

Policy Report 2016-08

Development and Application of Age Integration Indicator (AII)



Kyunghee Chung

Development and Application of the Age
Integration(AII)

Kyunghee Chung, Senior Research Fellow

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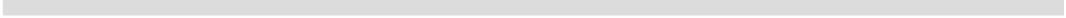
Korea Institute for Health and Social Affairs
Building D, 370 Sicheong-daero, Sejong city
30147 KOREA

<http://www.kihasa.re.kr>

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I

Introduction

I

Introduction <<

Population aging affects society in quite diverse ways, making it impossible for policymakers to tackle and manage the phenomenon effectively through policies catering to older persons only. Population aging demands fundamental reforms of the basic social makeup and principles. One such reform that is in demand today is the transition to a more age-integrated society. Much of the literature on this topic, however, remains at the theoretical level and lack the empirical basis necessary to identify the degree of age integration in a given society or define appropriate and effective measures for promoting age integration. Having recognized these needs, we intend to develop an age integration indicator(AII) capable of empirically identifying the degree of age integration. We will then apply our indicators to determine the status of age integration and age segregation in Korean society and identify policy implications.

This study is structured as follows. First, we examine and explore the concept and significance of age integration. Our discussion on how to approach and define the concept of age integration, and what the relevant discussions imply for society at large, is conducted at both the theoretical and practical levels. Second, based on the foregoing discussion, we develop an in-

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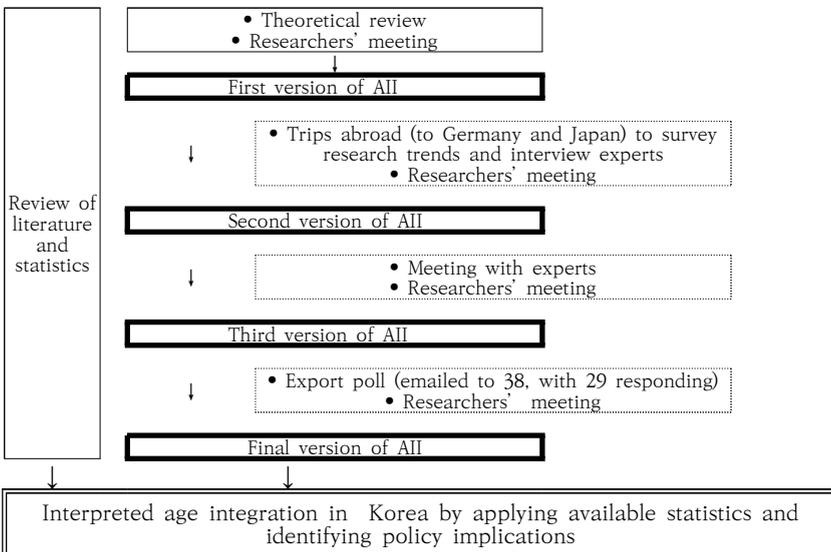
indicator system capable of measuring the extent of age integration in a given society. Third, we apply some of the individual indicators in our indicator system, backed by available statistical data, to identify the progress of age integration in Korean society. Where there were data available for international comparison, we also applied our indicators to countries representing different welfare states—i.e., the United States as a liberal welfare state, Japan and Germany as corporatist welfare states, and Sweden as a social democratic welfare state¹⁾—in order to understand the status of age integration in Korea in both absolute and comparative terms. We incorporate time-series-based comparisons into our analyses using the individual indicators with available data so as to determine how age integration has been changing and evolving over time. Finally, based on the results of our analyses, we identify policy implications and devise theoretical measures for improving the inclusiveness and applicability of our indicator system.

Having set these tasks for ourselves, we first reviewed and compared various theories and indicators proposed both inside and outside Korea regarding age integration. We then identified the available sources of statistics and data in Korea. Next, we interviewed and exchanged opinions with experts abroad, particularly in Germany and Japan. Third, we organized and held expert advisory meetings to verify the content validity of

1) Based on the typology of Esping-Andersen (1990).

the AII. Summarizing the opinions expressed in our expert poll on the AII, we refined and produced the final version of our indicator system. The poll also allowed us to hear experts' views regarding the status of age integration in Korea. The questionnaire for the expert poll was distributed via email, along with explanations of the background of the AII and the concepts involved, thereby facilitating polltakers' understanding of our project. The questionnaire was emailed to 38 experts in Korea, among whom 29 responded. With the goal of gathering more feedback, we had our indicator system translated into English, and shared it, via email, with experts abroad who had authored research papers on age integration. Figure 1 summarizes this research process.

[Figure 1] Research Process



II

Literature Review

1. Background
2. Literature on indicator development

II

Literature Review <<

1. Background

Age integration has been a topic of interest for researchers and policymakers for a few decades already. The conceptual framework of age integration was established around 2000. Since then, researchers have been focusing on empirical reviews of the established theories rather than producing new theories (Kohli, 1988; Riley et al., 1994; Riley and Riley, 1999). Much of the literature since 2000 has dealt with particular policymaking areas or subjects, and therefore does not provide a comprehensive perspective on age integration as a structural response to population aging.²⁾

There is thus a dearth of empirical studies addressing the structural and society-wide delay in the progress of age integration. In an effort to develop an indicator system capable of empirically identifying a given society's trends toward age integration, we first reviewed the major indicators of age integration. On its own, this review should contribute to the theoretical discussions on the topic. In our review, we also considered whether the two main indicators of age integration

²⁾ See Chung, G. (2004) for the concept and elements of age integration, characteristics of age-integrated societies (as opposed to age-segregated ones), and benefits of age integration.

—age flexibility and age diversity—are sufficient to measure age integration, and whether other factors should also be considered. Some have pointed out that the transition of a society from age segregation to age integration might deny older persons the protection they used to enjoy in age-segregated institutions, leaving them socially unprotected. This is a criticism worthy to be taken seriously in the development and application of age integration indicator systems.

The studies by Chung, S. et al. (2015) and Choi, H. et al. (2015b) are the only ones conducted prior to the present study on the development of an age integration indicator system. Jeong, S. et al. (2015) focus on the process of developing an indicator based on expert polls, including neither a theoretical review of the overall structure of the system developed nor an analysis of the actual application. Choi, H. et al. (2015b), on the other hand, use the available data on the 33 OECD countries to identify the extent of age integration in each. However, the indicator used approaches age integration from the perspective of older persons rather than social members of all ages.

The shortcomings of the established literature call for greater efforts to expand the theoretical discussions on the paradigm of age integration itself. Furthermore, they require a comprehensive study, such as the present one, which develops a more inclusive indicator based upon such theoretical discussions and which demonstrates the utility of that indicator.

2. Literature on indicator development

Table 1 provides a list of notable age integration indices that have been developed Korea and elsewhere. Our review of these indices forms the basis of the AII and its individual indicators we developed in this study.

〈Table 1〉 Age Integration Indices: Framework for the AII

Type	General		In relation to population aging		Focusing on older persons	
	Abroad	Korea	Abroad	Korea	Abroad	Korea
Social indices	- UN Social Indicators (UN) - HDI (UNDP)	Social Indicators of Korea (Statistics Korea)	- GAPI (CSIS)	Population Aging Response Index (Jeong, H. et al.)	N/A	N/A
Social cohesion	- Social Cohesion Indicator (Council of Europe) - Social Exclusion Index (EU)	Social cohesion indices (Roh et al. and Kang et al.)	N/A	N/A	- Age Discrimination Scale (Palmore et al.)	- Age Discrimination Indicator (Kim, J. et al.)
Quality of life	Better Life Initiative (OECD)	National Quality of Life Indicator (Statistics Korea)	N/A	N/A	- Active Ageing Indicator (UNECE and European Commission) - Global AgeWatch Index (HelpAge)	Quality of Life Indicator System for Older Persons (Chung, K.)

Our review of these existing studies on the development of age integration indices reveals a number of important questions to consider. First of all, from whose perspective, and for whom, should we develop such an indicator? General social indices, as they cover all members of society, may be of help in understanding society in general, but not in mainstreaming age. On the other hand, the anti-ageist approach tends to focus on developing indicators from the perspective of older persons, but is of little help to this study, as our goal is to determine how age serves as a barrier to social integration and how it becomes a source of differences in quality of life. In order to overcome these limitations, we decided to develop an indicator that measures the levels of social cohesion and quality of life by mainstreaming age.

Second, on which part of policymaking—the process or the outcome—should we focus in applying our indicator? Considering the inevitable interaction between the social structure and individuals, we concluded that policy outcomes would provide a better reflection of actual age integration. Jeong, H. et al. (2012) has provided an age integration indicator that divides policy factors into three types, i.e., policy responses, policy outcomes, and policy conditions. Of these, policy outcomes offer a better fit with the purpose of this study, as our goal is to assess the current status of age integration in Korea using available time-series and international data. Policy conditions

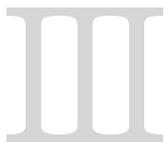
and responses reflect the particular circumstances and history of a given society and therefore may stand in the way of objective international comparison. In Vanhuyse (2013), we see how focusing an indicator—in this case, an indicator of intergenerational justice—on policy responses and conditions leaves the measurements susceptible to the level of population aging and the phase of welfare state development specific to each society. This suggests that such an indicator may fail to provide objective and comparable results.

Third, are there any common indicators used by multiple studies? Our review reveals that education, income, health, social participation (employment and leisure activities alike), and family life have been used as common indicators in many of these studies. Value systems and local environments tend to be emphasized more in the indices of social cohesion than social indices in general. In developing the AII, therefore, we took into account education, income, health, social participation, and family life, as well as local communities and value systems.



Development of the AI

1. Basic requirements
2. Structure



Development of the AII <<

1. Basic requirements

The basic requirements underlying the AII development process included the following. First, we aim to conduct a thorough examination to determine whether there are other measures besides age flexibility and age diversity that should be reflected in the concept of age integration, and use the results thereof to develop individual indicators. In order for society to become age-integrated, efforts are required to reduce age segregation and increase age integration. The phenomena that accompany these processes should also be taken into account in conceptualizing age integration and developing an indicator. Second, this study is set to develop an indicator that reflects the perspectives of all age groups, not just those of older persons. The reason for this is that existing studies on age integration developed and used individual indicators that cater exclusively to older persons, and thereby failed to explain how age integration achieves its guiding ideals—namely, social sustainability and improved quality of life. In designing an age integration indicator system and developing the specific individual indicators to be included, we must consider how age integration is related to social cohesion and better quality of

life so that the indicator system developed can be used in a wide range of policy areas.

2. Structure

We developed an indicator consisting of 3 categories, 9 variables, and 20 individual indicators based on surveys of the established literature and statistics available inside and outside Korea, face-to-face interviews conducted with experts in Germany and Japan, and the results of expert advisory meetings and an expert poll.

〈Table 2〉 Structure of the All

Category	Variable	Description	Individual indicator
Age flexibility	1. Education	Availability of learning opportunities for different age groups	1-1. Rate of enrollment in educational institutions by age
		Availability of lifelong education for different age groups	1-2. Rate of participation in lifelong education by age
	2. Employment	Availability of job opportunities for different age groups	1-3. Rate of unemployment by age
		Availability of stable job opportunities for different age groups	1-4. Rate of stable employment by age
	3. Social participation	Age distribution or concentration in volunteer activities	1-5. Rate of participation in volunteer activities by age
		Age distribution or concentration in political participation	1-6. Rate of participation in politics by age
Age distribution or concentration in leisure activities		1-7. Rate of participation in cultural and leisure activities by age	
Age diversity	1. Family	Availability of diverse forms of support within families	2-1. Intergenerational support exchange by age
		Availability of opportunities to	2-2. Amount of time spent on

III. Development of the All 19

Category	Variable	Description	Individual indicator
Age equality	2. Workplace	interact with different age groups within families	family relationships
		Availability of opportunities to interact with different age groups at work	2-3. Age structure of employees
	3. Community	Availability of physical basis for interactions among different age groups—i.e., accessibility of public transportation infrastructure (Assuming that, the fewer physical barriers to mobility and activity there are, the greater the intergenerational interaction.)	2-4. Satisfaction with public transportation among people aged 50 or older
		Availability of cultural basis for interactions among different age groups (Assuming that, the closer the different age groups are in terms of social status, the greater the intergenerational interaction.)	2-5. Age gap in social status
		Social cohesion among different age groups (Assuming that, the more different age groups are recognized as members of the community, the greater the intergenerational interaction).	2-6. Recognition of diverse age groups as community members
	Age equality	1. Health	Age-associated differences in physical activity (not considering declines in physical activity due to aging-associated chronic diseases)
Age-associated differences in mental health			3-2. Age gap in incidence of depression
Age gap in access to medical services			3-3. Age gap in people foregoing medical treatment
2. Education and information		Age gap in the quality of human capital	3-4. Age gap in education level
		Age gap in the ability to gather and use information	3-5. Age gap in informatization level
3. Income and housing		Age gap in access to minimum economic resources	3-6. Age gap in poverty rates
		Age gap in access to minimum residential standard	3-7. Age gap in number of people living below housing baseline
Three categories	Nine variables	20 individual indicators	

Note: The representative indicators for each category are indicated in boldface.

