlogit” module in R version 4.3.3 (Croissant 2020) to estimate discrete-time multinomial logit models. I computed cluster-robust standard errors with the “sandwich” package (Zeileis 2004, 2006) to correct for dependence among observations from the same individuals. The “cmprsk” package helped visualize the cumulative incidence function of job mobility’s competing risks (Gray 2022), with descriptive statistics computed using the “table1” package (Rich 2023).

⁷ For empirical studies using discrete-time multinomial logit models for recurrent events, refer to Kanbayashi and Takenoshita (2014), Doering (2018), Yu and Sun (2018), and Homan (2024).

⁸ Dependence among multiple observations for the same individual can also be addressed by generalized estimating equations, random effects (mixed) models, and fixed effects models (Allison 2014).

Variables

For the dependent variable, this study integrates multiple reasons for job mobility into three categories: (1) involuntary mobility (bankruptcy, dismissals, and termination of contracts), (2) voluntary mobility (mismatch between selected field of study and work, mismatch between aptitudes and work, deficiency of technical skills, disharmony with bosses, dissatisfaction with monetary rewards and promotional opportunities, poor working conditions or environment, and unpromising work and jobs), and (3) others for remaining other reasons.⁹ I defined individuals with no job mobility during the observation period as censored.

The independent variables include birth year, gender, frequency of job shifts, job duration, job duration-squared, degree levels, field of study, employment types, firm sizes, public sectors, and log hourly earnings.¹⁰ Birth year is a numerical variable. I coded gender as a dummy variable, with 0 for male and 1 for female. The frequency of job shifts is a numerical variable that indicates individuals' cumulative job mobility experience during the observation period.¹¹ Job duration captures the effect of time (years) spent in the current workplace. It restarts from zero if individuals change their employers. The study included the squared terms of job duration to capture possible variations in job shifts over time. Degree levels comprise associate (reference), bachelor's, and postgraduate degrees. Fields of study include all the categories in the questionnaire, excluding military academies and miscellaneous:¹² social sciences (reference), humanities, engineering, natural sciences, medicine, education, and arts. Employment types include non-

⁹ I classified job mobility due to pursuing education, running a business, health-related reasons, childcare/housework, and miscellaneous reasons as "others." While these reasons stem from workers' voluntary motivations, I do not categorize them as voluntary mobility. Specifically, because these reasons are unrelated to job mobility due to poor job quality, classifying them as voluntary mobility would fail to test the hypothesis in this study. Moreover, given that women tend to leave the labor market in societies with a prevalent male breadwinner model (Kanbayashi and Takenoshita 2014), the underlying contexts of job mobility due to family-related reasons and job dissatisfaction may differ significantly.

¹⁰ I decided not to include age and age-squared terms, as I suspect multicollinearity between these terms and the birth year variable. Birth year and age are highly correlated by definition, as age is a function of birth year.

¹¹ When an individual experiences job mobility at the time point t and $t+1$, I recorded his/her frequency of job shifts at $t+2$ as 2. This approach distinguishes between individuals who have experienced mobility and those who have not during the observation period.

¹² Graduates from military academies are excluded due to the limited number and those from the miscellaneous category due to the uncertainty of specialization.

TABLE 1
DESCRIPTIVE STATISTICS

Gender	
Men/ Male person-year observations	741 (42.2%)/ 4815 (45.2%)
Women/ Female person-year observations	1015 (57.8%)/ 5849 (54.8%)
Log hourly wage	
Mean (SD)	9.46 (0.39)
Median	9.51
Birth Year	
Mean (SD)	1980 (2.62)
Age	
Mean (SD)	30.9 (2.87)
Degree levels	
Associate degree	4823 (45.2%)
Bachelor's degree	5141 (48.2%)
Postgraduate degree	700 (6.6%)
Field of study	
Humanities	853 (8.0%)
Social sciences	2525 (23.7%)
Natural sciences	1259 (11.8%)
Engineering	3483 (32.7%)
Medicine	727 (6.8%)
Education	673 (6.3%)
Arts	1144 (10.7%)
Employment type	
Regular	9374 (87.9%)
Non-regular	1290 (12.1%)
Firm size	
Small	4050 (38.0%)
Medium	2899 (27.2%)
Large	3715 (34.8%)
Public sector	
No	8892 (83.4%)
Yes	1772 (16.6%)
Job duration	
Mean (SD)	3.74 (2.84)
Frequency of job shifts	
Mean (SD)	1.41 (2.05)

Data: Youth Panel 2009–2020.

