

The Characteristics of Population Aging and the Employment of Aged Workers in Seoul, Korea*

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This study examines the characteristics of population aging and the employment of aged workers in Seoul. Population indexes such as those on aged/children ratio and longevity degree are analyzed to identify the time-spatial changes and differentiation of population aging by gu (district). Employers, job seekers and employees related to the aged workers are also analyzed using data from the Center of Job Placement for the Aged in Seoul. The results indicate that population aging has progressed faster in Seoul than other regions in recent years. In addition, regional differences in tendency of population aging are obvious even within Seoul. The percentage of unskilled laborers is much higher in Seoul compared with other regions. There is also geographical differentiation in the employment of aged workers among regions within Seoul. Employment opportunities for the aged are relatively abundant in core economic areas of Seoul, while they are much scarcer in outer residential areas. This shows a geographical mismatch between employers and job seekers, which means that it is difficult for aged workers to secure jobs near their places of residence. Accordingly, governmental support and intervention is needed to address the lower level of mobility of aged workers.

Keywords: Population Aging, Employment of Aged Workers, Geographical Mismatch, Korea

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I. INTRODUCTION

Population aging is occurring rapidly. According to Paul Wallace (2001), <Agequake> is recognized as being symbolic of the huge change in the new millennium. The aging phenomenon is tied to the declining birth rate; thus, they must be looked at jointly to properly grasp the social implications. However, it does not make sense to concentrate only on the negative aspects of aging and how it changes social structure in an unfavorable manner. Rather, to accurately measure the impact of aging, it is important to also establish countermeasures.

On a more micro level, the aging issue will continue to bring about numerous changes to existing socio-political and cultural customs, institutions, and organizations. The power of the senior social class is evident in the politics of not just the United States and Japan, but South Korea as well (Kim, H. 2004). The purchasing power of the elderly social class is increasing rapidly and affecting the development of elderly-friendly businesses. Especially with the speed and quantitative expansion and development of the social security system, the purchasing power of the elderly population is likely to bring about greater social stratification in the foreseeable future.

South Korea, which has already entered into the category of an “aging society,” moves toward an “aged society” and a “super-aged society” at a faster rate than other nations. As such, if this matter is not dealt with appropriately in the next 20~30 years, a serious social crisis is likely. In this situation, the latest countermeasure to the issue of aging combines economic, social, cultural, and other such features; in addition, each relevant academic field is searching for a serious approach to the study of coping with aging of the population. However, many studies dealing with the aging of Korean society have failed to engage in a full discussion of the connections between the cities and communities where we live and the aging of the population. At the same time that the aging population is bringing about fundamental changes in our lifestyles, it is also accompanied by specific changes to the practical experiences of our daily lives in urban and regional communities. Thus, it is necessary to approach the social changes brought about by the aging population from a geographical perspective (Park, S. etc. 2005a; 2005b; 2007;

Song, K. etc. 2006; Jeong, E. etc. 2006).

This paper deals with the regional characteristics and spatial processes of working seniors in the Seoul area. The number of 'working seniors' has increased, meaning that the average life expectancy of the elderly has increased and the health and physical conditions of the elderly have improved. This, in turn, means they are able to perform daily labor. On the other hand, there is indication that many older people remain economically active and feel the need to earn an income. However, as yet, there is no foundation for older people seeking suitable jobs in various areas to receive adequate financial compensation. The problems of the quantity and quality of employment for elderly people in urban areas, as typified by Seoul, which has the most rapidly growing aging urban population in the region, is a pronounced phenomenon.

Drawing upon this background, this paper raises the following issues for discussion: First, what attributes are indicated by the progression of Seoul's aging population? Second, as employment of the elderly in Seoul in some sectors has increased, what is the overall pattern of the employment structure? Third, how many of the jobs offered to senior job seekers in Seoul meet their needs and well-being? Fourth, how can we differentiate the characteristics of the aging phenomenon and the employment of the elderly in Seoul?

II. ELDERLY EMPLOYMENT AND EMPLOYMENT RESEARCH TRENDS

Existing research on the employment and hiring of the elderly generally can be identified by a few trends. The types of research include actual analysis and proposals for policy of elderly employment, research on the level of access elderly have to guaranteed income, employment of the elderly as part of labor market policy issues, research on the employment of the elderly and elderly workforce, and the development of the elderly as human resources. This research, which is broken down into three topics, utilizes the existing literature to briefly review the status and characteristics of employment of the elderly, elderly employment (promoting) policies, and the employment of the elderly in urban areas.

1. Elderly Employment Status and Characteristics

The characteristics of the labor market for the elderly in Korea are defined by Chang, J. (2004) as “high economic activity, low(poor) quality (of) employment.” Many are in agreement with Chi, K. (2005) on this. Closer examination reveals that the rate of elderly participation in the labor force in South Korea is generally higher than other countries (Table 1). In 2000, the participation of individuals aged 50 to 64 in the labor market was 64.3% higher in Korea than it was in the EU and the OECD, yet still lower than it was in Japan or the United States. However, while the participation of women in the (Korean) labor market was low, if the participation of males alone is considered, then Korea had a higher rate than Japan. Meanwhile, if the participation of senior citizens aged 65 and older in the labor market is examined, Korea’s rate of participation of 39.5% was significantly higher than that of Japan or the United States. Then what does the high rate of participation by Koreans 65 and older in the competitive labor market compared to other countries mean? In order to answer this question we must examine the previous studies more closely.

The views of employees regarding this high labor market participation can be divided into two categories. Phang, H. and others (2004) consider the higher labor market participation of senior citizens “as one of the most positive indicators with respect to the progression of aging.” The biggest

Table 1. The Rate of Participation regarding Age Groups in the Labor Force in South Korea and Major Countries (2000)

Unit: %

	Male			Female			Total		
	25~49	50~64	65~74	25~49	50~64	65~74	25~49	50~64	65~74
Korea	92.4	78.0	45.7	58.2	50.7	29.0	75.5	64.3	35.9
Japan	97.2	89.1	42.0	66.1	56.8	21.0	81.8	72.6	30.7
EU	94.0	66.1	-	73.9	42.3	-	-	54.0	-
USA	92.4	75.6	23.5	77.3	61.0	14.4	84.7	68.0	18.5
OECD	93.7	72.8	-	69.0	48.4	-	81.3	60.3	-

Source: OECD, Labor Force Statistics 2001; Phang et al. 2004.

problem for senior citizens in Western societies is the low participation of senior citizens in the labor market. This is due to the early retirement of older pensioners and an increase in beneficiary premiums, which have caused a reduction in the retirement income of contributors, resulting in a crisis of the pension system. On the other hand, the relatively high participation of a broad base of South Korea's economically active populace in the labor market has reduced the dependency ratio.

However, a significant portion of labor market participation comes from the agricultural sector's high rate of participation in economic activity. Yet when you consider that this is due to the abovementioned condition, it is not easy to view this perspective in a positive light. According to Chang, J. (2004), a higher proportion of the agricultural sector appears to consist of the higher age ranges, with the proportion of non-agricultural labor force participation dropping to 59.4% for those the late fifties and to a mere 18.2% for those 65 years and older. These figures are similar to those shown earlier of the United States labor force participation rate of 18.5% for elderly people aged 65 and over. Therefore, except for the agricultural sector, the labor force participation rate of South Korean senior citizens cannot be said to be particularly high. Additionally, major cities house only a tiny proportion of the agricultural sector, a fact which has significant implications. Nationally, among older workers 60 years or older, skilled workers in the agricultural and fishery industries are the most numerous. Poor financial compensation and the unreliability of general employment positions are most prevalent in metropolitan areas, including Seoul. Thus, a positive evaluation of the high economic activity participation rate cannot be given. The higher rate of participation by the elderly in the labor market is directly linked to the negative aspect of the low quality of employment and is a challenge that must be overcome. The poor quality of employment for the elderly is a result of the virtual collapse of the lifetime employment system in Korea and the markedly shorter average duration of employment of males in Korea when compared to the average duration of employment of males in other countries. Males in Japan, France and Germany aged 50-54 stay with their employers for an average of 18 to 22 years. In Korea, on the other hand, they stay for an average of only 11 years (Chang, J. 2005). Because of ageism, re-employed elderly workers aged 55 years and older experience a decline in economic status.

These workers often reenter the workplace in irregular positions, at lower wages, and with a high turnover rate.

Kim, S. (2005) defined the characteristics of the country's aged workforce employment as a 'senior agricultural village'. Employment of the elderly is primarily concentrated in rural, agricultural areas. Because of this, it is difficult to pinpoint the labor force participation rate of older people by itself or to grasp their actual work conditions. In the self-employed sector and agricultural sector, where the elderly are concentrated, there is no mandatory retirement age. Among workers aged 65 and over, more than half work in the agricultural and fishery sectors. In the ten years between 1993 and 2003, there was a 10% increase in the proportion of temporary workers aged 65 and older. One could argue that the instability in elderly employment has been enhanced. In other words, despite the higher rate of labor force participation of elderly people in Korea, and a relatively low unemployment rate, the quality of employment remains at a lower level than can be fixed (Chang, J. 2004: 103). Chi, K. in his research (2005), said that the main characteristics of the labor market are the large number of disadvantaged workers and the high rate of labor force participation. Also, on the grounds of the high labor force participation rate, he mentions the lack of living expenses of the retired people, noting the negative aspects.

In order to understand why so many elderly people participate in economic activities, it is necessary to understand the changes in income security for older people. According to Byeon, J. (1999; Rim, C. re-quoted in 2003: 59), Seoul's workforce of those 65 and older reached 8.7%. In response to the question of motivation for employment, 69% of them cited economic necessity. In the past, elderly people over the age of 60 have primarily depended on the financial support of their children, but this informal social practice of private transfer continues to weaken. Thus, the income security issues of the elderly have become the responsibility of the government and the elderly. However, the social security system, including the national pension system, is not yet completed. Under such circumstances, because of this reduction in private transfers occurring within families, it is understandable that the elderly are eager to enter the labor market.

