# Multidimensional Poverty among Different Age Cohorts in South Korea

소비자학과
남수정

# Income Mobility of Elderly Households in Korea

(International Journal of Consumer Studies 2015 ; 37: 316-323)

- **Data**: **KLoSA (2005 and 2011)**
- **Sample**: The study subjects **2601 responders** who were **more than 50 years old at the time of the 1st survey** provided information on household income in **both the 1st and 4th surveys**
- **Analysis: transition matrix**, **income quintile, equalized income**

**Income quintile** is a measure of neighborhood socioeconomic status that divides the population into **5 income groups** (from lowest income to highest income) so that approximately 20% of the population is in each group.

**Equalized income** is a measure of household income that takes account of the differences in a **household's size** and composition, and thus is equivalised or made equivalent for all household sizes and compositions.

- **OECD equivalence scale**. This assigns a value of 1 to the first household member, of 0.7 to each additional adult and of 0.5 to each child.

- **Square root scale**. Recent OECD publications (e.g. OECD 2011, OECD 2008) comparing income inequality and poverty across countries use a scale which divides household income by the square root of household size. This implies that, for instance, a household of four persons has needs twice as large as one composed of a single person.

**Table 1** Distribution of income

| | | Quintile in 2011 | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| Quintile in 2005 | 1 | 1,467 (56.4%) | 8 (0.3%) | 1 (0.1%) | 0 (0%) | 0 (0%) |
| | 2 | 221 (8.5%) | 110 (4.2%) | 13 (0.5%) | 4 (0.2%) | 0 (0%) |
| | 3 | 13 (0.5%) | 170 (6.5%) | 31 (1.2%) | 12 (0.5%) | 0 (0%) |
| | 4 | 4 (0.2%) | 38 (1.5%) | 129 (5.0%) | 54 (2.1%) | 10 (0.4%) |
| | 5 | 1 (0.1%) | 3 (0.1%) | 11 (0.4%) | 103 (4.0%) | 198 (7.6%) |

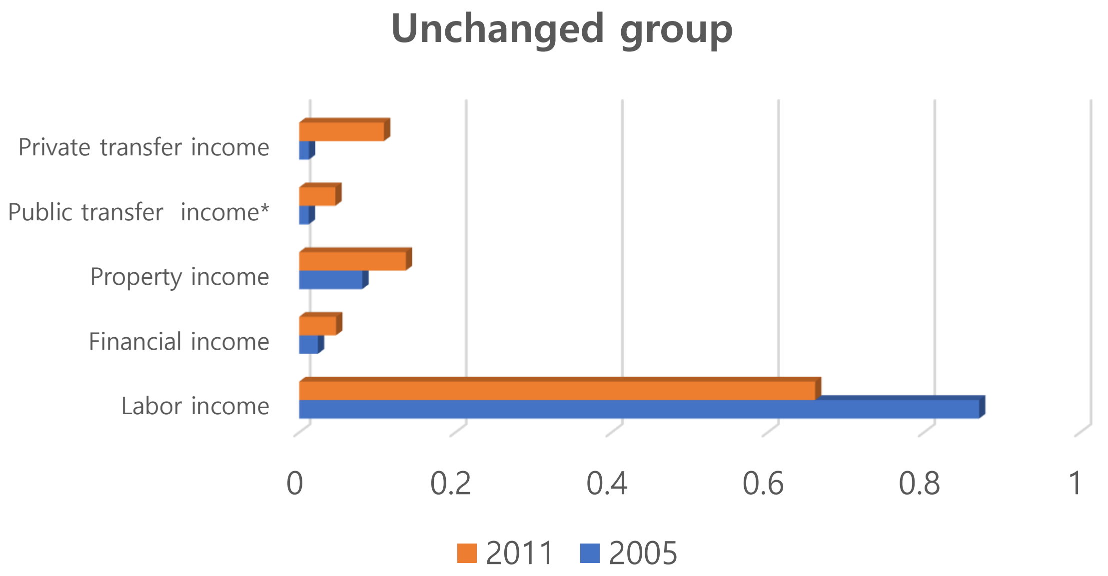
1,860 households (71.5%) showed no changed : 1467 households (56.4%) stayed in bottom quintile and 198 (7.6%) remained in top quintile.
693 households (26.6%) dropped in income status, with 221 households dropping from 2nd quintile to bottom quintile (the most frequent decline).
48 households (1.8%) showed a higher income status.