Note: Each number represents mean values across the survey periods. SD means standard deviations. In the “gender” variable, numbers before slash denote the number of individuals and those after slash person-year observations.

regular (reference) and regular employment. I defined only those holding full-time non-fixed contracts as regular employees based on individuals' reports on periods of employment contracts (fixed-term versus non-fixed-term) and working hours (part-time versus full-time). Firm size consists of three categories: small (less than 29 employees, reference), medium (30–299), and large (300+). I coded the public sector as a dummy variable, with 0 denoting the private sector and 1 the public sector, capturing the effect of the public sector on decreasing voluntary job shift rates (Takenoshita 2008; Kanbayashi and Takenoshita 2014). Finally, I coded log hourly earnings as 0 when the respondents' log hourly earnings¹³ do not exceed the median value and 1 when they do. Except for time-invariant variables (gender, degree levels, and field of study), I coded all time-varying variables based on the records of previous observations.¹⁴

Results

Before proceeding to the results of the discrete-time multinomial logit models, it is beneficial to briefly examine which type of job mobility occurs most frequently among Korean youth. Figure 1 illustrates the cumulative incidence function of each job mobility pattern based on Youth Panel data between 2009 and 2020. This figure shows that youth leave their employers for voluntary, other, and involuntary reasons (in that order). While the cumulative incidence of voluntary mobility rates increases rapidly with increasing job duration, those of other and involuntary mobility increase relatively gradually.¹⁵ Therefore, despite the economic downturns and deterioration in the youth labor market over the last few decades, highly educated Korean youth are most likely to leave their jobs voluntarily.

Although Figure 1 provides information on the relative frequency of

¹³ Log hourly earnings are adjusted to the 2020 Consumer Price Index.

¹⁴ In the questionnaire, respondents are required to answer the reasons of job mobility if they have had such an experience since the last survey. As respondents report the reasons at the time point of t , time-varying variables at the time point of $t-1$ should be coded to figure out the determinants of job mobility.

¹⁵ Although job mobility rates typically decline with increasing job duration (Tuma 1976; Jovanovic 1979a; Lazear 1979; Dolton and Kidd 1998), Figure 1 suggests a different pattern for individuals under 35. This younger demographic may experience more frequent job changes early in their careers than other age groups (Johnson 1978; Mincer 1986; Topel and Ward 1992; Keith and McWilliams 1995). When considering the entire Korean working population, the cumulative incidence curve may flatten compared to Figure 1.

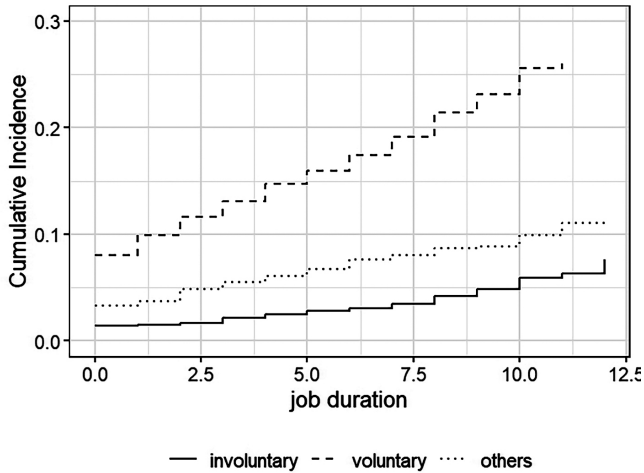


FIG. 1.—CUMULATIVE INCIDENCE FUNCTION OF JOB MOBILITY

Data: Youth Panel 2009–2020.

each job mobility pattern, it remains unclear whether there is an association between fields of study and such mobility patterns. Table 2 demonstrates the relationship between job mobility patterns and fields of study. In this table, “censored” means that respondents did not change their employers during the observation periods. Among the seven fields, the highest graduate turnover is in the humanities, arts, and medicine. However, the motivation that leads graduates to change jobs largely differs between these fields. While humanities and arts degree holders tend to experience involuntary mobility with 4.9% and 5.4%, respectively, medical degree holders are most likely to leave their employers voluntarily with 18.7%. At the same time, medical graduates record the lowest rates of involuntary mobility, along with engineering graduates, at less than 2%. Regarding other reasons for job mobility, the education and arts degree holders have the highest rates, reaching approximately 8%.