On the other hand, since the 1997 financial crisis, the labor force participation rate of elderly people has fallen from what it was in the past.

This decline reflects early retirement of the pre-and post-age 50 increases and is attributable to the increasing difficulty of the elderly in entering the new labor market. The early retirement of men, aged 40-50 has become a universal phenomenon in the labor market over the last 10 years and has created a difficult situation for the elderly needing to find new jobs. Early retirement-aged seniors who re-enter the workforce are likely to wind up in lower status jobs and positions, with a high possibility of falling into the category of the working poor (Chi, K. 2005: 1824).

2. Elderly Employment Promotion Policy

In recent years many studies on aging and employment of the elderly have focused on extending the employment of the elderly, as well as on policy options for improving the quality of their employment (Shin, D. and Yang, G. 2003; Ji, G. 2005; No, B. 2004; Seo, G. 2007). These studies can be divided into a macro-perspective of the policy on the elderly in the labor market and into research on the microscopic perspective of the promotion of elderly employment.

Chang, J. (2004), Chi, K. (2005), Shin, D. and Yang, G. (2003)'s study focused on providing a macroeconomic policy alternative. As previously mentioned, Chi, K. (2005) viewed the high labor force participation rate of the elderly as being due to the lack of social security and early retirement for the middle-aged and the elderly. To overcome this situation, the followings are suggested: legislation to extend the retirement age, age discrimination prohibition legislation, subsidized employment through job creation, and social support. Chang, J. (2004) also suggested that social work jobs be made available to low-income seniors and older workers with the rationalization being the stabilization of the labor market. Shin, D. and Yang, G. (2003) suggest a clearer direction in which the government promotes basic flexibility policies for elderly employment. This means that diversified forms of flexible employment, such as temporary work, contract work, part-time work and day labor are created, while actively creating institutional mechanisms such as policies for protecting the elderly from unfair treatment. In particular, the government's existing policies of offering incentives to companies and the extension of the mandatory retirement system can be difficult for companies

to comply with due to company concerns over perceived higher labor costs and the inadequacy of incentives. Therefore, it is recommended that public sector jobs be created and that employees' age restrictions be eliminated in order to promote nondiscrimination. The existing rigid system, such as the mandatory retirement system, cannot meet companies' demands for flexible utilization of the workforce. Nor does this toothless policy protect elderly workers from unstable employment conditions.

Many researchers deal with elderly employment at a macro level, whereas Rim, C. (2003) presents micro-dimensional alternatives on the elderly workforce. He reviews in detail the various laws for the promotion of employment of the elderly, and institutions and public programs for job placement of the elderly. Macroeconomic perspective studies approach elderly employment issues from the dimension of a labor market issue while Rim, C.'s (2003) emphasis is more on securing welfare for the elderly and their income security. In addition, from the perspective of human resource development, studies have been conducted on alternative elderly employment policies (Suh, K. 2007; Kang, S. 2005). As with other macroscopic alternative researchers, Suh, K. (2007) previously claimed that improvements in preventing age discrimination and modifying the mandatory retirement system need to occur. However, a systematic plan for the development of job skills for the elderly is also an important consideration. There needs to be pressure for the creation of micro-alternatives, the following in particular: the re-design of jobs suitable for the elderly through a systemization of the elderly, the creation of suitable work environments and a salary peak system. Additionally, a detailed examination of the need for an alternative pay system for older workers is necessary. Rho, B. (2004) also studied a number of programs for the promotion of senior employment. He mentions the importance of empowerment programs for re-engaging elderly workers in overcoming their own prejudices and participating in the labor market. At the same time, to carry out the mandate, he proposes that it is important to change the employment promotion programs—not only social welfare institutions, but also non-corporate fixed social welfare services (elderly employment obligation, etc.).

3. Employment of the Elderly in Cities and Regions

Up until now the overall majority of South Korea's related research has dealt with elderly employment conditions, while research on the senior employee labor market of cities and regions has made very little progress. However, Lee, S. (2006) is exceptional in that he approaches the issues of senior employment and social security from the perspective of regional labor markets. He conducted a survey in the northern Gyeonggi region (Uijeongbu-si, Dongducheon-si, Yangju-si, Paju-si, Yeoncheon-gun) of 367 employees of 232 businesses and the leading figures who determine the reasons for and intentions behind hiring elderly employees. In addition, he researched the difficulties of using elderly manpower. He emphasized the importance of studying regional labor markets that provided elderly manpower for selling and buying activities in order to provide quality work for the elderly. This sort of research is necessary to establish employment security policy for elderly workers. In addition, Kim, S. (2005) pointed out that in the process of rapid urbanization, the economic activity participation of urban seniors was dealt with carelessly, and cited numerous programs of the manpower utilization policy on urban elderly populations.

Overall, we have examined elderly employment and employment relationship research trends. On a national level, studies on elderly employment and the labor market have made considerable accomplishments; however, at a regional level, research has made little headway. As it stands, little progress has been made on studies of elderly employment at the city and regional levels. The study of the employment structure of seniors in the Seoul area will help regional-level micro-operations in understanding job assistance, and also in preparing specific corresponding policy on senior workers.

III. RESEARCH METHODS

For this study, the major research method used was a statistical analysis of practices, corporate interviews, and an analysis of source material from the Seoul Job Placement Center for the Eldely.

First, we analyzed the data from the Population and Housing Census taken between 1975 and 2005 to determine changes in the aging of Seoul's population and the characteristics of the census data. The research was based in Seoul's administrative district and has remained largely unchanged since 1975. By calculating the aging index and longevity index, the two figures confirmed the time series change of the aging of the population and the regional differentiation in Seoul. In addition to this material on the elderly population ratio, each district of Seoul was divided into three levels. In addition the polarization and employment opportunities of elderly employment were utilized to analyze the statistics.

Second, information obtained from the Seoul Job Placement Center for the Elderly was used to specifically analyze companies that are hiring, job seekers, and those who were employed. Beginning in 1992, the Elderly Job Placement Center was commissioned by the city of Seoul to administer 12 private institutions (non-profit corporations). Currently it operates 16 elderly job placement centers in Seoul. In this study, employers that provided positions through job placement centers were utilized to analyze companies and the job-hunting activities of seniors. Accordingly, source material was gathered during a roughly one-year period in 2005 to conduct an analysis of employers, job seekers, and the employed. In addition, basic information on the elderly—their residence, education, occupation, and employers—was analyzed. Raw data for the statistical analysis of senior citizens of Seoul was obtained from one of the job placement centers. However, as there are a variety of job search routes used by seniors aside from just job placement centers, this data is of limited use in accurately reflecting the actual conditions of employment for the elderly. In particular, professionals and managerial workers tend to, at a high rate, take advantage of employment pathways other than job placement centers. There is a tendency to lean too heavily toward centers of employment as the means of finding work. These limitations notwithstanding, the amount of job offers for the elderly in Seoul and the accumulation of detailed job search material were not extensive enough and, therefore, the aforementioned material was utilized for the study.

Third, to identify more specifically the present status of elderly employment management, interviews were conducted at businesses located in Gangnam-gu, Seocho-gu, Jongro-gu, and Jung-gu that employed the elderly. Targeted

interviews were conducted with representatives from six employers: K nurseries (education field), S delivery service company, N dental craftwork (delivery service), S safety systems (security firms), etc.

IV. REGIONAL CHARACTERISTICS OF THE ELDERLY POPULATION IN SEOUL

The elderly population is increasing at a rapid pace, but there is little research on the changes in aging in urban and individual provinces. If the 2005 elderly ratio for South Korea as a whole is closely examined, Seoul's elderly ratio of 43.9% is not particularly high, whereas the elderly ratios of provinces such as Gyeonggi and Incheon, respectively at 33.8% and 35.1%, are notably low (Table 2). If you compare these figures to those from the period prior to the start of the aging issue, the age ratio in Seoul was lower than that of Gyeonggi/Incheon provinces in 1980 and 1990. After 2000, however, it can be seen to rise. That is to say that from 1990 to 2000, Seoul rapidly changed from being a 'young city' to an 'old city'. Unlike Seoul, in 1980, Gyeonggi province showed almost the same aging index as the standard national average and, in 2005, compared to the national average and Seoul, displayed a much lower figure. Incheon, like Gyeonggi province, has also shown a similar trend in changes.

In order to find a way to differentiate the development of aging populations within various areas in Seoul, both the age index and longevity index were used. The 'aging index' represents the ratio of the elderly population aged 65 and over to the population under 15 years of age. The 'longevity index' is the ratio of the population over 85 years to the population aged 65 and over (Park, S. etc. 2005a). Compared to the overall ratio of the elderly population to the

Table 2. Trends in Changes of Aged/Child Ratio Index in Metropolitan Areas

	1980	1990	2000	2005
Whole country	11.2	20.0	34.3	48.6
Seoul	8.0	13.8	29.3	43.9
Gyeonggi-do	11.5	16.2	24.2	33.8
Incheon	9.2	14.3	23.8	35.1

Source: National Statistical Office, each year, the Population and Housing Census.

total population, the aging index helps to understand the overall and dynamic changes, and population supports, and is the most readily perceivable index of society's assistance to the populace. The longevity index is able to identify more specific changes in the structure of the population within members of the population over the age of 65.