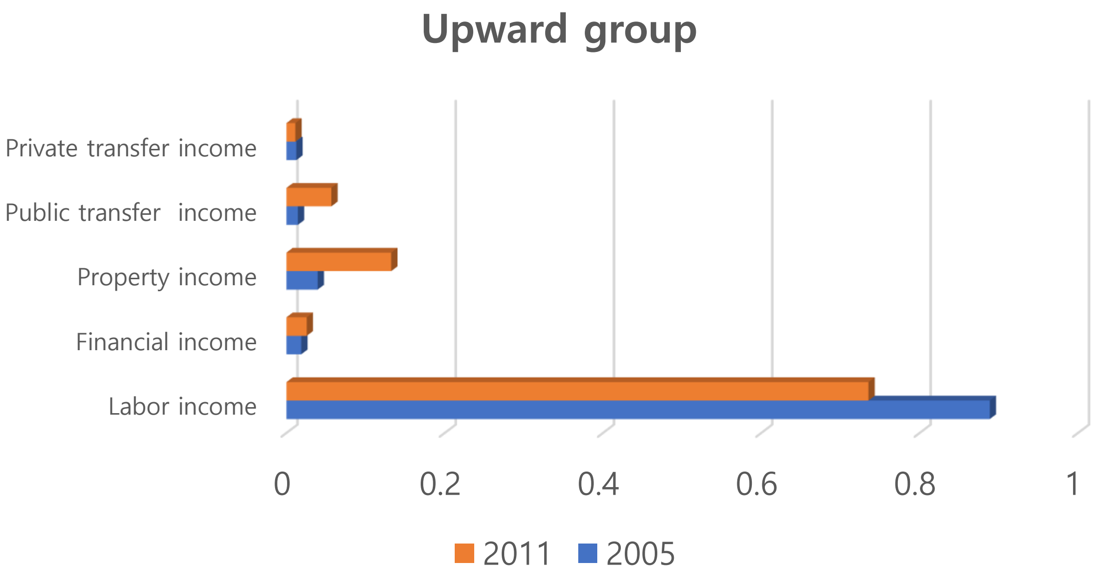
**Table 2** Demographics according to income mobility