IV

Application

1. Age integration in Korean society: an international comparison
2. Evolution of age integration in Korea
3. Experts' assessment

1. Age integration in Korean society: an international comparison

1) Age flexibility in Korea

a) Education

(1) Rate of enrollment in educational institutions by age

The rate of enrollment in educational institutions among those aged 20 and older remains persistently low worldwide, and especially so in Korea. The rate of enrollment in the 5-14 age group in Korea is a resounding 99 percent, and remains high in the 15-19 group, at 87 percent. However, the rate drops drastically to 31 percent in the 20-29 age group, and plummets even further to two percent in the 30-39 age group.

With the exception of Sweden, the rate of enrollment in educational institutions in age groups above 30 remains very low worldwide. The difference in the rate of enrollment between the pre-30 and post-30 age groups in Sweden is relatively small, suggesting that the Swedish education system is significantly more flexible than the education systems of other countries.

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To summarize, in each of the five countries compared, the age flexibility of education opportunities remains low. However, the rate of enrollment in educational institutions for age groups above 30 in Korea remains particularly low, falling below the OECD average.

〈Table 3〉 Rate of Enrollment in Educational Institutions by Age

(Units: percentage, percentage points)

Age group	Korea	U.S.	Japan	Germany	Sweden	OECD-wide
Overall	-	-	-	-	-	-
2 or below	37	m	n	8	a	4
3-4	86	52	86	93	93	76
5-14	99	97	100	99	99	98
15-19	87	81	m	90	86	83
20-29	31	27	m	33	36	28
30-39	2	6	m	4	14	6
40+	n	1	m	n	3	1
Difference (maximum-minimum)	97	96	-	95	96	97

Notes: 1) As of 2012.

- 2) No whole-population statistics were available at the time this study was written.
- 3) The rates of enrollment in educational institutions are based upon the enrollment rate, which is one of the education indicators used by the OECD. Enrollment rate by age = (number of students at given age/population at given age) x 100.
- 4) The OECD enrollment rate by age group for Korea includes the number of children enrolled in kindergartens and nurseries (including national/public, nonprofit, corporate, workplace-associated, parental cooperative, and private institutions).
- 5) "n": either insignificant or zero. "m": no data available. "a": no research has been done

Source: OECD (2014), *Education at a Glance 2014*, p. 312.

(2) Rate of participation in lifelong education by age

The rates of participation in lifelong education range between 40 and 60 percent in the five countries compared, which is relatively high. Of the five countries, Sweden topped the list with a rate of 66 percent. The lifelong education participation rates in Korea, on the other hand, were strikingly low in the older age groups (45 percent in the 45-54 age group and 32 percent in the 55-64 age group). The trend is somewhat similar in Japan.

In Germany, the United States, and Sweden, on the contrary, the lifelong education participation rates remain consistently high until age 54. Even in Japan, the differences among age groups below age 54 are relatively small. The rate in Germany, on the other hand, dropped significantly among people aged 55 or older.

The lifelong education participation rate for people aged 45 or older in Korea remains far below the OECD average, suggesting a lack of age flexibility in the nation's lifelong education system. Korea was also the country with the largest age gap in the lifelong education participation rate (11.8) among the five countries compared. The United States showed the smallest age gap (6.4) in this regard.

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〈Table 4〉 Rate of Participation in Lifelong Education by Age

(Unit: percentage)

Age group	Korea	U.S.	Japan	Germany	Sweden	OECD-wide
Overall (25-64)	50	59	42	53	66	51
25-34	63	68	49	63	77	62
35-44	56	62	44	58	68	56
45-54	45	56	46	54	68	51
55-64	32	51	31	36	51	34
Level of age flexibility ³⁾	11.8	6.4	6.9	10.2	9.4	10.4

Notes: 1) As of 2012.

2) The figures listed in the table are quoted from “Participation in formal and/or non-formal education by PIAAC literacy proficiency level and age group” (2012), based upon the OECD’s *Survey of Adult Skills*. While the rates for “formal education only” should have been excluded from this table, the rates were included due to the lack of age-specific analyses. The “formal education only” rates for entire populations were 0.99 for Korea, 4.32 for the United States, 0.92 for Japan, 2.74 for Germany, and 4.58 for Sweden.

3) The Program for the International Assessment of Adult Competencies (PIAAC) is an instrument with which the OECD measures the distribution of core competencies across each given society. The core competencies measured include linguistic, mathematical, and computer-based problem-solving skills.

Source: OECD (2014), p. 399.

b) Employment

(1) Rate of Unemployment by age

Korea is among the countries with relatively low unemployment rates (3.5 percent) today. In addition, the distribution of job opportunities in Korea boasts relatively sound age flexi-

3) The level of age flexibility was measured using the formula presented in Part IV. The higher the resulting figure, the lower the level of age flexibility. The same holds for the rest of this section.

bility (2.98). The unemployment rate of the Koreans aged 15 or older is 3.5 percent. Only young people aged 15 to 34 have an unemployment rate higher than the population-wide average. The unemployment rate for the 15-24 age group is the highest at 10.0 percent, while that for the 25-34 age group is 5.7 percent. The unemployment rate for those aged 35 or older, ranges between 2.0 and 2.4 percent, with people aged 65 or older having the lowest figure at 2.0 percent.

The age gap in unemployment rates in Korea is neither high nor low compared to those of other countries. The 65+ age group shows the lowest unemployment rate in all of the countries compared, except for the United States. The overall unemployment rate for Germany is 5.0 percent, while that of the 65+ age group is 0.7 percent, which is the lowest among all five countries compared. The unemployment rates for the 15-24 and 25-34 age groups in Germany are 7.8 percent and 5.8 percent, respectively, while those for the age groups between ages 35 and 64 range between 4.1 and 5.1 percent. In the United States, where the overall unemployment rate is 6.2 percent, the unemployment rate for the 65+ age group is 4.6 percent, higher than that of the age groups between ages 45 and 64 (4.3 to 4.4 percent). The unemployment rates for the 15-24 and 25-34 age groups in the United States are 13.4 percent and 6.5 percent, respectively.

The overall unemployment rate in Japan is 3.6 percent, sim-

ilar to that of Korea. However, the age gaps in Japan's unemployment rates are relatively small. The unemployment rate for the 15-24 age group in Japan, for example, is 6.3 percent, 3.7 percentage points lower than that of Korea, while the rate for the 65+ age group is 2.3 percent, 0.3 percentage points higher than that of Korea. The unemployment rates for the age groups between ages 35 and 64 in Japan hover within the low three-percent range, which is about one percentage point lower than that of Korea. Of the five countries compared, Sweden was the only one with an overall unemployment rate (7.9 percent) higher than the OECD average (7.3 percent). The unemployment rate for the 15-24 age group in Sweden is as high as 22.9 percent, almost eight percentage points higher than the OECD average of 15.1 percent. However, the unemployment rates for Sweden's other age groups are lower than the OECD averages (except for the 55-64 age group, which is 5.4 percent, or 0.2 percentage points higher than the OECD average), showing little difference from those of the other four countries.

〈Table 5〉 Rate of Unemployment by Age

(Unit: percentage)

Age group	Korea	U.S.	Japan	Germany	Sweden	OECD-wide
Overall	3.5	6.2	3.6	5.0	7.9	7.3
15-24	10.0	13.4	6.3	7.8	22.9	15.1
25-34	5.7	6.5	4.6	5.8	7.7	8.6
35-44	2.4	4.7	3.4	4.4	5.4	6.2
45-54	2.2	4.4	3.0	4.1	4.9	5.6
55-64	2.5	4.3	3.3	5.1	5.4	5.2
65+	2.0	4.6	2.3	0.7	2.8	2.9
Level of age flexibility	2.98	3.26	1.32	2.17	6.74	3.88

Note: As of 2014.

Source: OECD database (<http://stats.oecd.org>, accessed on September 30, 2015).

(2) Rate of stable employment by age

The rate of stable employment in Korea is 49.8 percent, suggesting that about half of the Korean workforce holds stable jobs. There are, however, large gaps in the rates of stable employment between different age groups, with the rate for the 65+ age group being the lowest at 12.4 percent, followed by 30.5 percent for the 15-24 age group and 35.8 percent for the 55-64 age group. On the contrary, the 25-54 age groups enjoy significantly higher rates of stable employment, ranging from 50.7 percent to 68.7 percent. Of these, the 25-34 age group has the highest rate of stable employment.

While there are no identical indicators used outside Korea, the OECD's self-employment rate provides a relevant measure. Governments abroad pay attention to self-employment rates for reasons quite different from those for which the Korean

government pays attention to them. Prior to the outbreak of the Asian financial crisis in 1997, the Korean economy was growing at a rapid pace, with retirement in old age almost guaranteed for the vast majority of workers. Until that time, job security had not been a major social issue in Korea. Since 2000, however, the Korean labor market underwent massive transformations amid repeated corporate restructuring, with increasing numbers of people in their 40s and 50s either dismissed or forced to retire. The majority of such early retirees chose self-employment as an alternative means of making a living, engendering a host of related social issues.

The proportion of self-employed people in a nation's workforce tends to decrease as the nation's economy advances. However, the proportions of self-employed people have been increasing slightly in advanced economies due to the significant growth in the numbers of well-educated, high-income freelance professionals. A low self-employment rate, therefore, does not necessarily guarantee a high level of job security. As of 2011, the self-employment rate in Korea was 28.2 percent, which was the third highest among OECD member states, next to the 38.3 percent of Turkey and 33.7 percent of Mexico. The self-employment rates in other countries included 11.9 percent in Japan, 11.7 percent in Germany, 10.4 percent in Sweden, and 6.8 percent in the United States.

〈Table 6〉 Rate of Stable Employment by Age

(Unit: percentage)

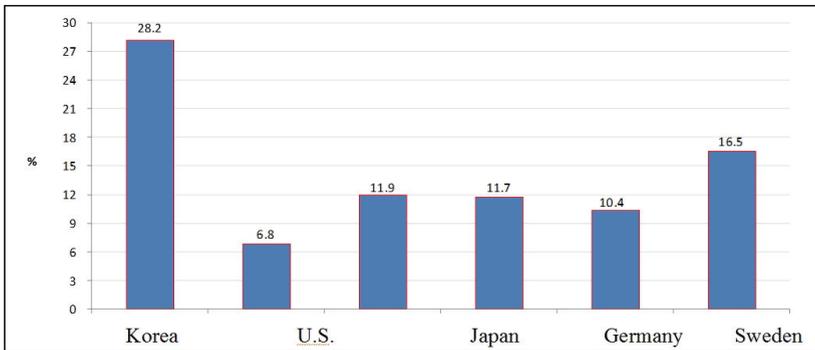
Age group	Korea	U.S.	Japan	Germany	Sweden	OECD-wide
Overall	49.8 (28.2)	(6.8)	(11.9)	(11.7)	(10.4)	(16.5)
15-24	30.5	-	-	-	-	-
25-34	68.7	-	-	-	-	-
35-44	63.1	-	-	-	-	-
45-54	50.7	-	-	-	-	-
55-64	35.8	-	-	-	-	-
65+	12.4	-	-	-	-	-
Level of age flexibility	20.42	-	-	-	-	-

Note: The figures in parentheses represent the self-employment rates.

Sources: Statistics Korea (2014), raw data for the *Economically Active Population Survey 2014*; OECD database (<http://stats.oecd.org>, accessed on September 30, 2015).

[Figure 2] Self-Employment Rates by Country

(Unit: percentage)



Source: OECD database (<http://stats.oecd.org>, accessed on September 30, 2015).

c) Social participation

(1) Rate of participation in volunteer activities by age

The available statistics on volunteering in Korea (Social Statistics) show significant age gaps, as most secondary schools require enrolled students to engage in mandatory volunteer work as part of their college admission requirements. We thus relied on international data in analyzing the age gaps in volunteer work.

The World Values Survey (WVS) provides information on the participation of different age groups in humanitarian and charity organizations. The survey reveals important differences between Korea and other countries. In Korea, as in Japan, the rates of participation in volunteer activities are quite low across all age groups. In particular, the 60+ age group in Korea shows markedly less participation than do their counterparts in the United States, Japan, and Sweden.

As for the age flexibility of participation in volunteer activities with humanitarian and charity organizations, Japan was at the bottom of the list (0.87), as all of its age groups, except for the under-20 group, participated little in such activities, with Korea next above it (1.06). Germany was in the middle, and the United States and Sweden showed far higher rates of participation, owing mainly to their 60+ age groups.

〈Table 7〉 Rate of Participation in Volunteer Activities by Age

(Unit: percentage)

Age group	Korea	U.S.	Japan	Germany	Sweden	OECD-wide ²⁾
Overall	2.0	15.8	1.5	5.6	10.9	7.1
Under 20	0.0	15.1	0.0	5.6	2.3	6.5
20-29	0.9	8.8	1.5	2.7	4.5	5.7
30-39	3.0	13.7	0.7	4.4	13.5	5.9
40-49	2.5	13.8	0.5	4.0	10.3	7.0
50-59	2.5	17.8	1.8	8.6	11.5	8.4
60+	1.5	22.3	2.2	6.7	14.2	8.3
Level of age flexibility	1.06	4.18	0.87	1.94	4.72	1.1

Notes: 1) As of 2012.

2) The rates of participation in volunteer activities are the proportions of populations participating in humanitarian and charity organizations used in the WVS.

3) Of the 52 countries included in the WVS, only the 14 OECD countries (i.e., the Netherlands, New Zealand, Germany, Sweden, Spain, Slovenia, Estonia, Japan, Chile, Turkey, Poland, Korea, and Australia) were analyzed.

Source: WVS (2010-2012), *World Values Survey Wave 6*.