In order to examine the elderly population of the districts of Seoul through a time series, population data from 1975 and 2005 were used, and the aging index and longevity index of each district was compared (Table 3). There was little difference in the aging index and longevity index of the districts in Seoul in 1975. On the other hand, by 2005, definite differences had appeared.

Looking first at the 1975 aging index, Jongno-gu, Jung-gu and Mapo-gu were the highest. As one heads toward the periphery of Seoul, a declining trend becomes evident. In 2005, the state of regional differences was clear. Yet looking at the standard deviation, from 1975's 0.98 to 2005's 11.22, the deviation grew larger. In Seoul, regional distinctions of aging deepened; the aging index increased sevenfold from 6.57 to 47.03, while the standard deviation increased by more than elevenfold. The aging indexes for the districts in the central part of the city (Jongno-gu, Jung-gu and Yongsan-gu) represent 60 and over. As we move outward from the city center into the adjacent districts of Seodaemun-gu, Mapo-gu, Gangbuk-gu, Seongbuk-gu, Dongdaemun-gu, and Dongjak-gu, an aging indexes show 50-60. Moving out even further, in the 7 districts of Eunpyeong-gu, Dobong-gu, Jungnang-gu, Seongdong-gu, Yeongdeungpo-gu, Gwanak-gu, and Seocho-gu, the aging indexes decrease to 40 to 50. In the districts located in the outskirts of the city: Gangseo-gu, Yangcheon-gu, Guro-gu, Geumcheon-gu, Nowon-gu, Gangdong-gu, Gwangjin-gu, Songpa-gu, etc., an aging index even more decrease to 30 to 40. In other words, as one gets closer to the city center, the elderly population—compared to the youth population—rises, creating an 'older urban' phenomenon. For the past 30 years, this has been the case because there has not been sufficient residential space in the city's central districts for young adults and middle-aged people. It can be deduced that the low youth population is due to the lower percentage in the middle-aged parenting generation. In the central area of the city, which is where many seniors reside, redevelopment has been poor. The elderly, who possess relatively low economic power, reside in underdeveloped residential areas

Table 3. Comparison of Aged/Child Ratio Index and Longevity Degree by Gu of Seoul

1975			2005			
Gu	Aged/ Child Ratio Index	Longevity Degree	Gu	Aged/ Child Ratio Index	Longevity Degree	Elderly Population Ratio
Jongno-gu	8.73	3.30	Jongno-gu	71.91	6.11	10.27
Jung-gu	7.59	2.85	Jung-gu	68.23	5.14	9.71
Yongsan-gu	6.90	2.46	Yongsan-gu	68.04	4.88	9.93
Seongdong-gu	5.63	2.63	Seongdong-gu Gwangjin-gu	46.98 37.19	4.83 5.08	7.72 6.14
Dongdaemun-gu	6.14	2.62	Dongdaemun-gu Jungnang-gu	56.41 41.68	4.53 5.16	8.50 7.11
Seongbuk-gu	6.99	2.94	Seongbuk-gu	53.09	4.75	8.54
Dobong-gu	5.98	2.44	Gangbuk-gu Dobong-gu Nowon-gu	54.40 42.35 37.27	4.99 5.14 5.40	8.79 7.57 7.18
Seodaemun-gu	6.59	2.87	Eunpyeong-gu Seodaemun-gu	48.28 58.46	5.11 4.53	8.30 9.08
Mapo-gu	7.19	2.73	Mapo-gu	51.40	4.77	8.12
Yeongdeungpo-gu	5.23	2.20	Yangcheon-gu Gangseo-gu Guro-gu Geumcheon-gu Yeongdeungpo-gu	30.56 37.79 38.55 38.95 46.51	5.32 5.88 5.05 5.04 4.82	5.94 6.57 6.53 6.68 7.52
Gwanak-gu	5.70	2.45	Dongjak-gu Gwanak-gu	50.29 45.29	5.23 4.83	7.63 6.48
Gangnam-gu	6.24	2.69	Seocho-gu Gangnam-gu Songpa-gu Gangdong-gu	40.45 39.55 33.33 33.88	6.83 7.35 6.06 5.97	6.25 5.69 5.75 5.85
Seoul	6.27	2.65	Seoul	43.90	5.29	7.24
Average	6.57	2.68	Average	47.03	5.31	7.51
Median	6.41	2.66	Median	46.51	5.11	7.98
Standard Deviation	0.98	0.29	Standard Deviation	11.22	0.69	1.36

Notes: Located data of gu in 1975 for matching gu system in 2005.

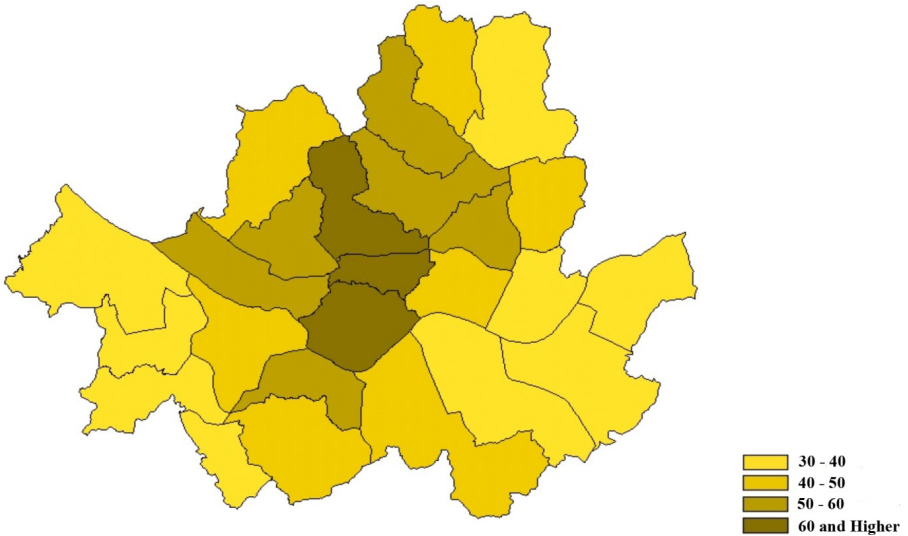
Criterion of Elderly population ratio is 65 years old and older.

Source: National Statistical Office, each year, the Population and Housing Census.

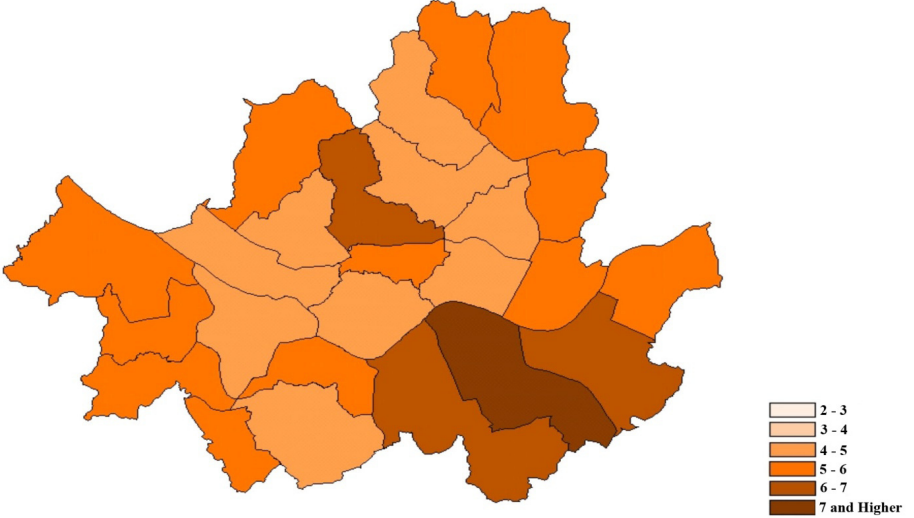
in which lower housing prices and rents have been maintained. In addition, the central areas of the city offer the easy accessibility compared to the outer districts. Because of this, the elderly, who are so reliant on public transportation to get around due to their poor mobility, did not migrate to the outer edges of the city. For the elderly with limited economic means, accessibility is an important factor.

Next, we will examine the geographical changes in longevity index in each of the districts. In 1975, there was not a significant difference between the regions, showing values of 2~3, except for Jongno-gu. However, in 2005, there is a distinct difference among the districts showing the standard deviation of the longevity index increased from 0.29 in 1975 to 0.69 by 2005, indicating a 2.38-fold increase. This increase is not as significant as that of the aging index, but longevity index provides a clear geographic differentiation. The districts with the highest degree of longevity index in 2005 are Gangnam-gu, Seocho-gu, and Songpa-gu. In addition, the longevity of Jongno-gu in the downtown area has also risen and so the city center and the Gangnam areas have been distinct from the rest of the districts. The remaining districts: Gangseo-gu, Yangcheon-gu, Guro-gu, Geumcheon-gu, Dobong-gu, Nowon-gu, Jungnang-gu, Gwangjin-gu, and Gangdong-gu, with longevity indexes of 5-6, seem to display a certain geographic pattern. Meanwhile, the 8 urban districts outlying those: Seodaemun-gu, Mapo-gu, Yeongdeungpo-gu, Yongsan-gu, Seongdong-gu, Dongdaemun-gu, Seongbuk-gu, and Gangbuk-gu show a lower longevity level of 3-4. This means that except the downtown areas such as Jongno-gu and Jung-gu, the elderly population over 85 years—show higher proportion in outlying areas.