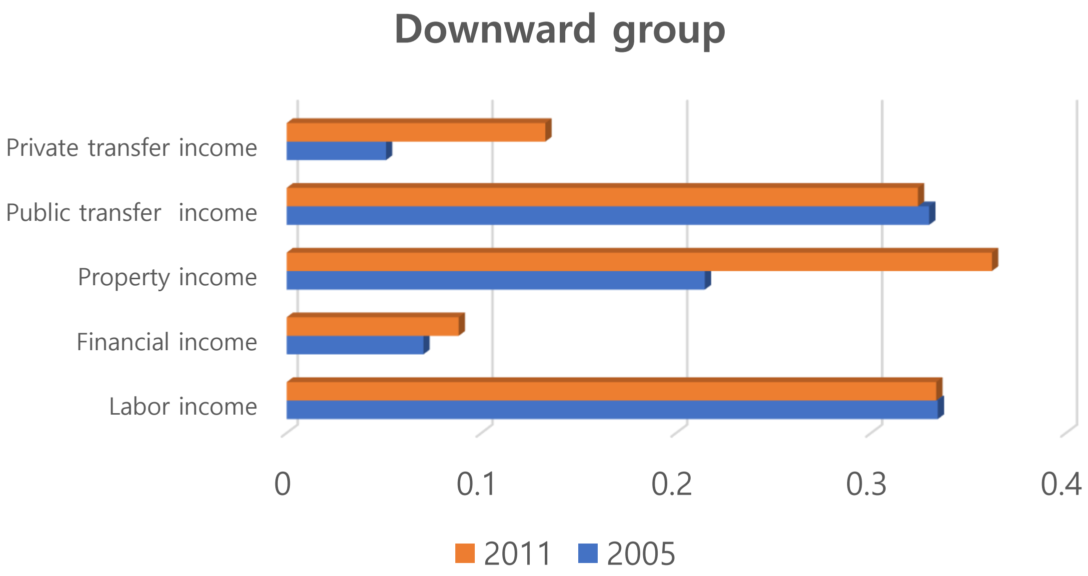
| | | Unchanged group | Upward group | Downward group | $\chi^2/F$ |
|---|---|---|---|---|---|
| Gender | Male | 1149(61.8%) | 37(77.1%) | 589(85.0%) | 127.358*** |
| | Female | 711(38.2%) | 11(22.9%) | 104(15.0%) | |
| Age in 2011 | | 70.34(7.740)a | 64.21(6.601)b | 65.83(7.002)b | 100.683*** |
| Education | No education | 420(22.6%) | 3(0.1%) | 26(3.8%) | 253.069*** |
| | Elementary | 657(25.3%) | 20(41.7%) | 167(24.1%) | |
| | Middle School | 304(16.3%) | 16(33.3%) | 148(21.4%) | |
| | High School | 313(16.8%) | 5(10.4%) | 258(37.2%) | |
| | Over. College | 160(8.6) | 4(8.4%) | 93(13.4%) | |
| Economic activity in 2011 | Yes | 558(46.7%) | 15(50.0%) | 203(47.1%) | .148 |
| | No | 638(53.3%) | 15(50%) | 228(52.9%) | |
| Marital state in 2011 | Married | 1214(65.3%) | 43(89.6%) | 588(84.8%) | 102.128*** |
| | Unmarried | 646(34.7%) | 5(10.4%) | 105(15.2%) | |
| Number of employed family member in 2011 | 0 | 1116(60.0%) | 28(58.3%) | 442(63.8%) | 3.899 |
| | 1 | 391(21.0%) | 11(22.9%) | 129(18.6%) | |
| | 2 | 254(13.7%) | 7(14.6%) | 88(12.7%) | |
| | 3 | 84(4.5%) | 2(4.2%) | 29(4.2%) | |
| | 4 | 13(0.7%) | 0(0%) | 4(0.6%) | |
| | 5 | 2(0.1%) | 0(0%) | 1(0.1%) | |
| Having one's own house in 2011 | Yes | 1351(72.6%) | 38(79.2%) | 590(85.1%) | 43.631*** |
| | No | 509(27.4%) | 10(20.8%) | 103(14.9%) | |
| Metropolitan in 2011 | Yes | 1086(58.4%) | 27(56.3%) | 374(54.0%) | 4.043 |
| | No | 774(41.6%) | 21(43.8%) | 319(46.0%) | |