Now, I turn to Figures 2 through 5, which illustrate job characteristics by field of study. These figures focus on the variables used in this study and employ data from the third wave of the Youth Panel (2009).¹⁶ Figure 2

¹⁶ Given that the Youth Panel is panel data, pooling data from all waves may lead to inaccurate results due to the inclusion of multiple records from the same individuals.

TABLE 2
PROPORTION OF JOB MOBILITY BY FIELD OF STUDY

	No. Obs.	Censored	Involuntary	Voluntary	Others
Humanities	853	73.7%	4.9%	16.6%	4.7%
Social sciences	2525	76.3%	2.2%	15.0%	6.5%
Natural sciences	1259	75.5%	3.7%	14.5%	6.4%
Engineering	3483	75.7%	1.8%	16.4%	6.1%
Medicine	727	73.3%	1.9%	18.7%	6.1%
Education	673	77.9%	2.8%	11.3%	8.0%
Arts	1144	69.6%	5.4%	16.8%	8.2%

Note: Data: Youth Panel 2009–2020.

Row percentage. $\chi^2 = 98.628$, *degree of freedom* = 18, $p < 0.001$

presents the relationship between the field of study and employment types. Although non-regular employment is not prevalent among the overall Korean youth population, there are notable differences across fields. Engineering and medical graduates exhibit the lowest non-regular employment rates at 8.5% and 9.5%, respectively, whereas those in the humanities, education, and arts report the highest rates, ranging from 17% to 24%. Natural sciences and social sciences fall between these extremes, with non-regular employment rates of approximately 11–13%. A chi-square test confirms significant differences in employment type distribution across fields of study.

Figure 3 illustrates the relationship between the field of study and firm size. Notably, over half of arts graduates are employed by small firms, followed by natural sciences (41.5%) and humanities (40%). Engineering, medicine, and education graduates are likely to work in medium-sized firms, with each field exceeding 30% representation. Approximately 38% of graduates in natural sciences, social sciences, medicine, and humanities are employed by large firms. A chi-square test confirms significant differences in firm size distribution across fields of study.

Figure 4 shows the association between the field of study and sectoral distribution. A striking 50% of education graduates work in the public sector, presumably due to the field's alignment with public sector roles, such as teaching. Other fields exhibit diverse patterns. Humanities and natural sciences show a moderate public sector presence of around 20%, contrasting sharply with engineering and medicine, where only 4–7% of graduates are

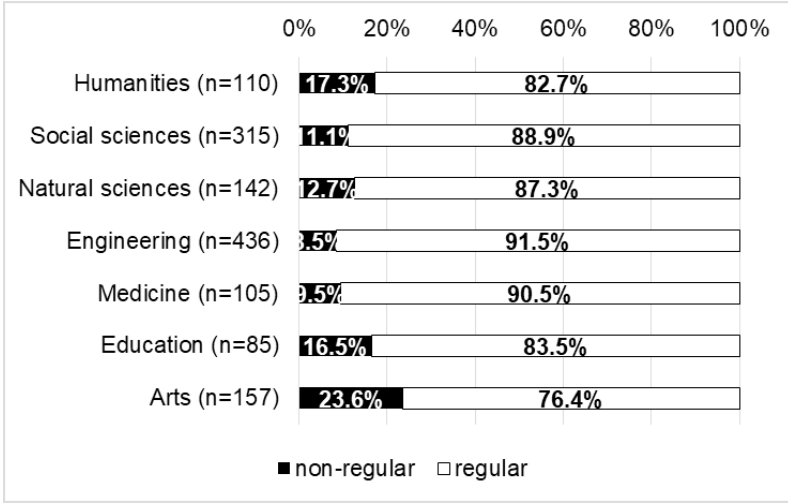


FIG. 2.—JOB CHARACTERISTICS BY FIELD OF STUDY: EMPLOYMENT TYPE DISTRIBUTION

Data: Youth Panel 2009.