(2) Rate of participation in politics by age

Korea and the other countries compared show similar patterns in terms of participation in nationwide elections, as analyzed by the WVS. Older age groups tend to be more active voters in elections than younger groups. This finding agrees with the results of the voter turnout analysis of the National Election Commission (NEC) of Korea.

In Korea, whereas about 60 percent of people in their 20s participate in elections, almost 95 percent of people in the 60+ age group vote in elections. This makes Korea the country with the greatest age gap in political participation, followed by the

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United States. Sweden, on the other hand, showed the smallest differences due to age in political participation (3.24).

〈Table 8〉 Rate of Participation in Politics (Voting) by Age

(Unit: percentage)

Age group	Korea ¹⁾	Korea ²⁾	U.S.	Japan	Germany	Sweden	OECD-wide
Overall	54.2	85.0	79.9	90.3	83.4	93.8	88.7
20-29	41.6	67.6	64.4	78.4	80.4	89.2	79.1
30-39	45.5	83.4	71.5	87.6	70.1	92.4	86.2
40-49	52.6	93.9	81.8	92.0	80.0	93.9	90.2
50-59	62.4	93.2	87.5	93.0	86.6	95.8	91.6
60+	68.6	94.6	92.4	96.6	92.7	98.9	93.8
Level of age flexibility	10.12	10.44	10.29	6.29	7.66	3.24	5.2

Notes: 1) As of 2012.

2) Voting rate in Korea = (number of actual voters/number of eligible voters) x 100.

3) All of the figures listed in this table are actual voting rates. The voting rates by age for Korea were obtained from the voting rate sample surveys conducted by the NEC after each election.

4) Of the 52 countries included in the WVS, only the 14 OECD countries (i.e., the Netherlands, New Zealand, Germany, Sweden, Spain, Slovenia, Estonia, Japan, Chile, Turkey, Poland, Korea, and Australia) were analyzed.

Sources: NEC (2012), *Analysis of Voting Rates in General Elections (for Korea¹⁾ only*; WVS(2010-2012), *World Values Survey Wave 6* (for Korea²⁾ and the rest).

(3) Rate of participation in cultural and leisure activities by age

Age gaps in participation in cultural and leisure activities were measured by identifying each country's age-group-specific rates of participation in sports, outdoor activities, and cultural and artistic organizations. The data provided by the WVS were used here again, and revealed similar patterns among all of the five countries compared. First, the under-20 age group

was the most active in this regard in all five countries. Second, the 60+ age group was the least active in Korea, Germany, and the United States. By contrast, the participation rates in Japan and Sweden were lower in the age groups between ages 30 and 59, but rose again in the 60+ age group.

As for the age flexibility in participation in leisure activities, Germany and the United States show significant gaps between their under-20 age groups and all-age averages. In Korea, the rate of participation in leisure activities in the under-20 age group is quite high, standing at 31.8 percent. The rates for the other age groups range relatively evenly from 15 to 20 percent, placing Korea in the middle in terms of the age gap (7.47). The rates of participation in leisure activities were more consistent across age groups in Japan and Sweden, translating into age gaps of only 5.08 and 4.22, respectively. Sweden is noteworthy because its overall rate of participation was quite high, while the age gap was also very small.

〈Table 9〉 Rate of Participation in Cultural and Leisure Activities by Age

(Unit: percentage)

Age group	Korea	U.S.	Japan	Germany	Sweden	OECD-wide ²⁾
Overall	15.0	23.2	19.2	30.9	30.9	24.0
Under 20	31.8	43.4	30.6	50.0	36.4	41.2
20-29	16.1	24.7	20.8	39.5	31.5	28.1
30-39	17.0	24.4	17.7	35.8	30.8	23.2
40-49	15.4	24.0	15.7	31.8	36.9	23.8
50-59	16.6	21.2	17.5	27.7	24.6	21.7
60+	8.3	20.1	21.5	24.4	29.8	21.1
Level of age flexibility	7.47	8.44	5.08	9.28	4.22	7.40

Notes: 1) In Korea, Germany, and other countries (i.e., rates of participation in sports, outdoor activities, and cultural and artistic organizations).

2) Of the 52 countries included in the WVS, only the 14 OECD countries (i.e., the Netherlands, New Zealand, Germany, Sweden, Spain, Slovenia, Estonia, Japan, Chile, Turkey, Poland, Korea, and Australia) were analyzed.

Source: WVS (2010-2012), *World Values Survey Wave 6*.

d) Summary

Table 10 summarizes the status of age flexibility, measured using seven indicators, in each of the five countries subject to comparison. Age flexibility in Korea was quite low, in both absolute and relative terms, except with respect to the unemployment rate. While the absolute rate of political participation is quite high in Korea, there is also a considerable age gap in this regard. Overall, Sweden emerged as the country with the highest level of age flexibility.

(Table 10) Age Flexibility in the Five Countries Compared

Indicator	Korea		U.S.		Japan		Germany		Sweden	
	Overall	Age gap	Overall	Age gap	Overall	Age gap	Overall	Age gap	Overall	Age gap
Rate of enrollment in educational institutions by age	Low	Large	Similar to the other four	Medium	Similar to the other four	Medium	Similar to the other four	Medium	Similar to the other four	Small
Rate of participation in lifelong education by age	Low	Large	Medium	Small	Very low	Small	Medium	Large	High	Large
Rate of unemployment by age	Medium to high	Medium to high	High	Medium to high	Medium to high	Small	High	Medium to high	High	High
Rate of stable employment by age	High	Large	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rate of participation in volunteer activities by age	Low	Small	High	Large	Low	Small	Medium	Small	High	Large
Rate of participation in politics by age	High	Large	High	Large	High	Medium	High	Medium	High	Small
Rate of participation in cultural and leisure activities by age	Low	Large	High	Large	Low	Small	High	Large	High	Small

Note: This is a relative assessment conducted by the authors based on statistical analysis.

2) Age diversity in Korea

a) Family

(1) Intergenerational support exchange

Due to the dearth of international information, it is impossible to compare Korea to other countries with respect to intergenerational support exchange. We thus relied on the data available in Korea only. Much of the Korean data in this regard, however, focuses on older persons, and the extent to which they depend on their family members. As a result, we sought to gauge the level of economic, emotional, and instrumental sup-

port exchanged within families between older Koreans aged 65 or older and their grown-up children.

(Table 11) Intergenerational Support Exchange (for Older Persons with Children Living Together)⁴⁾

(Units: percentage, percentage points)

Age group	Economic support			Emotional support			Instrumental support		
	Received	Provided	Difference	Received	Provided	Difference	Received	Provided	Difference
Overall	-	-	-	-	-	-	-	-	-
65-69	39.6	12.5	27.1	59.4	61.5	2.1	49.6	73.2	23.6
70-74	49.6	7.7	41.9	57.4	56.8	0.6	58.3	71.1	12.8
75-79	47.8	7.6	40.2	59.6	51.7	7.9	68.1	71.1	3.0
80-84	46.8	6.7	40.1	68.6	55.6	13.0	83.7	65.3	18.4
85+	44.1	6.2	37.9	67.3	40.4	26.9	90.8	43.6	47.2
Difference (maximum - minimum)	8.2	6.3	-	9.9	21.1	-	41.2	29.6	-

Notes: 1) As of 2013.

- 2) Economic support exchanged includes regular cash payments, non-regular cash payments, and gifts. As a representative form of support crucial to daily living, only the regular cash payments are counted here.
- 3) Emotional forms of support exchanged include listening to family members' worries and issues. Instrumental forms of support include daily assistance exchanged, including cleaning, preparing meals, washing clothes, etc.
- 4) "Received" support refers to the support older persons received from their children, while "provided" support refers to the support older persons provided for their children.
- 5) "Difference" in support exchanged (percentage points) refers to the absolute difference between the received and provided support in each age group. The goal is to identify how these differences vary from age group to age group.

Source: MOHW-KIHASA (2014), *National Survey on Korean Older Persons*.

4) Due to the absence of internationally comparative information on the exchange of support within families, the only source of data used herein is the *National Survey on Korean Older Persons* (2014). While the Korean Longitudinal Survey of Aging Life (KLoSA) and the Study of Health, Aging and Retirement in Europe (SHARE) on 13 European countries provide information on more diverse age groups, they focus solely on the economic forms of family support.

Among older persons, in general, more people reported having received economic support from their children than those who reported having provided it to their children. When it came to the emotional exchange, the proportion of older persons who received support from their children was about the same as the proportion that provided it to their children. The “younger” older persons groups were more likely to be providers than recipients of instrumental support. This appears to reflect the typical living arrangement in Korea, where older people live together with their adult children so that they may provide emotional and instrumental support for the latter, while depending on the latter to assist them with their financial needs.

As for older persons living with their children, the 70-74 age group showed the greatest difference between the proportion of those who provided economic support and those who received it; the 85+ group showed the greatest difference between the proportion of givers and the proportion of recipients in emotional and instrumental support. In other words, at least in families with relatively young older persons, both generations exchanged roughly equal levels of emotional and instrumental support. Instrumental support was the area in which variations among older persons groups were the most prominent. This suggests that the instrumental support required by older persons increases abruptly with age.

〈Table 12〉 Intergenerational Support Exchange by Age(for Older Persons Not Living with Their Children)⁵⁾

(Units: percentage, percentage points)

Age group	Economic support			Emotional support			Instrumental support		
	Received	Provided	Difference	Received	Provided	Difference	Received	Provided	Difference
Overall	-	-	-	-	-	-	-	-	-
65-69	32.0	3.0	29.0	64.2	61.2	3.0	36.4	17.0	19.4
70-74	40.1	2.7	37.4	64.5	58.1	6.4	43.2	13.9	19.3
75-79	47.5	1.8	35.7	64.2	52.2	8.0	48.4	10.9	37.5
80-84	48.6	1.5	47.1	66.5	48.6	7.9	49.2	5.9	43.3
85+	49.3	0.8	48.5	63.6	39.5	0	52.2	4.7	47.5
Level of age diversity ⁴⁾	17.3	2.2	-	2.9	21.7	-	15.8	12.3	-

Notes: 1) As of 2013.

2) Economic support exchanged includes regular cash payments, non-regular cash payments, and gifts. As a representative form of support crucial to daily living, only regular cash payments are counted here.

3) "Difference" in support exchanged (percentage points) refers to the absolute difference between received and provided support for each age group.

4) Difference = maximum - minimum.

Source: MOHW-KIHASA (2014), *National Survey on Korean Older Persons*.

Overall, in the area of economic support exchange with their children, older Koreans became less a provider and more a recipient with age. As for the emotional support, while the proportion of older persons receiving support from their children remained more or less the same across all age groups, the proportion of providers was higher in younger older persons. In the area of instrumental support, the older the older persons, the higher the proportion of recipients and the lower the proportion of providers. Older persons not living with their chil-

5) Due to the absence of information on the exchange of support within families amenable to international comparison, the only source of data used herein is the *National Survey on Korean Older Persons* (2014).

dren were more likely to receive than provide support for their children. Economic support was the category in which the age gap (17.3 percentage points) was the most pronounced in terms of support received by older persons. As for support provided by older persons, emotional support showed the largest age gap (21.7 percentage points). As older persons become very old, their economic dependency on their children increases rapidly, and they become unable to provide as much emotional help for their children as well.

Older persons not living with their children received more support than they provided in comparison to older persons living with their children. The former received more economic support than they provided in emotional and instrumental support, while the latter compensated for the economic support they received by providing more emotional and instrumental support. For both groups of older persons (whether living or not living with their children), economic support was the area with the largest gap between the proportion of recipients and the proportion of providers.

In the meantime, the oldest age group (85+) showed the widest gap in proportion between receivers and providers of economic and instrumental support, while in emotional support the difference in proportion between providers and receivers remained small across old age groups. The emotional support exchange gap was relatively large in the 75-79 age group.

(2) Amount of time spent on family relationships by age

The data on time spent on family relationships used in this study compare Korea, the United States, and Japan. However, the Korean population included in the analysis starts at age 10, while the American and Japanese populations start at age 15. The basic units varied from country to country as well, with some using weeks and others using 24-hour days. These differences serve to limit the precision of international comparison. The data on the United States do not include how much time people in each age group spend with their families, but show how much time people of different lifestyles, sexes, employment statuses, and household types spend on daily activities. From 2009 to 2013, married adults aged 65 or older in the United States spent a daily average of 184 minutes with their spouses and 78 minutes with other family members. Unmarried older persons spent 120 minutes with their families. For the United States again, from 2009 to 2013, adults in the 55-64 age group spent 120 minutes on their household activities; adults in the 65-74 age group, 144 minutes; and adults in the 75+ age group, 144 minutes. In Korea, school-enrolled minors and young adults were the age groups that spent the least amount of time with their families, while the 65+ age group spent the most. The reason for this is that young people spend the vast majority of their time at school and engaged in school-related activities, while older persons increasingly require family help

and assistance in their daily routines.

(Table 13) Amount of Time Spent on Family Relationships by Age

(Unit: minutes, percentage points)

Age group	Korea ¹⁾ (2009)	U.S. ²⁾ (2014)	Japan ³⁾ (2006)	Germany	Sweden	OECD-wide
Overall (10+)	171/24 hours	160/24 hours (15+)	128/week (15+)			
Elementary, secondary, and post-secondary students	59	From 2009 to 2013 (55+,65+)	3)	N/A	N/A	N/A
Adults (20+)	193					
Older adults (65+)	212					
Difference (maximum-minimum)	151	-	-	-	-	-

Notes: 1) The amount of time spent on family relationships in Korea is the sum of the minutes one spends having meals with family members, managing family affairs, caring for family members, interacting with family members and relatives, and traveling to and from family functions on a 24-hour basis.