In order to compare the geographical differential of the aging index and longevity index, maps based on data from 2005 were used (Figure 1). Jongno-gu, as a representative of central areas, shows high levels in both the aging index and longevity index. Except in one area, it generally shows that the distribution of the aging index and longevity index are opposed. In other words, compared to nearby central areas (mid-area), the aging index of the outer districts was a bit lower, whereas the longevity index of outer districts was higher than that of mid-areas. The significance of this contrast is that the mid-area districts near the city center are not an appropriate living area for seniors 85 and older. In addition, the ratio of seniors 85 and older cohabiting



(a) Aged/Child Ratio Index



(b) Longevity Degree

Figure 1. Aged/Child Ratio Index and Longevity Degree of Seoul by Gu (2005).

with adolescent generations is high. The ratio is even higher for the outskirts of the city's residential districts. Therefore, there is no conflict in the low aging index and comparatively high longevity index found in the outer districts of Seoul.

The aging index, longevity, and elderly population ratios were based on averages (m) \pm 1 standard deviation (σ), with each sphere being classified into three levels: upper, middle, and lower (Table 4). As noted earlier, the aging index, longevity index, and elderly population ratio in Jongno-gu are among the highest. In the urban center districts of Jung-gu, Yongsan-gu, and

Table 4. Classification of Gu of Seoul based on standard deviation of Aged/Child Ratio Index and Longevity Degree (2005)

	Criterion	Aged/Child Ratio Index	Longevity Degree	Elderly Population Ratio
Class I	$X \geq m + 1\sigma$	Jongno-gu, Jung-gu, Yongsan-gu, Seodaemun-gu	Gangnam-gu, Seocho-gu, Jongno-gu, Songpa-gu	Jongno-gu, Yongsan-gu, Jung-gu, Seodaemun-gu
Class II	$m - 1\sigma \leq X < m + 1\sigma$	Dongdaemun-gu, Gangbuk-gu, Seongbuk-gu, Mapo-gu, Dongjak-gu, Eunpyeong-gu, Seongdong-gu, Yeongdeungpo-gu, Gwanak-gu, Dobong-gu, Jungnang-gu, Seocho-gu, Gangnam-gu, Geumcheon-gu, Guro-gu, Gangseo-gu, Nowon-gu, Gwangjin-gu	Gangdong-gu, Gangseo-gu, Nowon-gu, Yangcheon-gu, Dongjak-gu, Jungnang-gu, Jung-gu, Dobong-gu, Eunpyeong-gu, Gwangjin-gu, Guro-gu, Geumcheon-gu, Gangbuk-gu, Yongsan-gu, Seongdong-gu, Gwanak-gu, Yeongdeungpo-gu, Mapo-gu, Seongbuk-gu	Gangbuk-gu, Seongbuk-gu, Dongdaemun-gu, Eunpyeong-gu, Mapo-gu, Seongdong-gu, Dongjak-gu, Dobong-gu, Yeongdeungpo-gu, Nowon-gu, Jungnang-gu, Geumcheon-gu, Gangseo-gu, Guro-gu, Gwanak-gu, Seocho-gu
Class III	$X < m - 1\sigma$	Gangdong-gu, Songpa-gu, Yangcheon-gu	Seodaemun-gu, Dongdaemun-gu	Gwangjin-gu, Yangcheon-gu, Gangdong-gu, Songpa-gu, Gangnam-gu

Notes: "X" means Aged/Child Ratio Index of each gu.
 "m" means average and "σ" means standard deviation.
 Sorted in descending order.

Seodaemun-gu, the aging index and elderly population ratio are especially high ($m + 1\sigma$ greater). As well as Jongno-gu, other regions with high rates of longevity ($m + 1\sigma$ greater) are Gangnam-gu, Seocho-gu and Songpa-gu. Lower aging index areas ($m - 1\sigma$ lesser) are Seoul's outer districts such as Gangdong-gu, Songpa-gu, and Yangcheon-gu. Meanwhile, sub-regions in the downtown area with lower longevity index ($m - 1\sigma$ lesser) are Dongdaemun-gu and Seodaemun-gu.

We would like to discuss a mechanism based on distinctions between layers among the districts of Seoul that show strong regional characteristics in the aging index and longevity index. In Jongno-gu, Yongsan-gu, etc., the elderly population ratio is shown to be considerably advanced at over 9%. Meanwhile Gangnam-gu, Seocho-gu and Songpa-gu, have not yet entered the stage of an 'aging society' as their elderly population ratios have yet to reach 7%. Representative elderly population ratios like those of [Jongno-gu/Jung-gu/Yongsan-gu] and [Gangnam-gu/Seocho-gu] were studied by adding [Guro-gu/Geumcheon-gu] which are therepresentative industrial areas of Seoul. The aging index and longevity index of these three areas show a characteristic pattern. The elderly population ratio of the southeastern part of Seoul [Gangnam-gu/Seocho-gu] is lower than in any other district. However, in the aging index of the medium-level (Class II), the longevity index shows high level areas (Class I). In the central districts of Seoul, Jongno-gu/Jung-gu/Yongsan-gu, there is a high percentage of the elderly population; yet while the aging index is high, the level of longevity is only moderate. The southwestern districts of Seoul [Guro-gu/Geumcheon-gu] all display a medium-level (Class II) in all three indexes. If the aging index and longevity index are standardized, the three regions show a clear geographic differentiation (Figure 2).

The aging index of [Jongno-gu/Jung-gu/Yongsan-gu] has risen sharply compared to what it was in 1975. In 2005, it was nearly twice the average. Longevity index, however, showed little increase. In 1975, Jongno-gu, in particular, had the highest longevity level in Seoul; however, its longevity level was comparatively lower than that of [Gangnam-gu/Seocho-gu] in 2005. In addition, the tegion of high aging index has, over the past 30 years, excluded redevelopment of the downtown Seoul area, contributing to the relatively low influx of new middle-class families. Unlike in 1975, [Gangnam-gu/Seocho-

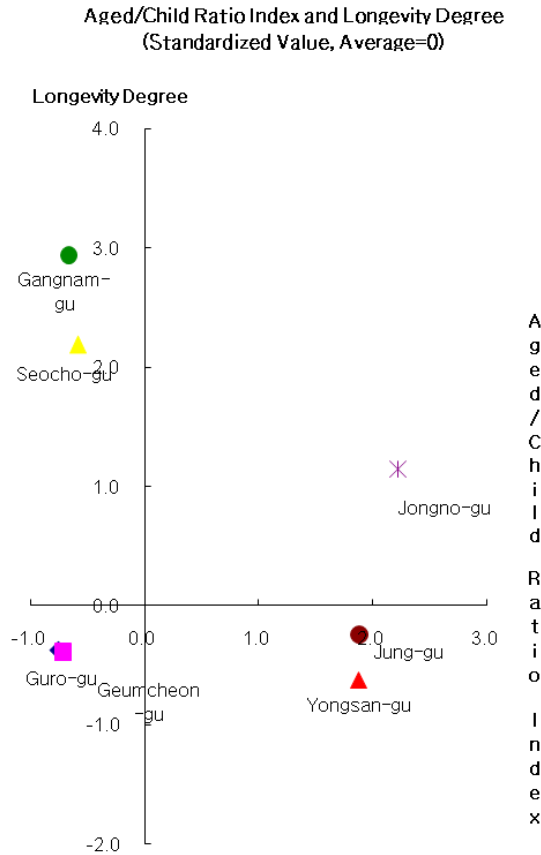


Figure 2. Standardized Aged/Child Ratio Index and Longevity Degree of Major Regions in Seoul.

gu] in 2005 had the highest longevity in Seoul. On the other hand, we can see that there has been a continuous inflow of new populations and that the aging index has stayed average. From an economic perspective, the area's high proportion of middle/upper class and the continuous influx of young people since the 1990s into the area have made it the new economic center of Seoul. In 1975, [Guro-gu/Geumcheon-gu] was part of Yeongdeungpo-gu. It was also a young region, with the lowest aging index in Seoul. In 1980, however, Guro-gu was split from Yeongdeungpo-gu and established as a separate district. At this time the aging index was calculated at 5.95—the lowest level.

The industrial and employment structures with specializing in manufacturing in the Guro Industrial Park are attributed to the large population of young workers in the 1970-1980s. Since the 1990s, traditional labor-intensive industries have declined. In 2005, together with residential features, new industries began to be revived, with the aging index, longevity index, and elderly population ratio index of [Guro-gu/Geumcheon-gu] falling into the middle level (Class II). On the other hand, based on their aging indexes and their percentages of elderly population, Gangdong-gu, Songpa-gu and Yangcheon-gu have emerged as young (Class III) regions.

Thus far, the intensification of regional differentiation of aging taking place in Seoul has been discussed. With the growing increase in population aging, the aging index and longevity index are also on the rise. However, even in Seoul, that aspect appears to differ depending on the area. This fact is an important consideration because the aging-related policies established by the city must approach each area of the issue differently, particularly with respect to the employment of the elderly.

V. THE REGIONAL CHARACTERISTICS OF ELDERLY EMPLOYMENT IN SEOUL

1. The Status of Elderly Employment

In order to grasp the characteristics of the state of elderly employment in Seoul, we must first examine the changes in occupational distribution nationwide and in other metropolitan areas (Table 5). From 1980 through

Table 5. Trends in Changes of Employment Ratio of the Elderly Over the Age of 60

Unit: %

Year	1980	1990	2000	2005
Whole country	31.3	28.4	31.9	29.7
Seoul	12.8	13.6	19.8	19.8
Incheon	-	14.3	19.2	18.9
Gyeonggi-do	25.4	22.3	23.4	22.1

Source: National Statistical Office, each year, the Population and Housing Census.