Row percentage. $\chi^2 = 28.736$, *degree of freedom* = 6, $p < 0.001$

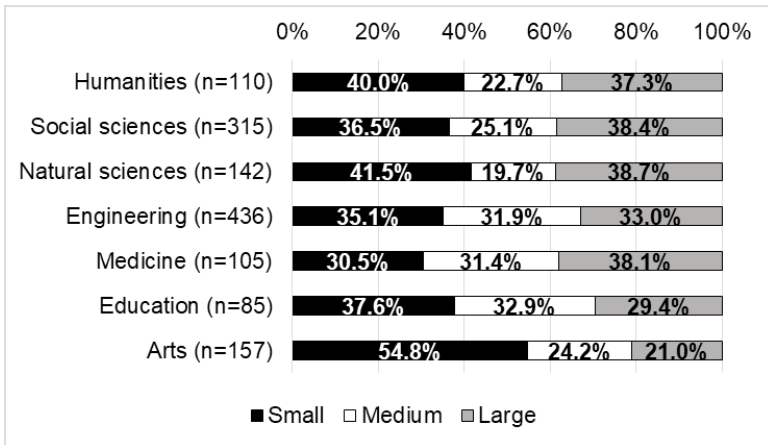


FIG. 3.—JOB CHARACTERISTICS BY FIELD OF STUDY: FIRM SIZE DISTRIBUTION

Data: Youth Panel 2009.

Row percentage. $\chi^2 = 36.523$, *degree of freedom* = 12, $p < 0.001$

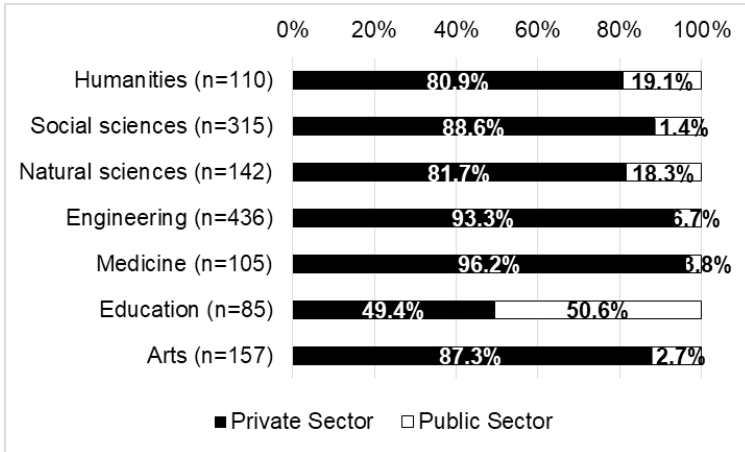


FIG. 4.—JOB CHARACTERISTICS BY FIELD OF STUDY: SECTORAL DISTRIBUTION

Data: Youth Panel 2009.

Row percentage. $\chi^2 = 135.05$, degree of freedom = 6, $p < 0.001$

employed in this sector. Social sciences and arts occupy an intermediate position, with 11–12% public sector representation. A chi-square test confirms significant differences in the sectoral distribution across fields of

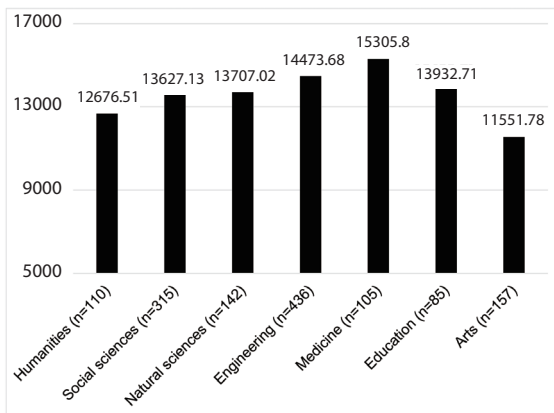


FIG. 5.—JOB CHARACTERISTICS BY FIELD OF STUDY: AVERAGE HOURLY EARNINGS (UNIT: KOREAN WON)

Data: Youth Panel 2009.

study.

Figure 5 compares the average hourly earnings (Korean won) across fields of study. Arts graduates have the lowest earnings at 11,552 won, followed by humanities graduates at 12,677 won. While the remaining five fields exceed 13,000 won, medical and engineering graduates exhibit notably higher hourly earnings, at 15,305 and 14,473 won, respectively.

Notably, the basis of computations in the figures and tables above are the bivariate relationships, without considering other covariates. Therefore, I need further analysis to capture the differences in job mobility behaviors across fields of study. Table 3 describes the results of the multivariate analyses and applies discrete-time multinomial logit regression models to uncover the determinants of youth job mobility. Model 1 controls for personal traits, such as birth year, gender, frequency of job shifts, job duration, job duration-squared, and degree levels, with fields of study as the main independent variable. Model 2 includes additional control variables related to previous workplace characteristics such as employment types, firm sizes, public sectors, and log hourly earnings. I compared the mobility risks of each field of study with those of social sciences.