2) The amount time spent on family relationships in the United States is the sum of the minutes one spends on household activities and caring for family members, as measured by the *American Time Use Survey* (2014). Time spent on household activities is the sum of the minutes one spends, on a 24-hour basis, on chores, preparing meals, washing dishes, gardening, managing family affairs, organizing and repairing the interior and exterior of the family home, tending to pets, and maintaining family vehicles, including the transportation time involved in these activities. Time spent caring for family members is the sum of the minutes one spends, on a 24-hour basis, nursing and caring for young children and adult family members.

3) The amount time spent on family relationships in Japan is the sum of the hours one spends, on a weekly basis, on housework, caring or nursing, childcare, and shopping. The original survey measured these sums by age, but does not distinguish the results by age.

4) The latest available data in Germany is from 2003. In all of Northern Europe, the latest available data is from Denmark in 2001.

Sources: Statistics Korea (2009), *Daily Living Time Survey*; U.S. Bureau of Labor Statistics (2014), *American Time Use Survey*; Japanese Bureau of Survey (2006), *2006 Survey on Time Use and Leisure Activities*.

b) Workplaces

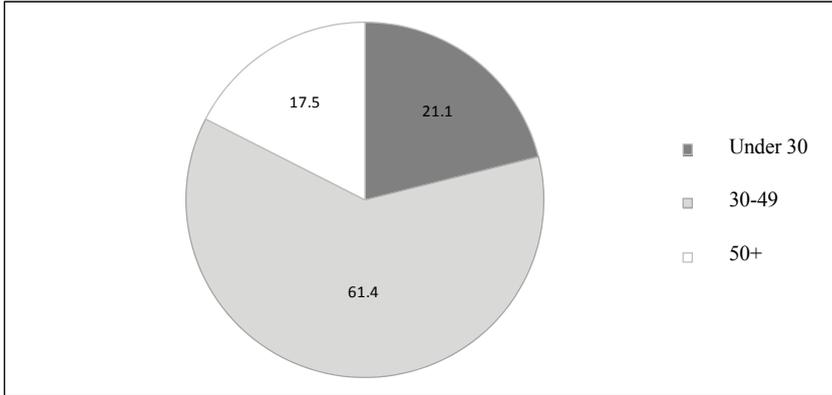
(1) Age structure of employees

The age makeup of workers provides one measure of age diversity at workplaces. In Korea, the 30-49 age group accounts for the greatest portion of workers today, at 61.4 percent, followed by the under-30 group (21.1 percent) and 50+ group (17.5 percent). The under-30 and 50+ groups together make up 38.6 percent of all working people. In other words, six out of every 10 workers are in their 30s or 40s, while the other four are either under 30 or 50 years or older.

If we compare these findings to the demographic makeup by age as of 2014, as predicted by Statistics Korea in its *Future Population Projections*, the under-30 and 50+ age groups together occupy 59.2 percent of the total Korean population. This means that they are underrepresented at workplaces by at least 20.6 percentage points. In the interest of age integration, the proportions of the under-30 and 50+ age groups at workplaces should be increased.

[Figure 3] Age Structure of Employees in Korea

(Unit: percentage)



Note: As of 2011.

Source: KLI (2012), raw data for the *2012 Business Panel Survey*.

c) Community

(1) Satisfaction with public transportation among people aged 50 or older

In Korea, 71 percent of the 50+ age groups reported satisfaction with public transportation, a significantly higher proportion than those of the other countries. Variation from country to country in this regard may reflect the different sizes of the countries surveyed as well as differences in their respective public transportation policies. Considering the subjective nature of this assessment, older persons in Korea may be more satisfied because they have lower expectations to begin with. This finding requires further study.

〈Table 14〉 Satisfaction with Public Transportation among People Aged 50 or Older

(Unit: percentage)

Country	Korea	U.S.	Japan	Germany	Sweden	OECD-wide
Satisfaction rate	71	62	60	69	65	-

Note: As of 2012.

Source: HelpAge International (2015), *Global Age Watch Index 2015*.

(2) Age gap in social status

The WVS also surveyed the social statuses of people in their 20s, 40s, and 70s in their respective societies. In Korea, people in their 40s achieved the highest social status score, 7.14 out of 10, followed by people in their 70s (4.38) and 20s (4.35). Society-wide, people in their 40s in Korea are perceived as holding the greatest social power. The gap in the social status score between people in their 40s and people in other age groups is astounding. While people in their 40s emerged as the group with the highest social status in other countries as well, the generational gap in the perceptions of social status was not as prominent.

The same ordering of age groups (40s > 70s > 20s) was found in all of the other countries except for Sweden, where people in their 70s were accorded the lowest social status. The United States also had the most pronounced age gap in social status. However, Korea had an even greater age gap in terms of how each age group perceived age-related social status. In the United States, all age groups had similar perceptions of age-re-

lated social status, with most groups concurring in terms of their perception of the social status attached to particular age groups. On the other hand, while Koreans of different age groups mostly agreed on the ranked order of different age groups by social status, their perceptions of how large or small that social status is differed markedly from age group to age group. In particular, younger people were far more likely to underestimate the social status of people in their 70s than were other age groups.

〈Table 15〉 Age Gap in Social Status

Age group	Korea	U.S.	Japan	Germany	Sweden	OECD-wide
Overall	0.06	0.84	0.44	1.24	3.08	0.08
Under 20	4.46	0.2	0.88	3.74	3.24	0.26
20-29	0.80	0.48	0.70	0.20	2.74	0.14
30-39	0.44	0.48	0.56	1.26	4.30	0.06
40-49	0.66	1.08	0.88	2.30	2.52	0.46
50-59	0.28	0.98	0.26	1.62	2.98	0.14
60-64	0.26	1.52	0.02	0.44	4.00	0.16
65+	0.24	1.92	0.28	0.74	2.68	0.08
Level of age diversity ⁶⁾	1.71	0.58	0.32	1.16	0.65	0.17

Note: 1) As of 2012.

2) (Difference between average scores of the 20s age group and 40s age group) + (Difference between average scores of the 40s age group and 70s age group) + (Difference between average scores of 20s age group and 70s age group).

3) For the frequencies of answers to each question given by each age group, see Appendices 4-1-(1) and 4-1-(9).

Source: WVS (2010-2012), *World Values Survey Wave 6*.

6) The level of age diversity was measured using the formula presented in Part IV. The higher the resulting figure, the lower the level of age diversity. The same holds for the rest of this section.

(3) Recognition of diverse age groups as community members

How people perceive different age groups as equal parts of their community forms an important basis for age integration. There are no official statistics available in relation to this question in Korea, but the European Union provides a valuable study. In Germany, 59.3 percent of people viewed those in their 20s and those in their 70s as two separate groups of the same community. Another 19.6 percent preferred to view these people as individuals rather than as groups. Another 11.4 percent thought of them as separate groups not of the same community, while 9.7 percent viewed both age groups not as separate, but as a single group. In particular, note the 11.4 percent of Germans who viewed the two age groups as belonging to different communities. The proportions of people giving the same answer were 5.4 percent in Sweden and 11.7 percent OECD-wide. No significant gaps were noted in the distribution of these answers among different age groups.

(Table 16) Recognition of Diverse Age Groups as Community Members

(Unit: percentage)

Age group	Germany				Sweden				OECD-wide			
	A1	A2	A3	A4	A1	A2	A3	A4	A1	A2	A3	A4
Overall	19.6	11.4	59.3	9.7	40.8	5.4	42.0	11.8	28.8	11.7	49.1	10.3
Under 20	20.3	14.8	59.4	5.5	27.7	9.2	54.6	8.5	24.2	12.4	53.9	9.4
20-29	21.7	9.0	63.0	6.2	33.1	8.4	51.4	7.2	27.3	11.4	52.9	8.4
30-39	21.0	11.9	58.8	8.2	38.9	5.6	47.5	7.9	30.0	12.5	49.3	8.1
40-49	20.0	10.5	59.5	10.0	42.3	4.5	41.6	11.7	28.9	11.3	49.3	10.6
50-59	21.8	12.4	56.1	9.8	41.0	3.7	39.9	15.3	30.8	11.7	46.2	11.2
60-64	18.5	11.2	57.9	12.4	48.7	2.6	33.1	15.6	29.8	11.1	47.4	11.7
65+	15.6	11.9	60.4	12.1	47.3	4.9	32.7	15.1	28.0	11.7	47.8	12.4
Level of age diversity	2.0	1.7	2.0	2.5	7.0	2.2	8.0	3.5	2.1	0.5	2.7	1.5

Notes: 1) As of 2009.

2) An analysis of answers to the question, "How do you see those in their 20s and those in their 70s?"

3) A1: "individuals rather than groups," A2: "two separate groups not of same community," A3: "two separate groups of the same community," A4: "one group"

4) Of the 29 countries included in the European Social Survey (ESS), only the 21 that are OECD members (i.e., Greece, the Netherlands, Norway, Denmark, Germany, Belgium, Sweden, Switzerland, Spain, Slovakia, Slovenia, Ireland, Estonia, the United Kingdom, Czech Republic, Turkey, Portugal, Poland, France, Finland, and Hungary) were analyzed.

Source: ESS (2008), raw data.

d) Summary

Table 17 uses six indicators to summarize the age diversity trends of the five societies surveyed. Compared to age flexibility, less data on age diversity is available that fit the operationalized definitions, limiting international comparisons as a result. This may suggest that the understanding and perception of age diversity as a measure of age integration have not been as well developed as those of age flexibility.

In Korea, age diversity within families remains relatively fixed. The physical environments that allow for interaction among diverse age groups are also not in such poor states. Nevertheless, the younger generation in Korea tends to attach far less social status to the older generation than do their counterparts in other societies, which may be a psycho-cultural factor that serves to suppress age diversity society-wide.

〈Table 17〉 Age Diversity in the Five Countries Compared

	Korea		U.S.		Japan		Germany		Sweden	
	Overall	Age gap	Overall	Age gap	Overall	Age gap	Overall	Age gap	Overall	Age gap
Intergenerational support exchange	Relatively active	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Amount of time spent on family relationships	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Age structure of employees	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Satisfaction with public transportation among people aged 50 or older	High	N/A	Relatively high	N/A	Relatively high	N/A	Relatively high	N/A	Relatively high	N/A
Age gap in social status	Small	Large	Medium	Small	Small	Small	Medium	Large	Large	Small
Recognition of diverse age groups as community members	N/A	N/A	N/A	N/A	N/A	N/A	Little	Small	Much	Small

Note: This is a relative assessment conducted by the authors based on statistical analysis.

3) Age equality in Korea

a) Health

(1) Age gap in physical activity

Korean health authorities recommend that members of the public engage in medium-to-high levels of physical activity in order to improve and maintain their health. Such levels of physical activity involve, in most cases, exercising for at least 30 minutes a day, until one becomes slightly out of breath or feels mild fatigue, at least five days a week, or exercising intensely for at least 20 minutes a day, until one becomes heavily out of breath or feels severe fatigue, at least three days a week. We measured how people of different age groups in Korea performed these activities in a given week in order to identify age gaps in physical activity. Walking is a physical activity in which people can engage routinely without the intention of getting fit, and therefore has been excluded from our analysis.

Table 18 shows that only 19.9 percent of people aged 19 or older engage in medium-to-high levels of physical activity—Koreans are not the most physically active or regularly exercising people in the world. The rate was the highest, at 26.0 percent, in the 19-29 age group, and gradually declined with increasing age. By age 60, the rate of physical activity began to fall below the average, dropping to 13.3 percent for the 60-64 age group and 12.0 percent for the 65+ group. Aging may be

inevitable, but it also affects the health of certain age groups far more severely than others.

The largest age gap, 6.6 percentage points, was noted between the 50-59 and 60-64 age groups. As they age, older people find it increasingly difficult to engage in the levels of physical activity necessary to maintain adequate fitness. Overall, though, the age gaps in the rates of physical activity in Korea are smaller than in the United States.

<Table 18> Age Gap in Physical Activity

(Unit: percentage)

Age group	Korea	Age group	U.S.
Overall	19.9	Overall	53.3
19-29	26.0	18-44	59.0
30-39	21.2	45-64	50.4
40-49	20.5	65-74	48.3
50-59	19.9	75 or older	32.8
60-64	13.3	N/A	N/A
65+	12.0	N/A	N/A
Level of age equality ⁷⁾	4.9	Level of age equality	11.0

Notes: 1) As of 2013, in the case of Korea.

2) For the United States: Centers for Disease Control and Prevention/National Center for Health Statistics (CDC-NCHS, 2012), "Participation in leisure-time aerobic and muscle-strengthening activities that meet 2008 federal physical activity guidelines," *Summary Health Statistics for U.S. Adults: National Health Interview Survey 2012*. The survey, however, does not provide raw data on how people were grouped by age. The age groups included in the raw data were thus used in our analysis without further refinement.

3) Eurostat provides statistics on the practice of daily physical activity, but fails to show statistics for some European countries, including Germany and Sweden.

Sources: MOHW/CDC (2013), *National Health and Nutrition Survey 2013*; U.S. CDC-NCHS (2012), *Summary Health Statistics for U.S. Adults: National Health Interview Survey 2012*.