Table 6. Occupational Distribution of the Elderly Aged 65 and Older

Unit: %

Type		Professionals and Managers	Service Workers	Sales Workers	Agricultural, Forestry and Fishery Workers	Elementary Workers
Whole country	All Ages	13.5	9.7	11.0	10.6	7.5
	65 and older	4.0	2.8	6.0	70.0	10.5
Seoul	All Ages	18.0	10.4	13.7	0.3	7.8
	65 and older	16.3	6.9	14.6	1.7	32.4
Incheon	All Ages	11.4	9.9	11.6	2.4	8.2
	65 and older	6.3	5.1	10.6	33.6	27.0
Gyeonggi- do	All Ages	14.5	9.3	10.5	4.5	7.4
	65 and older	7.2	3.6	6.6	48.5	21.5

Notes: All Ages means employees who are 15 years old and over.

Extracted 5 major classifications from general course classifications of occupations.

Source: National Statistical Office, 2007, 2005, the Population and Housing Census.

2005, the national employment ratio of the elderly over the age of 60 did not change significantly. On the other hand, Seoul experienced high growth in the number of ‘working elderly’, which is indicated by the increase in the ratio of 12.8% in 1980 to 19.8% in 2005. Compared to the Gyeonggi/Incheon regions, this ratio is high. It can be deduced that the reason why there was no significant change in the nation’s elderly employment ratio of 30% after 1980 was the relative reduction in the agricultural sector and the expansion of employment in other professions that helped to offset the effects. Therefore, the expansion of elderly employment in the Seoul region will be explained through the distribution of jobs.

If the occupational distribution of the elderly aged 65 and older in 2005 is examined, a relative polarization phenomena of employment in the Seoul area clearly emerges (Table 6). Compared to the rest of the nation, Seoul appears to have a polarized structure, with a much higher ratio of professional, managerial, and general employment positions. Considering that the distortion by the ratio of agricultural and fishery industries, Seoul has a higher proportion of managerial and general labor jobs than other city

areas. If the occupational distributions and comparisons of everyone aged 15 and older are examined, Seoul's ratio of 18.0% of the population aged 15 and older working in the professional and managerial sectors is similar to the ratio of elderly people. That is to say, Seoul has specialized in professional and managerial jobs and that characteristic is also shown in senior citizens in Seoul. However, in the case of elementary worker, there is a large difference. The ratio of the elementary worker of overall age group stands at 7.8% while that of elderly workers aged 65 and over makes up 32.4%. It can be said that this concentration of Seoul's elderly employees in elementary worker is a characteristic of the elderly people in Seoul which is different from the other age groups. Such a polarization of employees in the Seoul region cannot be said to be a phenomenon unique only to elderly workers. An important phenomenon of elderly employment is that the distribution of positions held by the elderly is not spread across various occupations, but is biased toward particular sectors. These positions are particularly concentrated in elementary workers that have poor working conditions and low wages, which shows that job choices for the elderly are limited.

It is now time to examine the employment opportunities of Seoul's senior workers. To this end, the unemployment age level (the unemployment ratio of the economically active population) could be used, but there is a problem in identifying the job opportunities for seniors. There is a method for calculating the unemployment ratio of the economically active population and of individuals not actively seeking work at the time of the investigation. In the case of the elderly who are treated as non- economically active members of the population, the ratio is high and, therefore, the unemployment ratio is identified as low and suggests the employment of the elderly is not a problem. Because information on substantial employment opportunities for seniors is easily misplaced, this study utilizes all population census materials to derive the employment opportunities of the elderly. In Table 7, 'the ratio of failure to find work' of the many unemployed elderly attempting to find work, many are ultimately unable to secure employment.¹ As they get older, the likelihood

¹ The Population and Housing Census>gender/economic activity/age - elderly statistics - overall, elderly are divided into workers and the unemployed, cases of the unemployed looking for work again, and those not seeking reemployment.

Table 7. Economic Activity Conditions of the Aged

Unit: thousand people

		Number of People (A)	Employees (B)	the Unemployed			Ratio of Failure to Find Work C-2/ B+(C-2)
				Finding Work (C)		Not Finding Work (D)	
				Success to Find Work (C-1)	Failure to Find Work (C-2)		
Whole country	All Ages (15 and older)	37,405	19,277	877	1,402	15,840	6.8%
	60~64	1,890	799	31	73	986	8.4%
	65 and older	4,367	1,058	24	135	3,150	11.3%
Seoul	All Ages (15 and older)	8,013	4,003	205	305	3,496	7.1%
	60~64	402	135	8	18	241	11.6%
	65 and older	711	85	7	26	593	23.4%

Source: National Statistical Office, 2007, 2005, the Population and Housing Census.

of elderly persons not finding work increases. Compared to the nation as a whole, the elderly in Seoul have a particularly high rate of failure in finding

Those who looked for work but are not working are divided into two groups: those who can find a job and those who cannot find a job. In the housing census of the population, those who can and can't work are marked as 'Able to work', and 'Unable to work'. The former means that one could work, but chose to remain unemployed. Because this is voluntary unemployment, these people are not included among the economically active population. Included among the latter group (Unable to work), the reason for being unable to work does not appear clearly, nor is it revealed how actively an individual continued to seek employment. As such, these individuals are highly likely to be treated as part of the non-economically active population in the official unemployment statistics. 'Employment activity among the unemployed and those people unable to work' and 'Those who fail to find work (unemployed)' are assumed, the ratio of employment failure is to be 'employment failures' / 'employed + employment failures'. The results of this ratio are referred to as employment failures. In this case, the aggressiveness of the unemployed individual's job search activity is strictly approximated and shows itself to be statistically higher. However, for practical and informed decisions about elderly employment conditions, determining the employment failure rate is a stronger method.

work. This is because when appropriate opportunities are afforded, there is a high volume of applicants in competition for “potential” economic activity. This is especially true among Seoul’s population aged 65 and over. When compared to the populace of those aged 60-64, they are shown to have a much higher rate of failure in finding employment. Still, this finding does indicate that many older people are entering the labor market and looking for work.

2. An Analysis of Places that Employ the Elderly and Job Seekers

First, in order to analyze the places that employ the elderly, raw data of 3,784 cases from Seoul Job Placement Center for the Elderly was separated by occupation and analyzed (Table 8). Elementary worker job (involving household work, cleaning services, repair and maintenance tasks, delivery services, and grounds keeping duties, etc.), at 82.4%, accounted for the vast majority of the labor force. However, when considering that among Seoul’s elderly workers aged 65 and over, 32.4% were unemployed elementary workers, we see that the job activities of these employment centers are focused on employment in elementary work occupations. Professional and managerial positions are virtually nonexistent. This means that professional and managerial jobs are attained by the elderly by different means. Many educational jobs are nursery or performing arts instructors positions. Occupations that require high educational level such as educators, survey researchers, or media-related occupations that involve older-aged models, etc., remain very limited in number. Looking at the distribution of distinct employment sites, more than 200 jobs are located in the Gangnam-gu, Dongdaemun-gu, Seocho-gu, Yangcheon-gu, Yoido, Jongno-gu, and Jung-gu regions. These areas are geared toward business/employment operations, or both, rather than being typical residential areas.

Jobs that hire a lot of elderly persons are those that are especially preferred by the elderly. Within the delivery and dental laboratory industries, elderly delivery jobs represent a typical case. Much of the employment activity occurs through elderly employment career centers. In the case of S Delivery Corporation, an elderly specialized delivery service in Jung-gu, the average employee is over the age of 65, with the oldest worker being 86. Its headquarter is located in

Table 8. Distribution of Jobs from Job Offerers by Gu and by Occupations

Occupational Category	Unit: The Number of Job																			
	Man-agers	Professionals		Tech-nician	Clerks	Service Workers	Sales Workers	Agricultural, Forestry and Fishery Workers	Craft Workers	Equip-ment Workers	Elementary Workers				Etc.	Total	Propor-tion (%)			
		Educa-tion	Etc.								Sub-total	House-hold Chores	Clean	Guard				Deliv-erers	Swee-pers	Etc.
Jongno-gu	0	6	2	8	1	12	7	4	0	6	7	60	58	38	3	1	167	2	207	5.5
Jung-gu	0	6	0	6	0	12	20	1	0	3	12	80	55	129	14	9	299	1	342	9.0
Yongsan-gu	0	5	2	7	1	8	18	2	0	2	17	21	69	33	0	0	140	12	190	5.0
Seongdong-gu	0	67	1	68	1	4	7	0	0	6	12	9	15	27	2	0	65	1	152	4.0
Gwangjin-gu	0	0	1	1	0	3	1	0	1	0	4	6	34	23	2	1	70	1	77	2.0
Dongdaemun-gu	0	19	1	20	0	1	5	4	0	1	9	28	43	53	25	10	168	1	200	5.3
Jungnang-gu	0	0	0	0	0	1	1	1	0	0	1	11	2	3	0	1	18	0	20	0.5
Seongbuk-gu	0	0	0	0	0	3	4	0	0	0	14	5	7	5	0	1	32	0	39	1.0
Gangbuk-gu	0	2	0	2	0	0	2	3	0	0	2	7	9	0	1	0	19	1	27	0.7
Dobong-gu	0	0	1	1	0	1	1	3	0	0	2	32	5	0	4	0	43	0	49	1.3
Nowon-gu	0	4	1	5	3	1	2	0	1	2	7	55	70	16	2	1	151	1	166	4.4
Eunpyeong-gu	0	0	0	0	0	1	1	0	0	0	6	3	12	8	0	0	29	1	32	0.8
Seodaemun-gu	0	2	0	2	1	3	12	0	0	1	5	45	38	12	0	2	102	3	125	3.3
Mapo-gu	0	3	2	5	0	1	5	5	0	4	3	12	43	22	7	2	89	1	110	2.9
Yangcheon-gu	0	7	0	7	0	7	39	10	0	2	39	21	131	18	13	2	224	1	294	7.8
Gangseo-gu	0	5	1	6	0	0	8	4	0	2	20	20	55	3	1	1	100	1	122	3.2
Guro-gu	0	5	1	6	0	3	10	9	0	7	9	11	42	20	15	9	106	0	143	3.8
Geumcheon-gu	0	0	1	1	1	2	1	0	0	1	0	9	34	1	1	1	46	0	52	1.4
Yeongdeungpo-gu	0	1	3	4	2	9	5	1	0	4	4	46	148	69	13	6	286	3	315	8.3
Dongjak-gu	0	1	0	1	3	0	6	0	0	1	8	28	48	28	9	2	123	1	135	3.6
Gwanak-gu	0	0	0	0	5	2	10	0	0	1	3	12	26	25	10	0	76	0	94	2.5
Seocho-gu	0	6	1	7	1	5	11	6	0	1	28	52	97	18	16	3	214	11	256	6.8
Gangnam-gu	0	6	1	7	0	11	15	7	0	3	28	91	172	25	30	5	351	2	396	10.5
Songpa-gu	0	0	0	0	0	0	4	0	0	0	6	20	46	5	4	0	81	2	87	2.3
Gangdong-gu	0	3	0	3	0	0	1	0	0	2	6	9	13	18	0	2	48	0	54	1.4
Etc.	0	7	8	15	0	2	4	2	0	1	6	16	35	2	9	4	72	4	100	2.6
Total	0	155	27	182	19	91	200	62	0	47	258	709	1,307	601	181	63	3,119	50	3,784	100
ratio(%)	0	4.1	0.7	4.8	0.5	2.4	5.3	1.6	0	1.2	6.8	18.7	34.5	15.9	4.8	1.7	82.4	1.3	100	