***$P < 0.001$

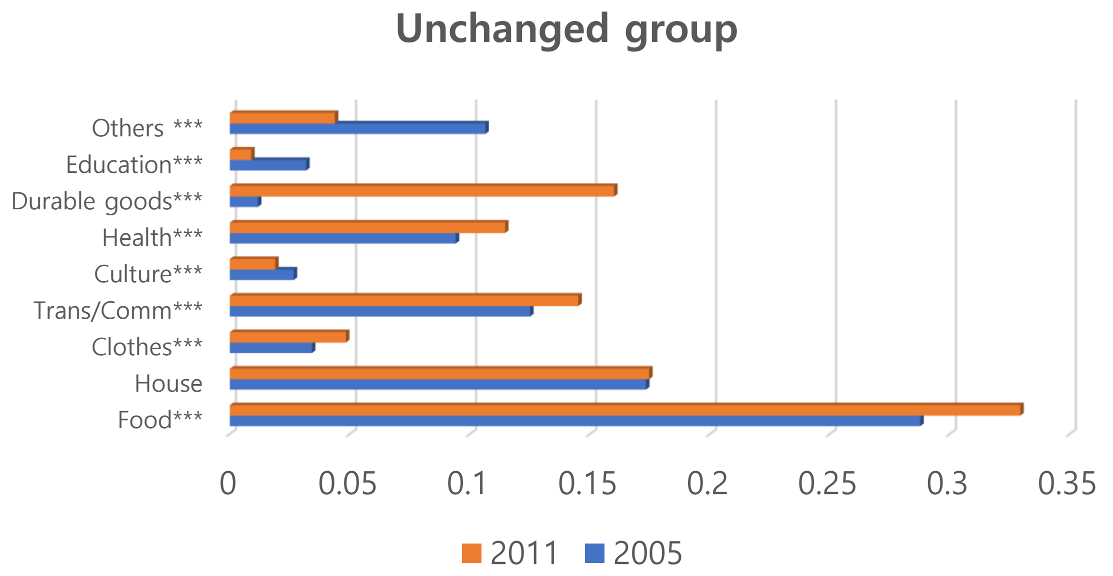
# Income Composition

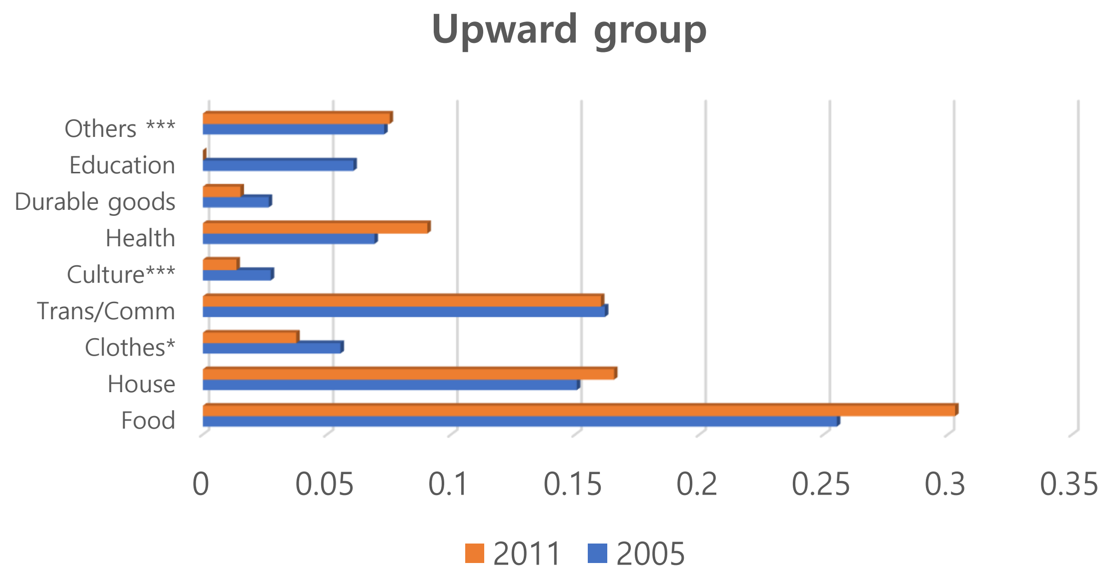