Models 1 and 2 indicate no association between fields of study and voluntary mobility. On the other hand, differences in fields of study are most pronounced in involuntary mobility. In Model 1, when controlling for personal traits, graduates in humanities and arts have the greatest risk with 1.94 ($e^{0.664} \doteq 1.94$) and 1.81 times ($e^{0.596} \doteq 1.81$), respectively, compared to those in social sciences. Within the 90% confidence level, natural sciences degree holders are relatively more likely to leave their employers for involuntary reasons by 1.50 times ($e^{0.407} \doteq 1.50$). However, medical degree holders are less likely to be laid off, with the odds being 0.50 times ($e^{-0.684} \doteq 0.50$) that of social sciences degree holders. Degrees in engineering and education appear to exhibit no differences from social sciences regarding involuntary and voluntary job mobility. Regarding the mobility pattern induced by other than involuntary and voluntary reasons, education graduates are likely to experience this type of mobility by 1.49 times more ($e^{0.396} \doteq 1.49$) within the 90% confidence level. In contrast, humanities graduates are less likely to do so, with the odds being 0.70 times ($e^{-0.358} \doteq 0.70$) that of social sciences graduates.

In Model 2, where I also control for prior workplace characteristics, I find that the natural sciences and arts are not significantly different from the social sciences in terms of the risk of involuntary mobility. While humanities are still associated with a greater risk of involuntary mobility by a factor of

TABLE 3
DISCRETE-TIME MULTINOMIAL LOGIT MODELS FOR DETERMINANTS OF JOB MOBILITY

	Model 1			Model 2		
	involuntary	voluntary	others	involuntary	voluntary	others
Birth year	-0.045† (0.027)	0.026* (0.013)	-0.038* (0.019)	-0.025 (0.027)	0.025† (0.013)	-0.039* (0.019)
Gender (ref. Men)						
Women	0.538*** (0.155)	-0.186* (0.080)	0.022 (0.104)	0.096 (0.167)	-0.200* (0.082)	0.096 (0.108)
Freq. job shifts	0.886*** (0.030)	0.782*** (0.022)	0.782*** (0.025)	0.890*** (0.031)	0.760*** (0.022)	0.756*** (0.026)
Job duration	-1.227*** (0.068)	-1.243*** (0.040)	-1.187*** (0.052)	-1.214*** (0.071)	-1.235*** (0.041)	-1.187*** (0.053)
Job duration-squared	0.073*** (0.007)	0.070*** (0.004)	0.063*** (0.006)	0.075*** (0.008)	0.069*** (0.004)	0.062*** (0.006)
Degree levels (ref. Associate)						
Bachelor	0.135 (0.146)	-0.279*** (0.074)	-0.007 (0.097)	0.066 (0.156)	-0.194** (0.076)	0.038 (0.100)
Postgraduate	0.232 (0.216)	-0.909*** (0.157)	-0.453*** (0.201)	-0.028 (0.237)	-0.762*** (0.162)	-0.453* (0.201)
Fields of study (ref. Social sciences)						
Humanities	0.664** (0.231)	0.119 (0.138)	-0.358† (0.201)	0.567* (0.238)	0.110 (0.139)	-0.392† (0.202)
Engineering	-0.088 (0.206)	-0.020 (0.098)	-0.095 (0.128)	-0.097 (0.211)	-0.004 (0.098)	-0.108 (0.129)
Natural sciences	0.407† (0.221)	-0.091 (0.125)	-0.063 (0.160)	0.289 (0.230)	-0.068 (0.126)	-0.063 (0.162)
Medicine	-0.684* (0.334)	-0.044 (0.149)	-0.274 (0.203)	-0.882* (0.352)	-0.001 (0.150)	-0.271 (0.204)
Education	0.371 (0.291)	-0.043 (0.166)	0.396† (0.190)	0.059 (0.302)	-0.013 (0.171)	0.261 (0.197)
Arts	0.596** (0.213)	-0.096 (0.127)	0.066 (0.158)	0.222 (0.225)	-0.167 (0.128)	-0.014 (0.159)
Employment types (ref. Non-regular)						
Regular				-1.814*** (0.150)	-0.533*** (0.100)	-0.161 (0.136)
Firm sizes (ref. Small)						
Medium				-0.111 (0.165)	-0.360*** (0.088)	-0.565*** (0.114)
Large				-0.676*** (0.188)	-0.343*** (0.087)	-0.876*** (0.122)