Note: This table represents the distribution of occupations in job offers by gu.

Specific jobs are transformed by general classifications of occupations.

Source: Compiled and computed by authors based on internal source from Seoul Job Placement Center for the Elderly in 2005.

Jung-gu, Seoul, with offices in Gangnam, Jamsil, Yeongdeungpo, and Ilsan. It has a total of 100 elderly employees and is currently hiring elderly couriers. The ratio of elderly men and women employed here is around 8:2 and their monthly income is generally 500,000~600,000 won, but in many cases, over one million won. The average worker has a high school diploma or higher, with many coming from educated and senior-level backgrounds and having held positions such as television directors, city administrators and army officers in the past. Elderly couriers make over five deliveries a day, with the company as a whole making anywhere from 200-300 deliveries. Deliveries mainly consist of small, lightweight items like flowers, gifts, documents, etc. In the Jongno-gu and Jung-gu districts, there are 3-4 delivery offices. In the Seoul metropolitan area, there is an estimated elderly delivery staff of about 1,000 people.

The company's location provides it with a fertile market of elderly laborers and the attractive combination of numerous companies and customers, as well as easy traffic conditions. For the most part, the elderly who live with family are employed and are highly educated people who have previously worked hard in society. It is said they are diligent and adapt quickly. The elderly find out about these delivery jobs through job placement centers and such, and also through various media or directly from family members.

N Dental Laboratory was established in Gangnam-gu in 2005, and one in four of its workers are in their late 60s. While they are only temporary workers, their monthly salary is around 400,000-500,000 won, with an additional 100,000-200,000 won given as a separate travel stipend. Currently, public transportation for the elderly is free. The wages of the elderly are often only 600 to 700 thousand won per month, but can also be as much as 800,000 won. From the perspective of employers, the biggest reason for preferring to hire the elderly is their very low turnover rate; one current elderly employee has worked at the company for more than 10 years. Usually there are many elderly workers among the delivery personnel at dental laboratories. Among these, many are highly educated or have a great deal of business experience. Many of these elderly live together with family, with a small proportion of them living alone. In the case of a large dental laboratory, there are around 11 to 12 employees, and on average 1 or 2 are senior citizens. Elderly job seekers were put to work through the Senior Workforce Development Center, which

Table 9. Distribution of Job Seekers by Age

Age	55~59	60~64	65~69	70~74	75~79	80 and older	Total
Number(Persons)	854	1,510	1,632	619	114	27	4,756
Proportion (%)	18.0	31.7	34.3	13.0	2.4	0.6	100.0

Source: Compiled and computed by authors based on internal source from Seoul Job Placement Center for the Eldely in 2005.

is associated with the City Office, and by receiving introductions from senior staff or from relatives of employees, and through social networks.

Next, analysis was conducted based on data from Seoul Job Placement Center for the Eldely, with a total of 4,756 elderly job seekers being targeted. The analysis of the work sites shows that 82.4% of the positions are in the category of elementary worker employment, compared to the 78.0% of job seekers who are hoping to find elementary worker employment. For job seekers, security management, cleaning, and laundry positions account for the majority of available positions. Except for these elementary worker employment options, there is little else. In some districts the proportion of jobs isn't large, but in others, where there are professional-level job seekers, there are a handful of education and technical positions. If we look at the distribution of job seekers aged 60 to 69, they account for a large number, 66.0%, while job seekers aged 70 to 79 account for 15.4% (Table 9). An analysis of the distribution of education shows that more than half, 50.2%, of job seekers appear to have a high school education. Regarding regional differentiation, the elderly residing in the Gangnam region [Gangnam-gu/ Seocho-gu] appear to have significantly higher income and education levels, with over 30% of the region's populace being college graduates, compared to the overall average for Seoul of 13.0% (Table 10). Excluding the Gangnam district, most of the spheres before and after indicate a 10% ratio of college graduates. However, as previously seen, the occupational composition of employment does little to alter the distinction. The overall elementary worker ratio of the Seoul metropolitan area stands at 82.4%, with Gangnam-gu at 88.6%, Seocho-gu at 83.6%, and Songpa-gu having a somewhat higher average of 93.1%. Therefore, jobs for the elderly are centered on elementary worker regardless of level of education, with a clear mismatch between the

Table 10. Distribution of Aged Job Seekers in Gangnam Region by Levels of Education

	Below High school Graduates		High school Graduates		Junior College Graduates and		University Graduates and Above		Total (Persons)
	Number (Persons)	Proportion (%)	Number (Persons)	Proportion (%)	Number (Persons)	Proportion (%)	Number (Persons)	Proportion (%)	
Gangnam-gu	44	35.8	40	32.5	1	0.8	38	30.9	123
Seocho-gu	53	30.5	64	36.8	3	1.7	54	31.0	174
Songpa-gu	22	30.6	28	38.9	1	1.4	21	29.2	72
Seoul	2,370	49.8	1,619	34.0	151	3.2	616	13.0	4,756

Source: Compiled and computed by authors based on internal source from Seoul Job Placement Center for the Eldely in 2005.

demand and supply of manpower in the district being evident.

The job sites and job seekers looked at earlier were distinguished by comparing the distribution. The supply and demand of jobs was investigated geographically (Table 11). The districts with comparatively numerous job sites and job openings were Gangnam-gu, Seocho-gu, Yeongdeungpo-gu, Jung-gu, and Yangcheon-gu (the district which is more than 6% of the total percentage of the Seoul metropolitan area's job sites). On the other hand, many job seekers come from densely populated low-income residential areas such as Nowon-gu, Gwanak-gu, Gangseo-gu, and Eunpyeong-gu (the district which is more than 6% of the total percentage of job seekers in the Seoul metropolitan area). In other words, in these areas, economic necessity drives a high proportion of the elderly population to seek out employment. The job search activities carried out through elderly employment placement centers are proactive when you consider that elderly people have greater difficulty finding jobs in those areas than in other regions.

When looking at the ratio of job opportunities and job seekers, there appears to be a conspicuous phenomenon of regional bias. According to the elderly employment placement centers analyzed in this research, the ratio of job seekers across Seoul is 1.26% of the population. Districts of an index of more than 5 are Gangbuk-gu, Seongbuk-gu, Eunpyeong-gu and Jungnang-gu being the most residential districts in Seoul—offer little employment and are relatively poor income regions. When compared to the aging of the population seen in the prior regions of [Jongno-gu/Jung-gu/Yongsan-gu] and

Table 11. Distribution of Job Seekers and Job Offerers by Gu

	Job Seekers		Job Offerers		Job Seekers/ Job Offerers Index
	Number (Persons)	Proportion in Job Seekers of Seoul (%)	Number (Persons)	Proportion in Job Offerers of Seoul (%)	
Jongno-gu	96	2.02	207	5.47	0.46
Jung-gu	109	2.29	342	9.04	0.32
Yongsan-gu	180	3.78	190	5.02	0.95
Seongdong-gu	193	4.06	152	4.02	1.27
Gwangjin-gu	81	1.70	77	2.03	1.05
Dongdaemun-gu	223	4.69	200	5.29	1.12
Jungnang-gu	101	2.12	20	0.53	5.05
Seongbuk-gu	220	4.63	39	1.03	5.64
Gangbuk-gu	153	3.22	27	0.71	5.67
Dobong-gu	135	2.84	49	1.29	2.76
Nowon-gu	447	9.40	166	4.39	2.69
Eunpyeong-gu	300	6.31	32	0.85	9.38
Seodaemun-gu	270	5.68	125	3.30	2.16
Mapo-gu	145	3.05	110	2.91	1.32
Yangcheon-gu	280	5.89	294	7.77	0.95
Gangseo-gu	367	7.72	122	3.22	3.01
Guro-gu	204	4.29	143	3.78	1.43
Geumcheon-gu	83	1.75	52	1.37	1.60
Yeongdeungpo-gu	201	4.23	315	8.32	0.64
Dongjak-gu	169	3.55	135	3.57	1.25
Gwanak-gu	329	6.92	94	2.48	3.50
Seocho-gu	174	3.66	256	6.77	0.68
Gangnam-gu	123	2.59	396	10.47	0.31
Songpa-gu	72	1.51	87	2.30	0.83
Gangdong-gu	50	1.05	54	1.43	0.93
Etc.	51	1.07	100	2.64	0.51
Total	4,756	100	3,784	100	1.26