7) The level of age equality was measured using the formula presented in Part IV. The higher the resulting figure, the lower the level of age equality. The same holds for the rest of this section.

(2) Age gap in incidence of depression

Given the rapid social changes that are putting stress on people's mental health, as well as the connection between mental and physical health, mental health has been drawing increasing public attention and emphasis. In particular, depression, one of the leading causes of suicide today, is emerging as an important social and policy issue.

Of the Korean adult population aged 19 or older, 10.7 percent have experienced symptoms of depression. That figure rises to 14.8 percent in the 65+ age group, 13.1 percent in the 50-59 age group, and 12.6 percent in the 60-64 age group, but is slightly lower, at 10.4 percent, in the 19-29 age group. The incidence of depression appears to increase as Koreans enter their 50s, which is commonly regarded as the retirement age. Retirement is accompanied by a variety of losses, including financial and social losses, and therefore may serve as a trigger for depression. The depression rate in the 19-29 age group, however, is significantly high, most likely due to the high unemployment rate in that age group. The 30-49 age groups report relatively lower depression rates, apparently due to the fact that people in these groups are more likely to be married and hold stable jobs than people in other groups. The age gap in depression in Korea is comparatively larger than that in the United States, especially with respect to the 60+ age groups.

〈Table 19〉 Age Gap in Incidence of Depression

(Unit: percentage)

Age group	Korea	Germany	Sweden	Age group	U.S.
Overall	10.7	4.8	2.0	Overall	7.6
19-29	10.4	N/A	N/A	12-17	5.7
30-39	7.6	N/A	N/A	18-39	7.4
40-49	8.3	N/A	N/A	40-59	9.8
50-59	13.1	N/A	N/A	60+	5.4
60-64	12.6	N/A	N/A	N/A	N/A
65+	14.8	N/A	N/A	N/A	N/A
Level of age equality	2.6	N/A	N/A	N/A	1.8

Notes: 1) As of 2013, in the case of Korea.

2) The figures for Germany and Sweden are based on the answers given to the question "How often did you feel depressed in the past week?" (with answers including "Sometimes," "Most of the time," "All or almost all of the time") in the Europe Social Survey (2012). The raw data do not provide information on age groups.

3) The figures for the United States are based on the National Health and Nutrition Examination Survey's *Depression in the U.S. Household Population, 2009-2012*. The figures represent households who answered that they had experienced at least a medium level of depression over the past two weeks.

Sources: MOHW-CDC (2013); Europe Social Survey (2012, retrieved on September 23, 2015); National Health and Nutrition Examination Survey (2014), *Depression in the U.S. Household Population, 2009-2012*.

(3) Age gap in people forgoing medical treatment

The rate of Koreans in all adult age groups forgoing medical treatments due to their inability to afford them is an astounding 12.4 percent, dramatically higher than the 6.0 percent of Germany and the EU average. Among the five countries surveyed, Sweden has the highest rate of people who fail to receive medical treatment, amounting to 13.6 percent. In Korea, the rate rises further to 16.7 percent in the 65+ age group, 12.9 percent in the 60-64 age group, and 12.7 percent in the 50-59 age group. While the age gap in this regard is not so prom-

inent, the rate is relatively lower in the 40-49 age group, at 10.9 percent, as people at these ages begin to pay closer attention to their health as their symptoms of aging increase. Older persons, on the other hand, appear to suffer from a lack of information, reduced mobility, and reduced financial means.

Although the age gap in the rates of people foregoing medical treatment in Korea is drastically smaller than in the United States, it still exceeds the EU average. It is critical for people of all ages to be able to seek out and receive the medical services they need. The accessibility and affordability of medical care is particularly important to older persons.

<Table 20> Age Gap in People Foregoing Medical Treatment

(Unit: percentage)

Age group	Korea	Age group	Germany ²⁾	Sweden ²⁾	EU (EU-28)	Age group	U.S. ³⁾
Overall	12.4	Overall	6.0	13.6	6.9	Overall	14.3
19-29	11.2	16-24	2.6	18.2	3.6	Under 12	4.0
30-39	11.6	25-34	5.6	18.0	6.2	12-17	5.3
40-49	10.9	35-44	6.5	15.4	7.2	18-44	19.7
50-59	12.7	45-54	7.2	16.9	8.0	45-64	21.7
60-64	12.9	55-64	7.3	12.2	8.0	65+	5.9
65+	16.7	65 and older	6.0	6.5	7.4	-	-
Level of age equality	2.0	Level of age equality	1.6	4.2	1.5	Level of age equality	8.3

Notes: 1) As of 2013, in the case of Korea.

2) As for Germany, Sweden, and the European Union (28 member countries), the raw data for "Unmet needs for medical care" from Euro Stat (2013) were re-analyzed. The raw data provide six age groups divided into 10-year periods (i.e., 16-24, 25-34, 35-44, 45-54, 55-64, 65 and older).

3) As for the United States, the answers to the two questions "During the past 12 months, was there any time when you needed medical care (excluding dental care), but did not receive it because you couldn't afford it?" and "During the past 12 months, have you delayed seeking medical care (excluding dental care) because you were worried about the cost?" in *Summary Health Statistics for U.S. Population: National Health Interview Survey, 2012* were totaled. Unlike similar surveys in other countries, however, the survey excludes dental care and counts only the medical needs that went unmet due to financial difficulties.

Sources: MOHW-CDC (2013); Euro Stat (2013, retrieved on September 23, 2015); CDC-NCHS (2012).

b) Education and informatization

(1) Age gap in educational level

One way to measure the age gap in educational attainment is to use the OECD data on the proportion of the population in each age group with secondary school education or above. In this regard, the 25-44 age groups in Korea boasted far higher proportions than their counterparts in other countries. The trend was especially pronounced in the 25-34 age group. The proportions, however, begin to dwindle in the 45+ age groups, reaching 48 percent in the 55-64 age group, the lowest of all five societies compared. The age gap in educational attainment is particularly acute in Korea, over three times the OECD average.

<Table 21> Age Gap in Educational Level: Proportions of People with Secondary School Education or Above by Age

(Unit: percentage)

Age group	Korea	Germany	U.S.	Sweden	OECD-wide
Overall (25-64)	82	86	89	88	75
25-34	98	87	89	91	82
35-44	96	87	89	92	79
45-54	78	87	89	88	73
55-64	48	84	90	79	64
Level of age equality	20.1	1.3	0.5	5.1	6.9

Notes: 1) Of the OECD education indicators, the proportions of people with “at least upper secondary education” were used. According to the International Standard Classification of Education (ISCED), “upper secondary education” refers to the part of secondary education that prepares students for either college entrance or occupation after graduation.

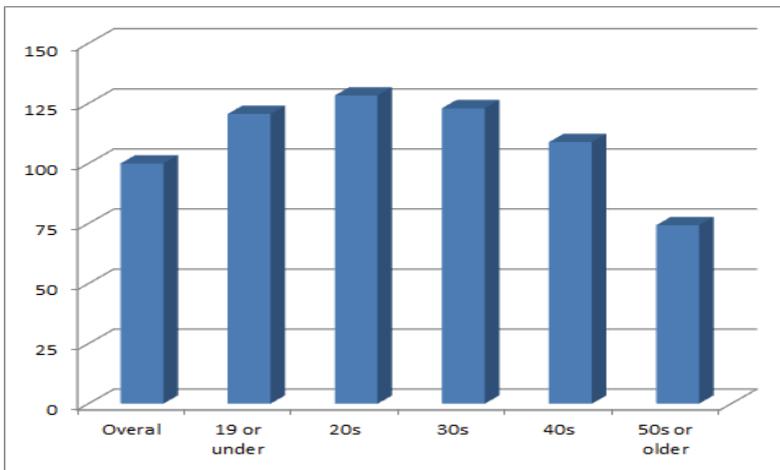
2) The figures are quoted from OECD (2014), which lists statistics effective as of 2012.

Source: OECD (2014).

(2) Age gap in informatization level

The disparity in informatization levels by age group becomes prominent in the 50+ age group, whose informatization competency reaches only 74.3 percent of the nationwide average. People in their 20s, on the contrary, scored 128.3 percent in this regard.

[Figure 4] Age Gap in Informatization Level in Korea



- Notes: 1) Measures informatization levels in the population from age seven and older.
 2) The information disparity indicator is measured using seven accessibility indicators, 15 competency indicators, three quantitative indicators of use, and two qualitative indicators of use. There is currently a lack of raw data on age-by-age performances along these indicators.

Source: MSIP-NIA (2014), *2014 Information Disparity Indicator and Current Status*.

c) Income and housing

(1) Age gap in poverty rates

The poverty rate of the entire Korean population is 15.2 percent, which is higher than the rates of Germany and Sweden, but roughly on par with those of Japan (16.0 percent) and the United States (17.9 percent). However, there are quite severe age gaps in Korea's poverty rates. The poverty rate soars to 45.6 percent in the 66-75 age group, which is higher than the whole-population average of the 51-64 age group of 17.3 percent. People aged 51 or older in Korea thus appear to suffer from greater income insecurity than people in other age groups. The poverty rates for the 0-50 age groups, on the other hand, remain well below the whole-population average, ranging from 7.1 to 10.5 percent. The 26-40 age groups feature the lowest poverty rate at 7.1 percent, or about half the national average. The poverty rates are 8.9 percent for the 41-50 age group, 9.7 percent for the 0-17 age group, and 10.5 percent for the 18-25 age group.

Germany shows the least disparity in poverty rates among age groups, at 2.13, followed by Japan (3.24), the United States (4.11), and Sweden (4.22). Korea's age gap in poverty rates, amounting to 13.72, appears largely to be a result of the severely high poverty rates in the 66+ age groups. However, the poverty rates for "older" older persons aged 76 or older in the

other four countries range between 10.8 and 26.4 percent, amounting to only a quarter to a half of Korea's.

In all of the countries compared, the 41-50 age groups boast the lowest poverty rates, while the 18-25 age groups show relatively high poverty rates. The overall poverty rate in Germany was 8.4 percent, the lowest of all five countries compared. The German 41-50 age group's poverty rate was also the lowest, at 5.6 percent, followed by the 7.4 percent of the 0-17 age group. The poverty rate of the German 18-25 age group, on the other hand, was the poorest, at 12.5 percent, followed by the 76+ age group with 10.8 percent. The overall poverty rate of the United States was 17.9 percent, higher than the OECD average. The American 76+ age group was the poorest, at 26.4 percent, followed by the 0-17 age group (20.9 percent) and 18-25 age group (20.7 percent). The 26-76 age groups in the United States, on the contrary, showed poverty rates below the national average, with the 41-50 age group leading with the lowest poverty rate of 13.6 percent, followed by the 51-65 age groups (15.4 percent), 26-40 age groups (16.0 percent), and 66-75 age group (16.9 percent).

The overall poverty rate in Japan was 16.0 percent, also higher than the OECD average. However, with the exception of the 76+ age groups, with a poverty rate of 22.8 percent, the poverty rates remained in the 10-percent range for all other age groups. The 26-40 age groups showed the lowest poverty

rate, at 12.7 percent, followed by the 41-50 age group with 13.2 percent. Sweden was the second-least poor country of the five compared, with an overall rate of 9.0 percent. Only the 18-25 and 76+ age groups had poverty rates that fell above the 10-percent threshold, at 17.8 percent and 13.5 percent, respectively.

〈Table 22〉 Age Gap in Poverty Rates

(Unit: percentage)

Age group	Korea	Germany	U.S.	Japan	Sweden	OECD-wide
Overall	15.2	8.4	17.9	16.0	9.0	11.0
0-17	9.7	7.4	20.9	15.7	8.3	12.9
18-25	10.5	12.5	20.7	18.7	17.8	13.7
26-40	7.1	8.5	16.0	12.7	9.9	10.0
41-50	8.9	5.6	13.6	13.2	5.6	9.0
51-65	17.3	8.7	15.4	15.1	6.1	9.6
66-75	45.6	8.1	16.9	16.6	6.6	10.6
76+	-	10.8	26.4	22.8	13.5	12.6
Level of age equality	13.72	2.13	4.11	3.24	4.22	1.71

Notes: 1) As of 2012 for Germany, Sweden, and the United States; 2009 for Japan; and 2011 for Korea.

2) In Korea, the 66+ age groups were used instead of the 66-75 age group..

3) The OECD average is based on the 32 member countries that have provided poverty rate data.

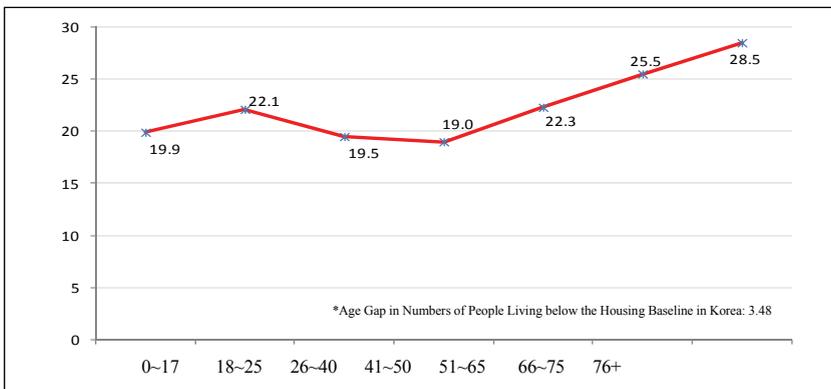
Source: OECD database (<http://stats.oecd.org>, accessed on September 30, 2015).