	Model 1			Model 2		
	involuntary	voluntary	others	involuntary	voluntary	others
Sector (ref. Private sector)						
Public sector				0.287 (0.178)	-0.510*** (0.121)	0.009 (0.149)
Log hourly earnings (ref. less than the median)						
More than the median				-0.276† (0.155)	0.020 (0.078)	0.486*** (0.099)
Constant	86.699 (54.130)	-51.128* (25.809)	73.559* (37.260)	49.069 (54.030)	-48.008† (26.016)	77.219* (37.516)
Events(n)	301	1678	689	301	1678	689
Model fit						
AIC	11478.83			11191.31		
Log likelihood	-5697.42			-5538.66		
McFadden R ²	0.319			0.338		

Note: † $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Cluster-robust standard errors are reported.

1.76 ($e^{0.567} \doteq 1.76$), they are significant at a lower confidence level of 95%. Regarding mobility driven by other reasons, education is no longer significantly different from the social sciences.

Regarding the remaining variables in Model 2, I found that the longer an individual's job duration, the less likely they are to leave employers for involuntary and voluntary reasons. Women are not exposed to higher involuntary risks than men, when considering personal traits and previous workplace characteristics. Individuals who previously left their employers are more likely to experience recurrent job shifts than those who have not left, irrespective of mobility type. High degree levels reduce voluntary mobility risks, with postgraduate degrees having much lower risks than associate degrees, followed by bachelor's degrees.

The workplace-related variables in Model 2 are also associated with different job mobility risks. When individuals hold regular employment contracts, they tend not to leave their employers for involuntary or voluntary reasons. Along with mobility for other reasons, employment in medium-sized firms lowers the risks of voluntary mobility, whereas employment in large firms leads to less frequent involuntary and voluntary moves. Employment in the public sector reduces the likelihood of voluntary mobility.

High earnings levels appear to have a contradictory role: they result in fewer involuntary moves and increased moves for other reasons.

Table 4 displays the estimated relative risks of job mobility after controlling for each of the four previous workplace characteristics

TABLE 4
RELATIVE RISKS OF JOB MOBILITY (COMPARED TO SOCIAL SCIENCES)

	Model 1	Model 1 + Employment types	Model 1 + Firm sizes	Model 1 + Public sector	Model 1 + Log hourly earnings
Involuntary mobility					
Humanities	0.664**	0.614**	0.663**	0.650**	0.660**
Engineering	-0.088	-0.082	-0.109	-0.083	-0.056
Natural sciences	0.407 [†]	0.300	0.384 [†]	0.411 [†]	0.423 [†]
Medicine	-0.684 [†]	-0.850 [†]	-0.814 [†]	-0.668 [†]	-0.606 [†]
Education	0.371	0.170	0.332	0.284	0.378
Arts	0.596**	0.378 [†]	0.552 [†]	0.555 [†]	0.532 [†]
Voluntary mobility					
Humanities	0.119	0.105	0.108	0.137	0.118
Engineering	-0.020	-0.021	-0.006	-0.021	-0.017
Natural sciences	-0.091	-0.086	-0.088	-0.073	-0.089
Medicine	-0.044	-0.035	0.108	-0.035	-0.039
Education	-0.043	-0.068	-0.085	0.071	-0.043
Arts	-0.096	-0.115	-0.148	-0.093	-0.100
Others					
Humanities	-0.358 [†]	-0.371 [†]	-0.376 [†]	-0.348 [†]	-0.362 [†]
Engineering	-0.095	-0.094	-0.079	-0.095	-0.121
Natural sciences	-0.063	-0.047	-0.060	-0.050	-0.078
Medicine	-0.274	-0.252	-0.222	-0.272	-0.330
Education	0.366 [†]	0.370 [†]	0.279	0.437 [†]	0.361 [†]
Arts	0.066	0.078	-0.028	0.068	0.100
Model fit					
AIC	11478.83	11307.73	11408.69	11432.37	11444.59
Log likelihood	-5697.42	-5608.71	-5656.35	-5671.19	-5677.30
McFadden R ²	0.319	0.330	0.324	0.322	0.321

Note: [†] $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. The following variables are controlled: Degree levels, Job duration, Job duration-squared, Frequency of job shifts, and Gender. Constants and standard errors are omitted in this table. The displayed estimates represent log-odds.