Source: Compiled and computed by authors based on internal source from Seoul Job Placement Center for the Eldely in 2005

[Gangnam-gu/Seocho-gu], the index of job seekers/job sites is less than 1, while of [Guro-gu/Geumcheon-gu], the index is higher than 1 which belongs to the middle level. Despite the limitations of the data, the 'job seekers/job sites' index shows geographically how the employment opportunities

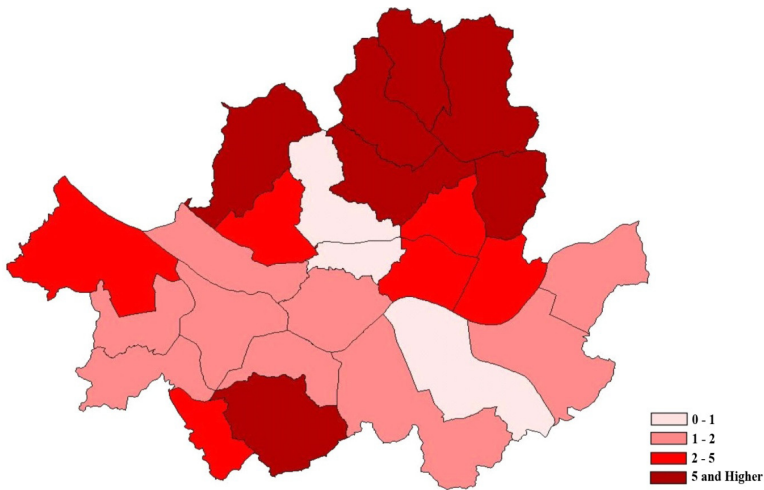


Figure 3. Distribution of Ratio of Job Seekers to Job Offerers.

differentiate within Seoul as seen in (Figure 3).

3. Analysis of the Characteristics of Elderly Employment

Material on 3,688 elderly people from Seoul Job Placement Center for the Elderly was analyzed. This material is based on the percentage of employees to job seekers, with a 70% level appearing and the attainment of employment occurring smoothly with the assistance of the centers. The analysis of job sites and job seekers along with the characteristics of workers may account for the majority of elementary worker jobs. If the high-income areas and large-scale apartment complexes had more employees, a greater demand for building janitors and cleaning jobs would appear. However, the parking garages in Seocho-gu require a lot of senior manpower. In the case of building management and security services, apartment and security services account for the majority of jobs, with parking management service also contributing some positions. In the case of services, nannies, health care workers and restaurant workers make up the majority, with no significant difference between them and elementary worker positions. In the case of professionals, education related or non-education related, compared to job seekers overall, the number of employed individuals was particularly high. When the

Table 12. Distribution of Job Seekers and Employees by Levels of Education

Job Seekers		Employees	
High school Graduates and Below	Junior College Graduates and Above	High school Graduates and Below	Junior College Graduates and Above
3,989(persons) 83.9%	767(persons) 16.1%	2,902(persons) 78.7%	786(persons) 21.3%

Source: Compiled and computed by authors based on internal source from Seoul Job Placement Center for the Elderly in 2005.

employed ratio is examined by the education level, the high employed ratio compared to job seekers for high educated people shows that workers with higher education have an easier time finding work (Table 12).

On the other hand, as seen earlier, job distribution will be discussed based on job sites, elderly workers and job seeker data (Table 13). Looking at the characteristics, there is a comparatively higher percentage of professional workers to job sites and job seekers. The ratio of professional workers was 14.9% to the low 2.8% ratio of job seekers, and 4.9% job sites (open positions). Many positions are education-related, and there are many professional positions, but few are high-paying. Among the many professional jobs are education-related positions such as those in daycare centers, private institutes, preschools, etc. These job sites seek to hire the elderly. While the positions offered at these sites are relatively low paying, there is high job satisfaction as indicated by the low turnover rate. According to the interviews conducted during this study, education industry employers do not fill positions directly; instead, the elderly apply through intermediaries such as the government, or the Welfare Foundation, and are dispatched to fill positions. Unlike in private kindergartens, because of financial difficulties, daycare centers are under state support. If the situation of K Daycare Center in Jongno-gu is examined, there are two elderly employees, one of whom is a 74-year-old female (with a high school degree) who is responsible for teaching Chinese characters to students. Twice each Wednesday for 30 minutes (1:30~2:30) she teaches Chinese characters. She is supported by the Samsung Welfare Foundation operated by the Jongno Foundation for Seniors Club. In addition to her work at K Day Care, she teaches elsewhere.

Table 13. Distribution of Employees, Job Seekers and Job Offerers by Occupational Category

Occupational Category	Managers	Professionals			Clerks	Service Workers	Sales Workers	Agricultural, Forestry and Fishery Workers	Craft Workers	Equipment Workers	Elementary Workers						Etc. Total			
		Educa-tion	Etc.	Sub-total							Tech-nician	House-hold Chores	Clean	Guard	Deliverers	Swee-pers		Etc.	Sub-total	
Em- ployees	0	355	197	552	19	120	215	114	0	25	27	206	510	976	605	150	122	2,569	47	3,688
	0	9.6	5.3	14.9	0.5	3.3	5.8	3.1	0.0	0.7	0.7	5.6	13.8	26.5	16.4	4.1	3.3	69.7	1.3	100
Job Seekers	0	91	42	133	52	96	313	52	1	32	117	228	780	2,016	480	149	91	3,744	216	4,756
	0	1.9	0.9	2.8	1.1	2.0	6.6	1.1	0.0	0.7	2.5	4.8	16.4	42.4	10.1	3.1	1.9	78.7	4.5	100
Job Offerers	0	155	27	182	19	91	200	62	0	14	47	258	709	1,307	601	181	63	3,119	50	3,784
	0	4.3	0.7	4.9	0.5	2.4	5.3	1.6	0.0	0.4	1.2	6.8	18.7	34.5	15.9	4.8	1.7	83.2	1.3	100

Source: Compiled and computed by authors based on internal source from Seoul Job Placement Center for the Elderly in 2005.

On the other hand, in the case of elementary worker, job sites occupy 83.2%, job seekers 78.7% and the employed 69.7%. There is a significant difference in the ratio of elementary worker compared to the concentration of job sites (open positions) in which job seekers are interested. As a result, this means that the chance of employment is a low probability of finding those jobs compared to other work. Typical elementary worker positions are those in managerial and security services. 42.4% of job seekers typically prefer these occupations; however, only 26.5% of them are able to secure such employment as it is not that easy to become employed. Like with parking management and apartment complex security positions, managerial and maintenance jobs usually are not physically difficult. Thus, we see that competition for these jobs is high. On the other hand, the ratio of job seekers interested in delivery work stands at only 10.1%, while the ratio of those employed in such positions is 16.4%. While work as a delivery service employee is relatively easy to get and is work representative of the employed elderly, the work conditions are poor and the economic rewards not very good. From the perspective of job seekers, it is just easy to get such work. Looking at a related case, S Safety Systems in Gangnam-gu hires elderly general laborers to perform cleaning and security work, with 80 to 90% of those hired being elderly. Most are fulltime employees who receive an 80~120 thousand won stipend including transportation costs. This company's reason for hiring elderly workers is their lower turnover rate, reduced costs, time and labor market flexibility and, biggest of all, the low wages they are able to pay them. If an elderly person is hired, they will generally work for 1-3 years. While their turnover rate is around 20~30%, this is still lower than the turnover rate for younger workers.

In order to determine where workers will find employment, we must look at the results of the O/D matrix analysis (Table 14). It is shown that overall, 40.2% commute to work within the district, while 54.4% commute to work from outside the district. Only 5.3% travel to work from outside the Seoul metropolitan area. Seven districts comprise the over 50% ratio of local commuters: Gangseo-gu, Nowon-gu, Seongdong-gu and Yangcheon-gu which are the residential areas of the outer region of Seoul, and those in the southwestern areas of Seoul such as Guro-gu, Yeongdeungpo-gu and Yongsan-gu. A distinctive characteristic of the aging of the population in

Table 14. Comparison of Intra-Gu, Inter-Gu and Intercity Commuters among Employees

	Residents (persons)	Workers (per- sons)	Workers/ Resi- dents	Intra-Gu Commuters		Inter-Gu Commuters		Intercity Commuters	
				Number (persons)	Propor- tion (%)	Number (persons)	Propor- tion (%)	Number (persons)	Propor- tion (%)
Jongno-gu	113	166	1.47	39	34.5	73	64.6	1	0.9
Jung-gu	191	217	1.14	81	42.4	108	56.5	2	1.0
Yongsan-gu	116	112	0.97	60	51.7	54	46.6	2	1.7
Seongdong-gu	148	203	1.37	83	56.1	63	42.6	2	1.4
Gwangjin-gu	66	35	0.53	10	15.2	56	84.8	0	0.0
Dongdaemun-gu	184	158	0.86	81	44.0	95	51.6	8	4.3
Jungnang-gu	60	12	0.20	3	5.0	56	93.3	1	1.7
Seongbuk-gu	104	30	0.29	2	1.9	99	95.2	3	2.9
Gangbuk-gu	59	13	0.22	1	1.7	58	98.3	0	0.0
Dobong-gu	46	17	0.37	1	2.2	44	95.7	1	2.2
Nowon-gu	236	228	0.97	148	62.7	87	36.9	1	0.4
Eunpyeong-gu	146	28	0.19	23	15.8	110	75.3	13	8.9
Seodaemun-gu	121	89	0.74	39	32.2	72	59.5	10	8.3
Mapo-gu	75	55	0.73	8	10.7	66	88.0	1	1.3
Yangcheon-gu	320	298	0.93	227	70.9	81	25.3	12	3.8
Gangseo-gu	309	304	0.98	239	77.3	57	18.4	13	4.2
Guro-gu	235	191	0.81	136	57.9	85	36.2	14	6.0
Geumcheon-gu	63	30	0.48	5	7.9	57	90.5	1	1.6
Yeongdeungpo-gu	231	199	0.86	122	52.8	106	45.9	3	1.3
Dongjak-gu	150	90	0.60	23	15.3	123	82.0	4	2.7
Gwanak-gu	278	85	0.31	48	17.3	227	81.7	3	1.1
Seocho-gu	186	248	1.33	62	33.3	78	41.9	46	24.7
Gangnam-gu	99	301	3.04	31	31.3	36	36.4	32	32.3
Songpa-gu	68	39	0.57	7	10.3	50	73.5	11	16.2
Gangdong-gu	34	28	0.82	5	14.7	29	85.3	0	0.0
Seoul Metro- politan Area (Except Seoul)	50	197	3.94		0.0	37	74.0	13	26.0
No Specific Place of Work		315							
Total	3,688	3,688		1,484	40.2	2,007	54.4	197	5.3

Source: Compiled and computed by authors based on internal source from Seoul Job Placement Center for the Eldely in 2005.