(2) Age gap in numbers of people living below housing baseline

In Korea, the proportion of people living in housing arrangements below the government-defined residential baseline is 21.1 percent. The 76+ age group had the greatest proportion of

people below the housing baseline, at 28.5 percent, followed by the 66-75 age group with 25.5 percent. The 41-50 and 26-40 age groups, on the contrary, showed the lowest proportions, at 19.0 percent and 19.5 percent, respectively. Their children, in the 0-17 age group, showed a similar proportion of 19.8 percent. Age equality measured in terms of the proportion of people below the housing baseline in Korea was 3.48, which is not significant.

[Figure 5] Age Gap in Numbers of People Living Below Housing Baseline



Source: KIHASA-SNU Institute of Social Welfare (2014), raw data for the *Ninth Korean Welfare Panel Survey 2014*.

d) Summary

Table 23 summarizes age equality measured using seven indicators. While there are certain differences among the countries compared in terms of how age equality manifests, the levels of age equality remain generally low in Korea. The cur-

rent state of age equality is particularly alarming with respect to physical activity and incidences of depression symptoms. The likelihood of people foregoing medical treatment is also correlated to age. The levels of age equality in the areas of education and informatization remain generally high in all of the other countries, thanks to their well-organized education systems. The rapid progress of informatization in Korea, however, appears to have alienated older persons. Poverty rates are another area of growing concern. Aside from the likelihood of foregoing medical treatment, age inequality is in a poor state in Korea.

〈Table 23〉 Age Equality in the Five Countries Compared

	Korea		U.S.		Japan		Germany		Sweden	
	Overall	Age gap	Overall	Age gap	Overall	Age gap	Overall	Age gap	Overall	Age gap
Age gap in physical activity	Not high	Notable	High	N/A						
Age gap in incidence of depression	High	Abrupt increase in 50+	Quite high	Small	N/A	N/A	Low	N/A	Low	N/A
Age gap in people foregoing medical treatment	High	Quite small	High	Large	N/A	N/A	Low	Small	High	Medium
Age gap in education level	High	Large	High	Small	N/A	N/A	High	Small	High	Medium
Age gap in informatization level	N/A	Large	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Age gap in poverty rates	Quite high	Large	High	Small	High	Small	Low	Small	Low	Small
Age gap in number of people living below housing baseline	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: This is a relative assessment conducted by the authors based on statistical analysis.

2. Evolution of age integration in Korea

Figures 6 through 10 illustrate the comparison of the five countries in terms of age integration, measured along the five indicators for which we were able to obtain time-series data.⁸⁾

As for age flexibility, we examined the differences over time in the unemployment rates and rates of participation in volunteer work by age group. The years of analysis regarding the unemployment rates were 2000 through 2014. As of 2000, the age integration level in Korea in this regard was 3.29, slightly higher than the OECD average of 3.14, but has since been declining, falling to 3.21, which is 0.45 points below the OECD average of 3.66 as of 2004, following which it dropped further to 2.98, when the OECD average was 3.88.

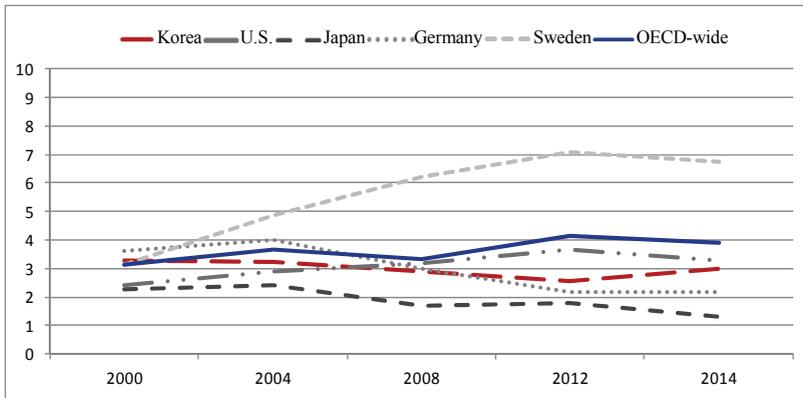
Of the five countries compared, Japan had the smallest age gap in unemployment rates, as its age integration level has been decreasing consistently, from 2.26 in 2000 to 1.69 in 2008, and further to 1.32 by 2014. The United States' age integration level remained below the OECD average throughout the analyzed period, but the unemployment rates for most age groups in the country have been on steady rise, from 2.42 in 2000 to 3.19 in 2008, and again to 3.26 in 2014.

Germany's age integration level with respect to unemploy-

8) See the Appendix for the unemployment rate for each group in each year. The Appendix presents all of the yearly and group-by-group differences along the indicators discussed in this section.

ment rates was 3.99 in 2004, higher than the OECD average, and has since been increasing, to 3.01 in 2008, 2.16 in 2012, and 2.17 in 2014. Sweden's age integration level approximated the OECD average at 3.13 in 2000, but continued to rise dramatically afterward, to 4.85 in 2004 and 7.08 in 2012.

[Figure 6] Age Flexibility in Unemployment Rates: 2000 to 2014



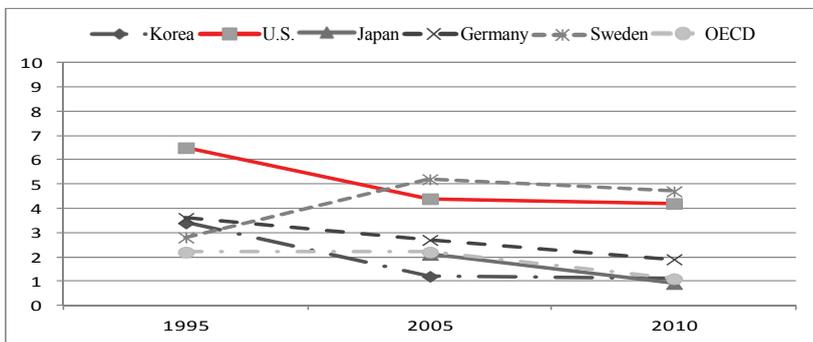
Source: OECD database (<http://stats.oecd.org>, accessed on September 30, 2015).

Figure 7 shows the changing rates of participation in volunteer activities by age group, as a measure of social participation, from 1995 to 2010. In 1995, Korea's age flexibility level reached 3.4, but declined afterward to 1.2 in 2005 and further to 1.1 in 2010. Similar patterns are noted in Japan's case. The rates of participation in volunteer activities, however, remain generally low among almost all age groups in both countries, particularly in the under-20 and 20-29 age groups. The sources

of data used to arrive at these findings appear to have failed to collect adequate samples across all age groups. Any interpretation of these findings thus requires extra caution.

In recent years, the age gaps in Germany and the United States have been diminishing. American age groups, in particular, tend to be more evenly and actively involved in volunteer work than their counterparts in other countries. Sweden is the only country where the age gap in volunteer work has been on the rise, with the younger generation participating less, and the older generation participating more.

[Figure 7] Age Flexibility in Rates of Participation in Volunteer Activities: 1995 to 2010



Notes: The available source charts the differences in the rates every five years, but the fourth survey conducted in 2000 omits the rates of participation in volunteer activities altogether. The data from 2000 are thus missing from this graph. Japan was not included in the survey conducted in 1995; accordingly, it does not appear in this graph in 1995.

Source: WVS (2010-2012), *World Values Survey Wave 6*.

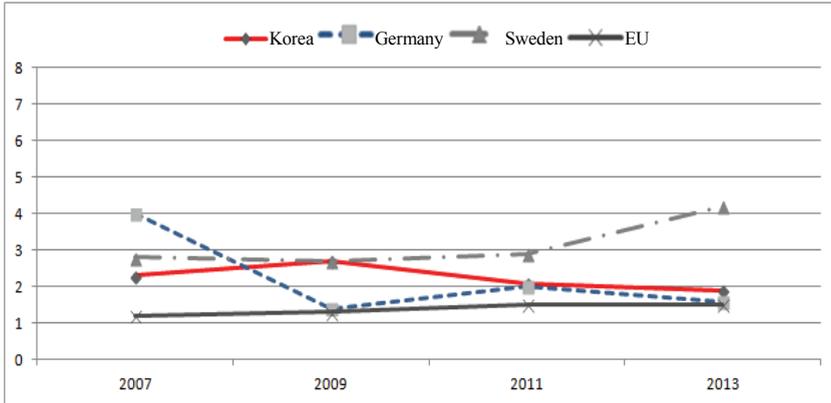
Regarding age diversity, no comparable time-series data were available. By contrast, we were able to observe and analyze time-series data concerning age equality, as measured using three indicators, i.e., rates of people foregoing medical treatment by age, age gap in education, and age gap in poverty rates.

The rates of people foregoing medical treatment, as a measure of age equality in health, were observed in Korea from 2007 to 2013. The age gap in this regard fluctuated somewhat during these years, but has been declining since 2009. This reflects, in part, the fact that the rates of people foregoing medical treatment have been dwindling across all age groups in recent years.

The age gap in the availability of medical treatment in Germany has also been declining. Interestingly, the case has been the opposite in Sweden. Between 2007 and 2011, the age equality level in the rates of people foregoing medical treatment in Sweden ranged between 2.7 and 2.9, but nearly doubled suddenly to 4.2 by 2013. This appears to be due to the fact that the rates of people foregoing treatment soared abruptly among younger people in the 19-39 age groups in Sweden. Young people appear to make fewer efforts to seek and obtain the medical treatment they need due to the lack of time outside their work or studies.

[Figure 8] Age Equality in Accessibility of Medical Services: 2007 to 2013

(Unit: percentage)



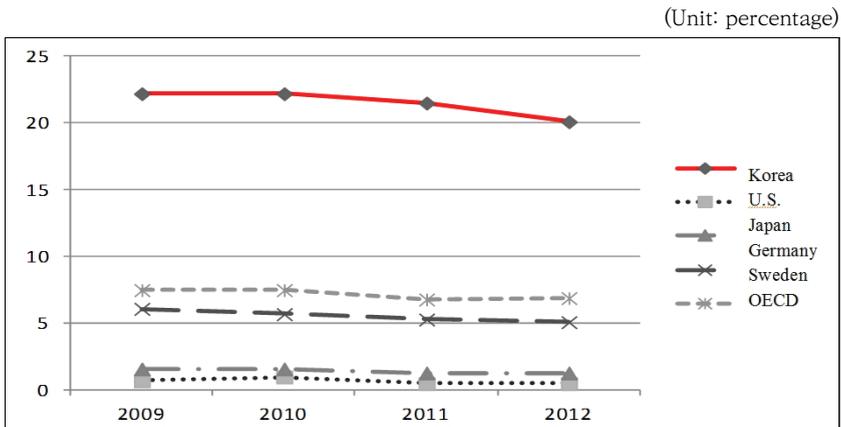
Sources: MOHW-CDC (each year), *National Health and Nutrition Surveys*; Euro Stat (<http://appsso.eurostat.europa.eu>, accessed on October 23, 2015).

We then looked into the disparity by age in the education level. Our bi-annual comparison of the five countries conducted using the OECD statistics on the age gaps in the education level revealed that the age gap in Korea exceeded the averages of the other four countries, as well as the OECD average, by a large margin. Although the gap has narrowed somewhat in recent years, it still remains significantly larger than in the other four countries. The simple difference between the most well-educated age group (25-34, 98 percent) and the least-educated one (55-64, 48 percent) in 2013 amounts to 50.0 percentage points. Thanks to Korea's economic growth and rapid expansion of its public education system, the education level of the younger generation is nearly 100 percent, but the

level declines drastically in the older age groups.

Germany, the United States, and other countries show relatively even distributions of educational attainment across age groups. Sweden shows a slightly greater age gap compared to these two countries.

[Figure 9] Age Equality in Education Level: 2007 to 2013

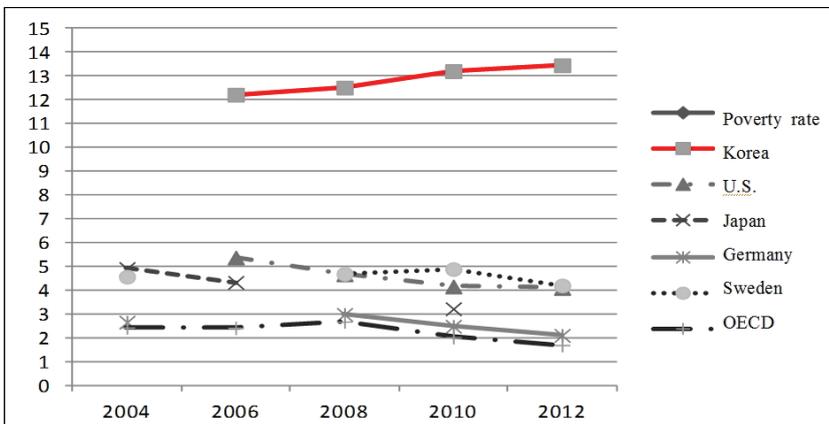


Finally, the poverty rates by age group provide a measure of age inequality in income and housing. From 2004 to 2012, the age gap in poverty rates in Korea has been widening consistently, in contrast to the other four countries. The age gap in the poverty rate in Korea was 12.22 in 2006, and rose consistently to 12.52 in 2008, 13.21 in 2010, and 13.45 in 2012.