(employment types, firm sizes, public sectors, and log hourly earnings). In particular, Table 4 reveals whether these four traits contribute to the observed differences across fields of study in job mobility. Employment types significantly explain the mobility risks associated with fields of study, exhibiting the best fit among the five models. For involuntary moves, the relative odds for arts decrease from 1.81 ($e^{0.596} \doteq 1.81$) to 1.46 times ($e^{0.378} \doteq 1.46$). The confidence level of arts decreases from 95% to 90%. This suggests that employment type is significant in explaining the arts risk. Moreover, the natural sciences lose statistical significance when introducing employment types to Model 1. While not as significantly affected as these two fields, the humanities risk declines from 1.94 ($e^{0.664} \doteq 1.94$) to 1.85 times ($e^{0.614} \doteq 1.85$) when controlling employment types.

Firm size also partly contributes to the decreased risk of involuntary moves in the natural sciences and the arts. The relative risks of natural sciences slightly decline from 1.50 ($e^{0.407} \doteq 1.50$) to 1.47 times ($e^{0.384} \doteq 1.47$) and those of arts decline from 1.81 ($e^{0.596} \doteq 1.81$) to 1.74 times ($e^{0.552} \doteq 1.74$) when controlling firm sizes. Additionally, the involuntary mobility risks of art degree holders decrease to a similar extent as firm size when they engage in the public sector. When considering hourly earnings, the relative risks of arts in involuntary mobility reduce to 1.70 times ($e^{0.532} \doteq 1.70$), and the risks are significant at a lower confidence level. The findings also indicate that individuals with medical degrees are less likely to experience involuntary job mobility in high-paying jobs.

Regarding the remaining job mobility types, the field of study does not explain voluntary mobility, as observed in Table 3. On the other hand, the higher likelihood of education degree holders leaving their jobs for reasons other than voluntary and involuntary reasons seems partially linked to firm size. Educational graduates do not exhibit differences in job mobility for other reasons when considering firm size.

Building on this analysis, I can answer the hypotheses. Since I found no association between fields of study and voluntary mobility, I reject Hypothesis 1. However, given that humanities graduates have high relative risks of involuntary mobility, variables relating to previous workplaces partially, if not entirely, explain their risks. This finding partially supports Hypothesis 2, positing that humanities graduates will likely experience involuntary mobility due to precarious employment.

6. Discussion and Conclusion

This study investigated the role of fields of study on job mobility among Korean youth using nationally representative panel data. While prior studies have focused on youth job mobility behaviors, they failed to explain the association between young individuals' selected academic specializations and such behaviors. Moreover, past research has not adequately accounted for variations in job mobility behaviors among highly educated youth, such as involuntary and voluntary behaviors. Given that youth are increasingly highly educated, addressing these issues enhances our understanding of how horizontal stratification in higher education shapes labor market disparities in early careers.

The findings of this study lead to the following conclusions. First, voluntary and involuntary mobility mechanisms differ among highly educated youth. Youth with associate degrees working in small firms and the private sector are likely to leave their employers voluntarily. This observation may reflect the pronounced preferences of Korean youth for large firms and the public sector as “decent, good jobs” under the dualistic structure of the Korean labor market (Song 2020). Alternatively, the relatively high likelihood of voluntary job mobility in the private sector might stem from its less pronounced rigidity. Namely, workers in the private sector may move to another job that offers them an opportunity for upward mobility. For example, engineers in the private sector may often switch to another firm to increase earnings, which is presumably less common in the public sector. Since these assumptions have yet to be tested, further studies are needed to examine them empirically. On the other hand, factors such as field of study, firm size, and earnings levels can increase the likelihood of youth involuntarily losing their jobs. Specifically, the role of earnings levels in involuntary mobility contradicts the hypothesis based on the reward–resource model that low-paid, highly educated youth opt for voluntary mobility. This discrepancy may indicate that workplaces where employers are less eager to protect their employees provide low earnings, which reflects the closed and open employment relations model. Moreover, the observed advantages of regular employment in preventing involuntary and voluntary mobility also emphasize polarization among young workers in Korea.