[Gangnam-gu/Seocho-gu] that seems to be spreading into Songpa-gu and other regions is the significant rates of commuting occurring both within and between these local areas. For example, in the case of Gangnam-gu’s elderly,

Table 15. Classification of Regions by Employment Opportunities and by Commuting Conditions

	Employment Opportunities	Rate of Intra-Gu Commuting	Rate of Inter-Gu Commuting	Rate of Intercity Commuting	Regions
Type I	High	Middle	Middle	Low	Gangnam-gu, Seocho-gu, Songpa-gu
Type II	High	Middle	Middle	Low	Jongno-gu, Jung-gu
Type III	Middle	High	Low	Low	Gangseo-gu, Guro-gu, Nowon-gu, Seongdong-gu, Yangcheon-gu, Yeongdeungpo-gu, Yongsan-gu
Type IV	Low	Low	High	Low	Gangdong-gu, Gangbuk-gu, Gwanak-gu, Gwangjin-gu, Geumcheon-gu, Dongdaemun-gu, etc.

the commuting ratio within Gangnam-gu stands at 31.3%. From Gangnam-gu to Seocho-gu and Songpa-gu, the commuting percentage is high at 24.2%. From Gangnam-gu to the outskirts of Seoul (beyond the Seoul within the Capital region), the percentage of commuters is a high 32.3%. Commuting rate to the outskirts of Seoul from Gangnam-gu is 32.3%, from Seocho-gu it is 24.7%, and from Songpa-gu it is 16.2%, while the commuting rate to the outskirts of Seoul for the rest of the districts standing at significantly less than 10%. Gangnam-gu, Seocho-gu and Songpa-gu alone show high commute ratios. [Gangnam-gu/Seocho-gu] each show short- and long-distance commuting by elderly groups. The short-distance commutes are due to the many employment opportunities in these two regions. Many of the elderly working far from home are able to do so because the capacity constraint on commuting are easy to overcome. On the other hand, workers commuting to Gangnam-gu are relatively evenly distributed across all of Seoul.

If the ratio of workers to residents in each district is examined, Gangnam-gu, Seocho-gu and Seongdong-gu, Jongno-gu and Jung-gu districts show that the ratio is greater than 1 (resident < workers), representing that jobs in these districts appear relatively plentiful. On the other hand, Gangbuk-gu, Gwanak-gu, Geumcheon-gu, Dobong-gu, Seongbuk-gu, Eunpyeong-gu and Jungnang-gu show a ratio of less than 0.5%, revealing that jobs for the elderly

are relatively lacking in those districts.

Based on the results above, depending on the state of commuting in each district (Table 15), it was observed that each district of Seoul had characteristic job opportunities and traffic conditions. There is a wide range of job opportunities in the Gangnam area such as Gangnam-gu, Seocho-gu and Songpa-gu; and in the central city regions such as Jongno-gu and Jung-gu. According to the long-distance commuter ratios, the relatively high mobility of elderly workers in the Gangnam district has led to higher Type I long-distance commuting. However, in the areas where mobility is more limited, there is a lower rate of long-distance commuting, equivalent to Type II. Employment opportunities for middle-level Type III show a high rate of local commuting with low rates of commuting beyond the local district or out of the city for the elderly in Nowon-gu, Guro-gu, and Gangseo-gu. For Type IV, the employment opportunities are low and there are few jobs. Thus, the rate of the elderly commuting locally for work was lower, while those traveling outside of their district to work was higher. However, the analysis showed that the rate of long-distance commuting was low due to low mobility in the Type IV.

VI. CONCLUSION

This research examines the characteristics of Seoul's aging population and analyzes the structure and characteristics of the employment of the elderly. A summary of the research's findings follows. First, Seoul's aging population phenomenon has progressed rapidly over the last 30 years. This is especially true when comparing the evidence of the rapid progress of the aging index of Seoul to that of Gyeonggi and Incheon. Currently, Seoul is in the process of becoming a relatively 'elderly city'. Second, when looking at the aging index and longevity index for the last 30 years, distinctions between the districts of Seoul emerge. The result is that the aging index for the central city area is highest, while the longevity index is highest in the Gangnam district. Seoul's central districts [Jongno-gu/Jung-gu/Yongsan-gu] are areas where the characteristics of population aging and high elderly population ratio and aging index (Class I) can easily be seen. On the other hand, while the

elderly job seeker/job site indexes were low, their effect on the job availability of the central area of the city was to provide many employment positions. Classifications were assigned according to employment opportunities and travel conditions, leading to a lot of Type II employment opportunities. The Gangnam district [Gangnam-gu/Seocho-gu] is part of a relatively young region with a low percentage (Class III) of the elderly population and a medium (Class II) aging index. On the other hand, it is the region with the highest (Class I) tier of longevity index. Similar to the central city area, the job seeker/job sites indexes of this region are low, which is interpreted to mean that there are also a relatively high number of job openings. A characteristic of the elderly in this area is that they appear to have a higher degree of mobility with a larger ratio (Type I) engaging in long-distance commutes. Third, the polarization in the employment distribution of Seoul's elderly is evident. In Seoul, the general employment ratio of seniors 65 and over stands at 32.4% and is significantly higher than the national and Gyeonggi/Incheon averages. Fourth, the regional distinctions of employment in Seoul emerge clearly. Although employment opportunities are limited to certain occupations, job opportunities are concentrated away from the outlying residential districts. In this regard, the result of the analysis of data from elderly employment placement centers was that geographically, job sites and job seekers did not correspond. The lack of mobility of older workers contributes to their difficulty in obtaining employment far from home and is a condition that needs to be addressed.

Based on the findings of this research, there is a need for follow-up studies. Such studies would allow better understanding of the aging phenomenon in urban areas and, more specifically, assist in the development of corresponding policies. In particular, aging has been mitigated by the influx of a younger population into Seoul. This rapid urban migration phenomena is well-known to result in the start of a region's aging phenomena. If this is so, the aging trend of Seoul could be accelerated. Thus, follow-up studies are needed to determine the long-term prospects for the aging trend of Seoul, the trend of population movement, the industrial structure of Seoul and the changes in social structure. Second, studies are needed on the aging phenomenon within Seoul's regional differentiation, and the phenomenon within Seoul of the formation of a particular employment center and, to confirm the close

relationship of growth and decay to these processes. The development of this aging phenomenon and the characteristics of the district's structural employment are generally based on establishing relationships. Incorporating aging and elderly employment policies into city and district policies will be an important part of this. Third, there has been much discussion about the aging of the population. However, as we can see, as a regional phenomenon, the approach to aging is only in its initial stages. The aging phenomenon is a geographical phenomenon. Consequently, it is well overdue that we think about using a traditional study of geography and closely related topics. As such, in the future, the importance of geography may dictate the influence that changes in the aging of community populations will have on accumulated research results, not only in terms of employment, but also with regard to the use of industry, welfare, housing, recreation, transportation, and various other socio-cultural components.

More specific details of policy implications are as follows: First, an effort should be made to grasp the realities of the aging phenomenon and elderly employment, and to establish measures for identifying and instituting a macro-micro policy as well as implementing related policies at the regional level. In particular, in the many cases of poor geographical mobility, policies must support distinguishing on a geographical scale the nature of elderly persons seeking employment close to home. Second, since there are relatively few employment opportunities, districts with low local commute ratios such as in Seoul's outer districts of Gangdong-gu, Gangbuk-gu, Gwanak-gu, Gwangjin-gu, Geumcheon-gu, and Dobong-gu (Table 15, Type IV), the policies for job creation and job placement for the elderly may need further enhancement. Traditionally these districts have not been centers of significant employment and have the characteristics of residential areas. Job placement policies that only target private sector (private industry) job placement are limited. Thus, child care services and disability services within the scope of public works/services at the community level have to be combined with a more fundamental expansion of job sectors, such as job creation measures. Third, elderly employment placement may need to diversify beyond the target occupations. There is much material and basic statistical data on elderly workers from Seoul Job Placement Center for the Elderly that indicate the restriction of elderly workers to the field of elementary worker, which is

concentrated in the areas of housework, delivery services, cleaning services, and security services. This means that except for limited employment opportunities, the majority of jobs for elderly people are found only in certain occupations. In addition, it is necessary to institutionalize the system to develop a variety of career paths for experienced elderly persons with professional skills.

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