Of the five countries compared, Germany had the smallest age gap in the poverty rate, which decreased gradually from 2.68 in 2004 to 2.50 in 2010 and again to 2.12 in 2012. Similar

improvements were observed in the United States and Sweden as well. In the United States, the age gap declined from 5.39 to 4.11 between 2006 and 2012, as did the age gap in Sweden, which dropped from 4.59 in 2004 to 4.22 in 2012. We were able to obtain data on the age gap in Japan's poverty rates for only three years, but the data show that the country has also been experiencing a drop in its age gap, from 4.93 in 2004 to 3.24 in 2010.⁹⁾

[Figure 10] Age Equality in Access to Minimum Economic Resources: 2004 to 2012



Notes: 1) The year 2012 for Korea reflects statistics from 2011; 2006 for the United States, from 2005; 2004 and 2010 for Japan, from 2003 and 2009, respectively.

2) In Korea, the 66+ age groups were used instead of the 66-75 age group.

3) The OECD average reflects the poverty rates of only the member countries that provided their poverty rate statistics annually.

Source: OECD database (<http://stats.oecd.org>, accessed on September 30, 2015).

⁹⁾ To be exact, the age gap in poverty rates in Japan was 4.93 in 2003, 4.35 in 2006, and 3.24 in 2009.

3. Experts' assessment

The experts that participated in our opinion poll gave an average score of 2.07 out of five concerning the status of age integration in Korea. As many as 20.7 percent of the experts rated age integration in Korea even lower. The experts gave an average score of 2.31 concerning the status of social attention paid to age integration, which is slightly higher, but still quite low.

Of the factors hindering age integration in Korea, institutional barriers to age integration received the lowest score, at 1.86. Most experts concur that age serves as a barrier in accessing institutions and their benefits. The experts also gave exchange and interactions among diverse age groups in Korea a low score of 2.14. The age gap in quality of life received the highest score, at 2.31, but three-fourths of the experts still regard the gap as wide and worrisome.

〈Table 24〉 Status of Age Integration and Social Attention in Korea

(Units: percentage, points)

	Age integration						Average
	Very high	High	Average	Low	Very low	Total	
Age integration in Korea	-	3.4	20.7	55.2	20.7	100.0	2.07
Social attention paid to age integration in Korea	-	6.9	34.5	41.4	17.2	100.0	2.31

Note: On a five-point scale.

〈Table 25〉 Obstacles to Age Integration in Korea

(Units: percentage, points)

	Current status						Average ²⁾
	Very high	High	Average	Low	Very low	Total	
Institutional barriers to age integration	41.4	44.8	-	13.8	-	100.0	1.86
Lack of interactions among diverse age groups	24.1	51.7	13.8	6.9	3.4	100.0	2.14
Gap in quality of life solely due to age	13.8	62.1	10.3	6.9	6.9	100.0	2.31

Notes: 1) The questions were in the negative, and the answers given by experts were reverse-coded (1 for "very high," 2 for "high," 3 for "average," 4 for "low," and 5 for "very low").

2) On a five-point scale.

Of the individual indicators of age integration presented to the experts, the ones that scored most highly were the rates of participation in lifelong education, rates of participation in politics, rates of people foregoing medical treatment, rates of participation in cultural and leisure activities, rates of stable employment, and rates of recognition of diverse age groups as community members.

In the meantime, the indicators of age integration that the experts pointed to as in need of improvement included the age gaps in poverty rates, rates of recognition of diverse age groups as community members, rates of stable employment, informatization levels, unemployment rates, rates of participation in cultural and leisure activities, amounts of family time spent together, and social status.



Policy Implications

1. Education
2. Employment
3. Social participation
4. Family
5. Workplace
6. Health
7. Education and informatization
8. Income and housing
9. Culture



Policy Implications <<

We may summarize the findings of our analysis concerning Korea as follows. First, aside from the case of voting, age emerged as a significant barrier to education, employment, and participation in volunteer work and cultural and leisure activities, all of which are indicators of the age flexibility of our society. Age was a particular hindrance to those seeking stable employment. Sweden showed a significantly higher level of age flexibility in this regard.

Age diversity remains in a poor state across all sectors of Korean society, including family life, workplaces, and local communities. More specifically, young people enrolled in educational institutions or programs spend the least amounts of time with their families. This structural factor serves to compromise age diversity in family relations. For local communities, psycho-cultural factors, rather than physical ones, serve to influence interactions among diverse age groups. Young people, in particular, tend to assign little social status to older persons. Moreover, compared to other societies, the Korean social makeup tends to favor the middle-aged groups significantly more than any other age groups.

As for age equality, pronounced age gaps were noted in all aspects of life, including health, education and informatization,

and income and housing. The staggering age gap in education levels may have been inevitable given the compressed process of socioeconomic development in Korea and will likely improve in the future. Income and housing inequality, however, are urgent policy matters requiring attention. The overall poverty rate may be low, but the age gap in the poverty rates is glaring. Based on these findings and the results of our expert poll, we may summarize the policy implications of age integration as follows.

1. Education

Age flexibility remains low in both enrollment in educational institutions and participation in lifelong education, requiring conscious policy efforts to address the situation. Korean society is expected to encounter a “demographic cliff” by 2018, with universities seeing applicant pools shrinking to below their admission capacities. Also, lifelong education will likely become part of regular school curricula. Policymakers thus need to devise institutional measures to ensure age flexibility in both regular schools and lifelong education programs, and universities should open their doors more widely to mature students seeking to return to school after years of work. We may also need incentives to encourage people to seek education in other specialties and majors, even after receiving their bachelors’ degrees.

2. Employment

Both younger and older generations are disadvantaged on the Korean labor market, as our age integration analysis as well as numerous other studies confirm. While the age gap in unemployment rates may not appear so significant at first, young people in their 20s were still more likely to be unemployed than other age groups. The age gap in the rates of stable employment is a more serious problem, leaving older workers particularly vulnerable.

In order to achieve a sufficient level of age integration on the labor market, it is crucial to reduce the unemployment rate of young people and raise the stable employment rate for older persons. Institutional improvements are needed to enable young people to secure jobs and work insofar as they are willing and able. Policy efforts are also required to increase the proportion of older persons working in permanent jobs or as employers rather than as self-employed owners of unstable businesses or employees with temporary jobs.

3. Social participation

Our analysis shows that many social activities in Korea lack age flexibility as well. Older generations participate more actively in national elections, translating into poor age flexibility in political participation. Volunteer work, which requires cer-

tain institutional support, and cultural and leisure activities that impose costs on individuals are other areas of social activities in which age serves as a barrier, leaving older persons relatively alienated.

In order to increase age flexibility in social activities, it is important for policymakers to devise incentives that ensure more even participation among all age groups in volunteer work and cultural and leisure activities. Conscious efforts are also needed to increase younger voters' participation in elections and other political activities.

4. Family

Increasing age diversity in family relations could potentially solve a number of major social problems in modern societies. Therefore, it is important for policymakers to promote inter-generational understanding and interactions through diverse policy measures. Moreover, a social atmosphere that encourages diverse age groups to spend time together and exchange assistance, inside and outside families, will be required in the long term.

5. Workplace

Greater age integration at workplaces requires concerted society-wide efforts to increase contact and interactions among

diverse age groups, including the relative proportions of under-30 and 50+ employees. We should also keep in mind that employers and government policies, rather than individual workers, hold the key to achieving such changes.

6. Health

In our analysis, age was found to be a major obstacle in accessing the activities and resources required to improve and maintain health. Older age groups were overrepresented in terms of negative aspects of health, such as experiences of depression symptoms and rates of people foregoing medical treatment.

Even taking into account the natural changes in physical health brought on by aging, we as a society need to make greater efforts to develop and expand systemic measures for better protecting the health of all age groups. Health management, to an extent, is the responsibility of individuals; however, policymakers may need to introduce new incentives to encourage older persons to engage in more physical activities and exercises.

Lifecycle-specific healthcare information and services are crucial to enhancing the physical fitness and mental health of all generations. Such information and services, moreover, will need to be delivered via more diverse channels, both online

and offline, in order to better cater to the habits and lifestyle characteristics of different age groups. In this respect, policymakers will need to review whether there are any obstacles interfering with diverse age groups' access to such information and services.

Policymakers also need to lower the actual and de-facto barriers preventing access to medical care. In particular, the basic social security system should be strengthened so as to enable everyone to receive medical care when needed. Additional and more specific forms of policy intervention will be needed to remove or reduce specific obstacles to medical access for certain age groups. Available healthcare and health resources should be advertised more effectively as well.

7. Education and informatization

As our analysis shows, age inequality in education levels in Korea is in a critical state, requiring policymakers to take more effective steps to address it. Institutional guarantees and measures are needed to ensure that everyone, even older persons, have access to higher learning. Moreover, lifelong education needs to be ensured for all age groups.

8. Income and housing

Age integration in income and housing requires, first and

foremost, efforts to enhance the income and housing stability of older generations. The poverty rates of the 65+ age groups and high rates of “very old” older persons living below the housing baseline are major issues that require urgent policy responses. Although the Korean government has been providing basic pension benefits for older persons aged 65 or older in the lower 70 percent of the income hierarchy since July 2014, we need more dramatic and effective measures to reduce the poverty rate of older persons. This year, the Korean government reformed the housing benefits, provided as part of the National Basic Livelihood Security System, to introduce housing vouchers. All older persons aged 65 or older in the lower 43 percent of the income hierarchy are eligible for the housing vouchers, but more active efforts need to be made to inform citizens of this fact. Other necessary policy efforts include subsidizing and providing services for housing repair and increasing the availability of group homes and other such convenient living arrangements for older persons.

9. Culture

Many experts point to age-derived authoritarianism and psycho-cultural barriers to intergenerational communications and understanding as major obstacles to achieving a more age-integrated society in Korea. To address this, we need to foster a

social atmosphere in which older persons are better able to share their wisdom and experiences and the younger generations develop greater respect for and understanding of older persons. To realize such a paradigm shift, PR efforts need to be made via the media and the press, public campaigns, seminars, public dialogue, and intergenerational participatory programs.

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Appendix. Description of Each Indicator

1. Age Flexibility

A. Education

□ 1-1. Rate of enrollment in educational institutions by age

○ Background

- The rate of enrollment in formal education institutions was used as an indicator of the accessibility of educational opportunities by age group. This indicator is used to measure the degree to which age does not serve as a barrier to accessing education or entry into the formal education system by providing educational opportunities to people in a flexible manner. As the context for this, it may be considered that educational policy could intervene to address the inequality in education by age group.
- The OECD has published a list ranking its member countries in terms of accessibility of education as one of the education indicators.¹⁰⁾

○ Definition

10) The OECD education indicators include the rate of participation in formal and non-formal education, rate of expenditure for non-formal education, and enrollment rate by age group between ages 24 and 64.

- Ratio of the rate of enrollment in educational institutions by age group to the rate of enrollment in all educational institutions

□ 1-2. Rate of participation in lifelong education by age

○ Background

- Lifelong education refers to education that is received throughout one's lifetime, going beyond the boundaries of age and society.
- This indicator reflects the degree to which age does not serve as a barrier to accessing educational opportunities so as to meet the learning needs of individuals.
- The rate of participation in career development and self-development via lifelong education, including formal education, was examined. Whether older persons are more likely to participate in lifelong education or whether the rate of participation in lifelong education is correlated to age groups will be explored.
- Internationally, the rate of participation in lifelong education is also included as an indicator in ANNEX A.3 (independent and secure living) of the AAI (Active Ageing Indicators) by the UNECE (United Nations Economic Commission for Europe).

○ Definition

- Ratio of the rate of participation in lifelong education

by age group¹¹⁾ to the rate of participation in lifelong education of the entire population

- Rate of participation in lifelong education: Percentage of people in each age group who stated that they had received education or training in the four weeks preceding the survey¹²⁾

B. Employment

□ 1-3. Rate of unemployment by age

○ Background

- When people are unable to secure jobs in spite of their willingness and ability to work, they may struggle to maintain their livelihoods due to the loss of earned income, and may experience a decrease in opportunities for social participation. Therefore, people who are willing and able to work should be provided opportunities to do so regardless of age.
- The age groups were divided into 10-year periods, starting with the 20s (20s, 30s, 40s, 50s, and 60 or

11) As no indication was given as to how to divide the age groups, each indicator will be measured in six age groups: 10s, 20s, 30s, 40s, 50s, and 60 or older.

12) Survey question: Have you attended any course, seminar, or conference or received private lessons or instructions within or outside the regular education system within the last four weeks? (Answers: 1 for “Yes” and 2 for “No”) (ages 55 to 74: EU-LFS)

older), because the average age at which young people start working is 23.5 years old (as of 2013¹³).

○ Definition

- Ratio of unemployment rate by age group to the unemployment rate of the entire population
- The unemployment rate refers to the percentage of economically active people who are unemployed despite completing a four-week job search, but who are able to work when they are given jobs, according to the OECD standard (one-week job search according to the ILO standard).

□ 1-4. Rate of Stable employment rate by age

○ Background

- In order to maintain a stable livelihood, it is critical for a person secure opportunities for stable work from the labor market. Therefore, the employment status of employees can be a significant indicator of job stability.
- The employment status of employees includes the types of employment and employees' positions. There are six types of employees: self-employed (employers) with employees, self-employed (owner) without employees,

13) Ministry of Strategy and Finance, *From School to the Workplace: Phased Measures for the Employment of Young People*, April 15, 2014.

unpaid family employee, full-time employee, temporary employee, and daily employed worker.