Second, fields of study account for involuntary rather than voluntary mobility. Graduates in the humanities, natural sciences, and arts face higher risks of involuntary mobility than their social sciences, engineering, and education counterparts. The former three fields relate to theoretical

knowledge, whereas the latter correspond to practical and occupational skills. When generalizing these findings, the market values of theoretical knowledge and skills are less appreciated in the Korean labor market, resulting in disadvantages among individuals from theoretical fields. This conclusion aligns with the findings that fields of study providing occupation-specific skills and knowledge, such as medicine, engineering, and education, lead to quicker exits from unemployment compared to the humanities and arts (Lim and Lee 2019). Meanwhile, I found that fields of study are not related to voluntary mobility. Considering their age characteristics, Korean youth may actively search for jobs that best suit them, regardless of their field of study. Indeed, the literature found that intrinsic values (e.g., job aptitude and personal development possibilities) are central to youth's job mobility intentions, rather than their field of study (Chung 2019).

Third, disparities in involuntary mobility exist among theoretical fields of study. Natural science degree holders do not encounter high risks of involuntary mobility when they hold regular employment contracts. Moreover, art degree holders are not disadvantaged regarding involuntary mobility when they hold regular employment contracts at large firms or in the public sector and when their earnings are high. However, while workplace traits explain the risks of involuntary mobility for natural sciences and arts graduates, humanities graduates still suffer from such risks even after accounting for prior workplace traits. Among degree holders, those in the humanities are most likely to leave their first job early (Jeong and Min 2022). In addition, research shows an association between involuntary mobility and greater wage loss compared to mobility based on voluntary reasons (Keum and Yi 2016; Hwang 2019). Therefore, starting early in their careers, humanities graduates may experience recurrent involuntary job changes and earnings losses, resulting in a vicious cycle.

Fourth, while the Korean labor market is often characterized as challenging for young individuals (Cho 2008; Cho et al. 2014; Kang 2016; Lee et al. 2017; Jeong et al. 2018; Song 2020), labor market disparities manifest differently across individuals. Amid uncertain career prospects, the field of study provides young individuals with varying labor market opportunities. Building on previous research on youth job mobility in Korea (Kim and Uh 2010; Lee and Lim 2010; Hwang 2019), this study contributes to a more nuanced understanding of how higher education shapes labor market disparities among young people. However, generalizing these findings solely to Korea might be premature. Comparative studies on European countries reveal that highly standardized education systems, such as those in Germany

and the Netherlands, produce clearer signals for employers, leading to more pronounced labor market disparities across fields of study (Giesecke and Schinder 2008; Di Stasio and van de Werfhorst 2016). Given Korea's highly standardized higher education system (Park 2007), the association between fields of study and job mobility might be stronger here than in less standardized countries like the United Kingdom and the United States.¹⁷ Future research may investigate this hypothesis by conducting a comparative study of job mobility across fields of study in Korea and less standardized countries.

This study has several limitations. First, the study does not distinguish between respondents who have and have not experienced job changes. Due to sample selection bias, the findings of this study might not apply to individuals who leave their employer for the first time. Second, cohort differences may exist regarding returns on fields of study. Due to educational expansion, the returns on higher education have been diminishing in Korea (Choi et al. 2020). Thinking the other way around, this may indicate that when there were only a limited number of degree holders, the mobility patterns associated with fields of study were less defined. Furthermore, given that the Korean youth labor market has been significantly deteriorating with a plummeting number of high-quality jobs and high unemployment rates since the 1997 Asian financial crisis (Cho 2008; Keum and Yi 2016; Song 2020), labor market disparities across fields of study may have widened after the crisis. In the context of this study, this indicates that humanities graduates may not have experienced unexpected job shifts before 1997.

Despite these drawbacks, this study sheds light on the shape of job mobility patterns across fields of study. These findings offer valuable insights into the role of fields of study as individuals' educational resources and their implications for professional careers for youth. Based on this study's results, I recommend that graduates in theoretical fields, especially in the humanities, receive more support to improve their job security. Considering the growing number of highly educated workers in Korea, fields of study may significantly engender disparities and inequalities among them. I recommend further studies to widen our understanding of how fields of study affect individuals' career outcomes besides economic disparities.

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¹⁷ The Korean government's regulation of higher education institutions in terms of teacher training, budgets, and curriculum has led to a nationally standardized education system (Park 2007, p. 90).

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