- Employees, except the self-employed and full-time employees, tend to earn lower incomes (or are unpaid, such as unpaid family employees) and have greater employment insecurity. Whether there is age discrimination in terms of opportunities for stable employment in the labor market may be determined indirectly by comparing the employment status types of the different age groups.

○ Definition

- Ratio of the percentage of self-employed and full-time employees by age group to percentage of self-employed and full-time employees among all employed people
- The composition of full-time employees and the self-employed refers to the percentage of full-time employees and the self-employed among the six types of employees: self-employed (employers) with employees, self-employed (owner) without employees, unpaid family employee, full-time employee, temporary employee, and daily employed worker.

C. Social Participation¹⁴⁾

□ 1-5. Rate of participation in volunteer activities by age

○ Background

- Volunteer work, among other social participation activities, is very significant in that it enables people to ascertain their identity as social beings and maintain relationships within communities and serves as a basis for other activities.
- It is necessary to examine the extent to which each age group participates in participate in volunteer activities.

○ Definition

- Ratio of rate of participation in volunteer activities by age group to rate of participation in volunteer activities of the entire population

□ 1-6. Rate of participation in politics by age

○ Background

- Voting is a basic right and duty of all members of a society, and allows people to participate in the important decision-making processes of the government.

14) Because social participation is done voluntarily by individuals, which is different from the participation in education or labor market, the indicator was developed focusing on its results rather than its opportunities.

- In the midst of rapid population aging, the manifestation of the will of political groups, which is the basis of the decision-making process with regard to significant policies and systems, can be considered an act of social participation.
- It is necessary to examine the voter participation rate by age group, as voting can be regarded as a form of active political participation.

○ Definition

- Ratio of voter turnout by age group to voter turnout of the entire population

□ 1-7. Rate of participation in cultural and leisure activities by age

○ Background

- Cultural and leisure activities play a major role in improving the quality of life of individuals. They heighten individuals' degree of life satisfaction and enable them to live in harmony with other members of society.
- The rate of participation in culture and arts activities and sports, which requires a relatively more active attitude, can be measured as a means of gauging the state of participation in cultural and leisure activities.

○ Definition

- Ratio of rate of participation in culture, arts, and sports programs by age group to the rate of participation in culture, arts, and sports programs by the entire population

2. Age Diversity

A. Family

□ 2-1. Intergenerational support exchange by age

○ Background

- As families exchange various resources, including economic, instrumental, and emotional assistance, the family unit can be considered as the basis upon which various generations interact with one another.

○ Definition

- Percentage of families that engage in exchanges of intergenerational assistance

□ 2-2. Amount of time spent on family relationships by age

○ Background

- The interactions among various age groups can be understood by measuring how much time family

members (parents, children, and grandchildren) spend together in one day (24 hours).

○ Definition

- Ratio of the average amount of time that parents, children, and grandchildren spend together in one day (24 hours) by age group to the average amount of time that family members spend together across the entire population
- In South Korea, the Time Use Survey was conducted by Statistics Korea, and in the U.S., the American Multinational Time Use Survey (AMTUS) was carried out.
- In Germany, the 2002/2003 German Time Use Study was conducted (Harmonized European Time Use Survey (HETUS)). Furthermore, research on family interactions and parental time and leisure, including childcare, child raising allowances, work-family balance, education, and other aspects of individual living conditions, was conducted by the German Federal Ministry of Family Affairs, Senior Citizens, Women and Youth (www.bmfsfj.de) in 2006 (Time Use and Time Budgets 2009)

B. Workplace

- 2-3. Age structure of employees

○ Background

- As the workplace is one of the places where people spend a significant portion of their time, people's work colleagues, forming a close human network, are considered significant.
- A significant amount of work is done at the workplace through frequent communication among many departments or within a department. In particular, the ages of employees can be an important indicator of an age-integrated society, due to the unique Korean custom of having lunch or dinner get-togethers among co-workers.
- However, it is difficult to provide a desirable age composition for the workplace. The inter- and intra-age group interactions can be understood by finding the component ratio of people in their 20s and in their 60s, respectively, to the key working-age group, based on the division of the age groups into younger people in their 20s, key working-age group in their 30s to 50s, and those in their 60s.¹⁵⁾
- According to the population projection of Statistics Korea, in the composition of South Korea's population in 2014, people in their 20s accounted for

15) Young people in their 20s and older people in their 60s can be considered relatively more vulnerable in the labor market than people in their 30s to 50s.

13.4 percent; those in their 30s to 50s, 48.1 percent; and those 60 or older, 17.7 percent. Therefore, the component ratio of people in their 20s and 60s to people in their 30s to 50s was 64.8 percent, which is expected to be different from the component ratio of the population in the workplace.

○ Definition

- Component ratio of people in their 20s and 60s to people in their 30s to 50s working at companies with 30 or more employees
- The age structure of employees can be examined via the Korea Labor Institute's Corporate Panel Survey data for companies with 30 or more employees.

C. Community

□ 2-4. Satisfaction with public transportation among people aged 50 or older

○ Background

- The physical foundation should be prepared for interactions among age groups to occur, thereby allowing all members of society to enjoy healthy and happy cultural lives.

○ Definition

- Percentage of people aged 50+ who provided positive responses to the survey question: “In the city or area where you live, are you satisfied or dissatisfied with the public transportation systems?”

□ 2-5. Age gap in social status

○ Background

- An age-integrated society should be formed to enable all members of society to enjoy healthy and happy cultural lives. If the social statuses of the different age groups show significant differences, interactions among the various age groups will be impeded.
- The World Values Survey included items on the social status of people in their 20s, 40s, and 70s, which can be considered the representative age groups of each life stage. Based on the survey data, the relative social status of each age group can be examined.
- If the disparity in social status by age group is large, interactions among various age groups will be impeded.

○ Definition

- Disparity in social statuses of people in their 20s, 40s, and 70s

□ 2-6. Recognition of diverse age groups as community members

○ Background

- An age-integrated society should be formed to enable all members of society to enjoy healthy and happy cultural lives. Therefore, it needs to be determined whether different age groups are capable of understanding one another's characteristics and cultures and whether they can cooperate with one another as well.
- The extent to which younger and older people are recognized as community members were compared by age group.

○ Definition

- Rate of people who see those in their 20s and 70s as members of the same community
- In the European Social Survey, respondents were asked how they saw people in their 20s and people aged 70 or older. Their answers were: (1) I see people in their 20s and 70s as belonging to one group; (2) I see people in their 20s and 70s as two separate groups within the same community; (3) I see people in their 20s and 70s as two separate groups that are not part of the same community; and (4) I see people in their 20s and 70s as individuals rather than groups.

3. Age Equality

A. Health

□ 3-1. Age gap in physical activity

○ Background

- Health-promoting habits and activities ultimately contribute to improving quality of life by increasing the amount of time that people are able to live healthy lives as well as help improve and maintain people's overall health.
- It was determined whether there are differences among age groups in terms of the number of people who exercise regularly, which is an important health-promoting activity regardless of age.
- As diseases lead to deteriorating health and high medical costs, health-promoting activities have been emphasized from a comprehensive perspective.
- At the government level, increases in national healthcare expenditures caused by people's poor state of health may harm the stability and sustainability of the nation's finances.
- Therefore, it is necessary that continuous and diverse efforts be made to improve the health of every age group.

○ Definition

- Ratio of the number of people who exercise by age group to the number of people who exercise in the entire population
- The number of people who exercise can be found by measuring how many times people engage in physical activity, or how much time they devote to such: (1) seven days a week of high-intensity activity for at least 20 minutes a day (more than 10 minutes at a time); (2) three days a week of moderate-intensity activity for at least 30 minutes a day (more than 10 minutes at a time); and (3) five days a week of walking for at least 30 minutes a day (more than 10 minutes at a time).

□ 3-2. Age gap in the incidence of depression

○ Background

- The factors affecting quality of life include socio-demographic factors, socioeconomic factors, and health-related factors, among others.
- Among all mental and physical health problems, depression has a particularly strong impact on quality of life.
- Given the rapid increase in the suicide rate in South Korea, new light needs to be shed on the incidence of depression, as it is closely correlated to the suicide rate.

- In particular, the differences among age groups in this regard should be examined, given the fact that the incidence of depression tends to increase with age, due to age-related changes in the body and social isolation.

○ Definition

- Ratio of the incidence of depression by age group to the incidence of depression in the entire population
- The data regarding the incidence of depression by age group from the National Health and Nutrition Examination Survey were used. The respondents who gave an affirmative answer to the question "Have you ever felt a degree of sadness or despair that affected your daily life negatively for over two weeks within one year?" were regarded as having experienced depression.

□ 3-3. Age gap in people foregoing medical treatment

○ Background

- The rate of people foregoing medical treatment refers to the proportion of people who do not receive medical treatment when they need it, and is a reflection of health inequality.
- Inequality in access to healthcare services has the potential to cause health problems and may have a

negative impact on people's future health.

- Whether there are differences in the rate of people foregoing medical treatment by age group can be determined in the aspect of social integration through the reinforcement of the guarantee of healthcare services.

○ Definition

- Ratio of the yearly rate of people foregoing medical treatment by age group to the yearly rate of people foregoing medical treatment in the entire population
- The rate of people foregoing medical treatment can be found by measuring the number of people in the past year who were unable to visit a hospital (excluding dental clinics) when they wanted to do so.

B. Education and Informatization

□ 3-4. Age gap in education level

○ Background

- The rates of educational attainment by age group can be compared, and the rates of exclusion from education and educational level rates by age group can be determined.
- Educational levels may be regarded as resulting from the amount of educational opportunities afforded to

people, and are an indication of quality of life. Education allows people to achieve their goals and find self-fulfillment.

- Global AgeWatch (GAW) ranked and compared the educational levels of older people in different countries.
 - For reference, in the EU's social exclusion indicator (Joint Report on Social Inclusion, 2004), the rates of early dropouts from formal education or vocational training and the number of people with only primary or lower-secondary education were measured.
- Global AgeWatch (GAW) deals with the educational level of older people in the domain of "Capability,"¹⁶⁾ and used data from the World Bank, World Health Organization (WHO), International Labour Organization (ILO), Barro and Lee, and Gallup.

○ Definition

- Educational attainment rate by age group in each stage of education (i.e., elementary, middle school, and high school) to the educational attainment rate of the entire population in each stage of education

16) Domain 3: Capability: The employment and education indicators in this domain examine different aspects of the empowerment of older people (GAW).

□ 3-5. Age gap in informatization level

○ Background

- The informatization levels by age group can be determined and compared in terms of the accessibility of information and capability to use information.
- In today's information-oriented society, the disparity in informatization levels may cause people to get very different starts in life.
- In South Korea, an information divide index has been developed, and a survey on the information divide has been conducted.

○ Definition

- Ratio of the informatization level by age group to the informatization level of the entire population

C. Income and Housing

□ 3-6. Age gap in poverty rates

○ Background

- The poverty line is the minimum economic standard or level that guarantees a decent quality of life, and is equally applied to all age groups. In order to realize an age-integrated society, a certain amount of income needs to be guaranteed through the economic activities

of individuals (earned income and income from assets) or institutional support (public transfer) from the government.

- The state of poverty can be understood based on absolute or relative standards. While the rate of absolute poverty may decrease as the general standard of living in a society rises, such improvement in relative poverty is not so simple, as it can be defined differently according to social convention and standard of living. As a society develops, relative poverty tends to attract greater attention than absolute poverty.
- Therefore, in this study, the concept of the relative poverty rate was employed, and the rate was calculated based on disposable income so as to determine the poverty rate, which is considered to be the minimum adequate economic level of a society (income lower than 50 percent of median income¹⁷⁾).
- The indicators of the poverty rate can be drawn from the Household Survey and Survey of Household Finances and Living Conditions by Statistics Korea, the Poverty Statistics Yearbook of the Korea Institute for Health and Social Affairs, and the Luxembourg

17) In OECD countries, an income lower than 50 percent of the median income, as the standard of the poverty rate, has generally been used, but in the EU, an income lower than 60 percent of the median income has been used.

Income Study Database (LIS).

- The concept of disposable income was used as the income criteria for identifying whether income is sufficient for the consumption expenditure necessary for a minimum standard of living. The poverty rate based on disposable income can be used to make comparisons among countries. Disposable income refers to the amount of money that remains when non-living expenditures are deducted from ordinary income. Ordinary income is an individual's total income, including earned income, business income, property income, private transfer income, and public transfer income.
- Regarding the range of age groups to be compared, the poverty rate was measured in age groups divided into 10-year periods between the 20s and 70s, which is considered to be the working age, as earned income usually accounts for the entire income.

○ Definition

- Ratio of the relative poverty rate by age group to the relative poverty rate of the entire population
- 3-7. Age gap in number of people living below the housing baseline

○ Background

- The housing baseline can be used to identify the quality of housing in terms of various factors (minimum housing standard of the Housing Act), including area, waterproofing, housing tenure status, and residential environment, among others.

○ Definition

- Ratio of the number of people with housing below the minimum standard by age group to the number of people with housing below the minimum standard in the entire population
- Ratio of the number of older persons living in housing below the minimum standard to the number of older persons living in housing below the minimum standard in the entire old-age population (based on the standards of the Housing Act, as amended on May 27, 2011)