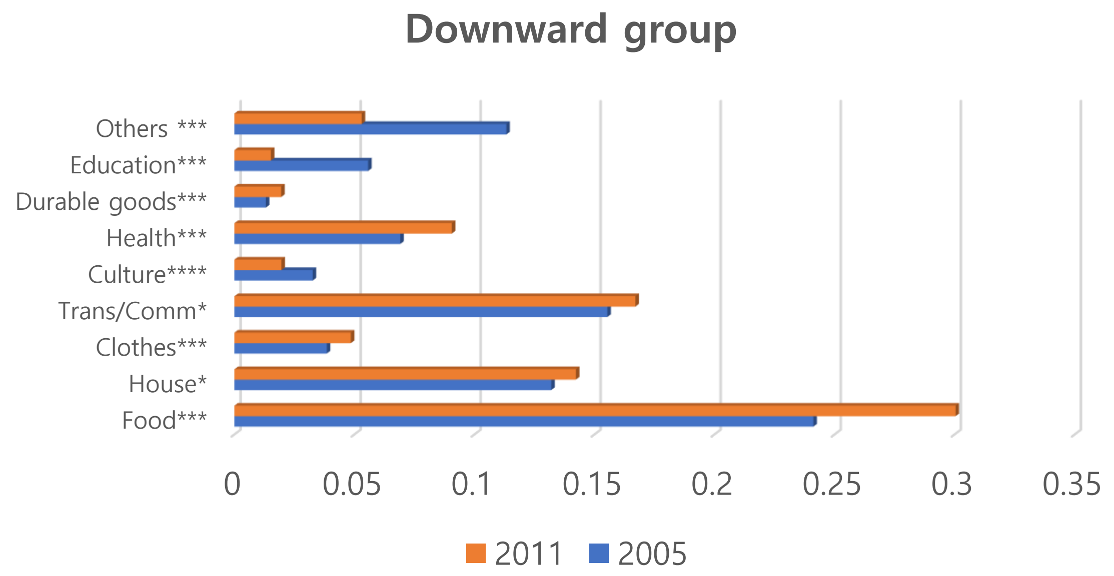



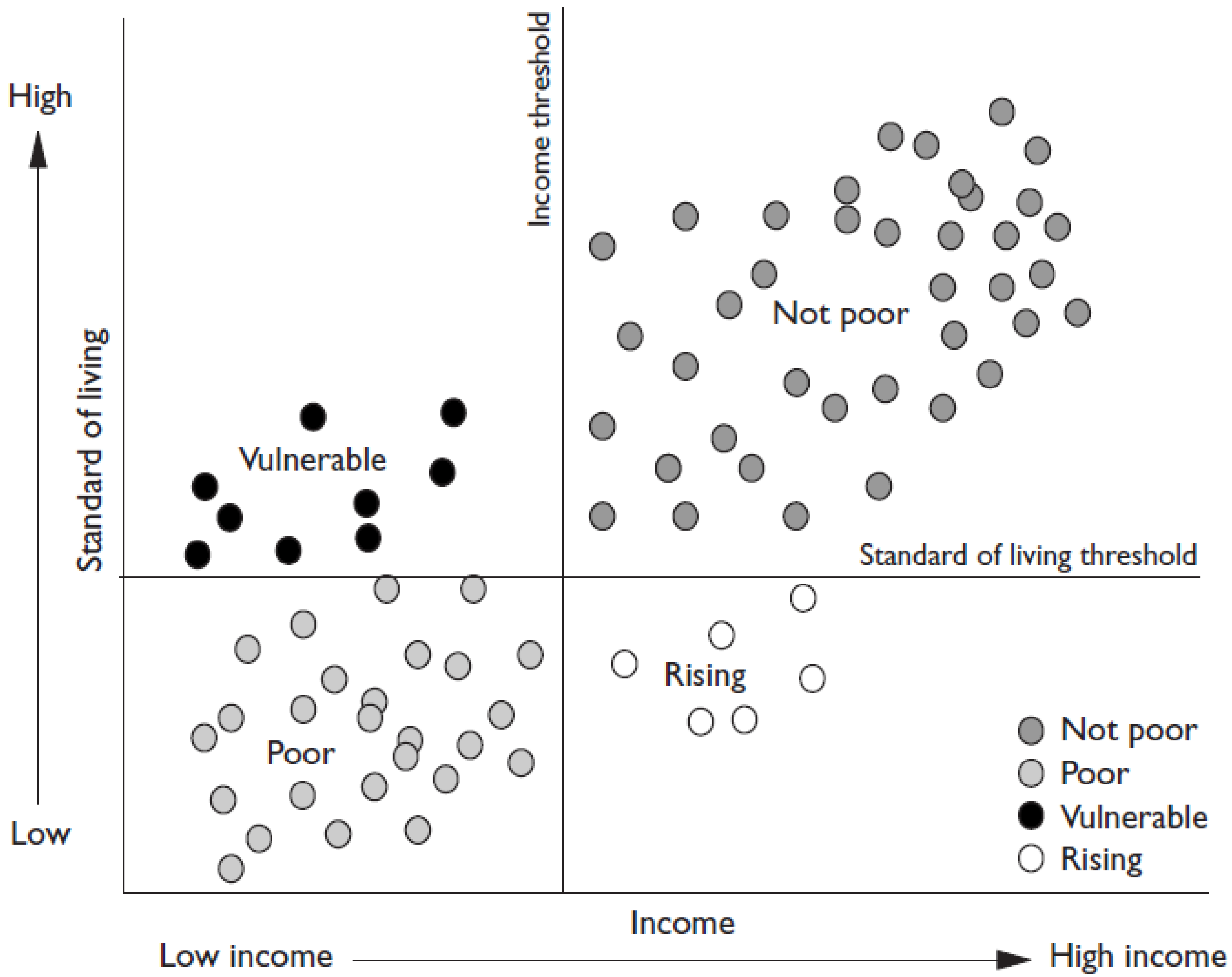
# Consumption Pattern



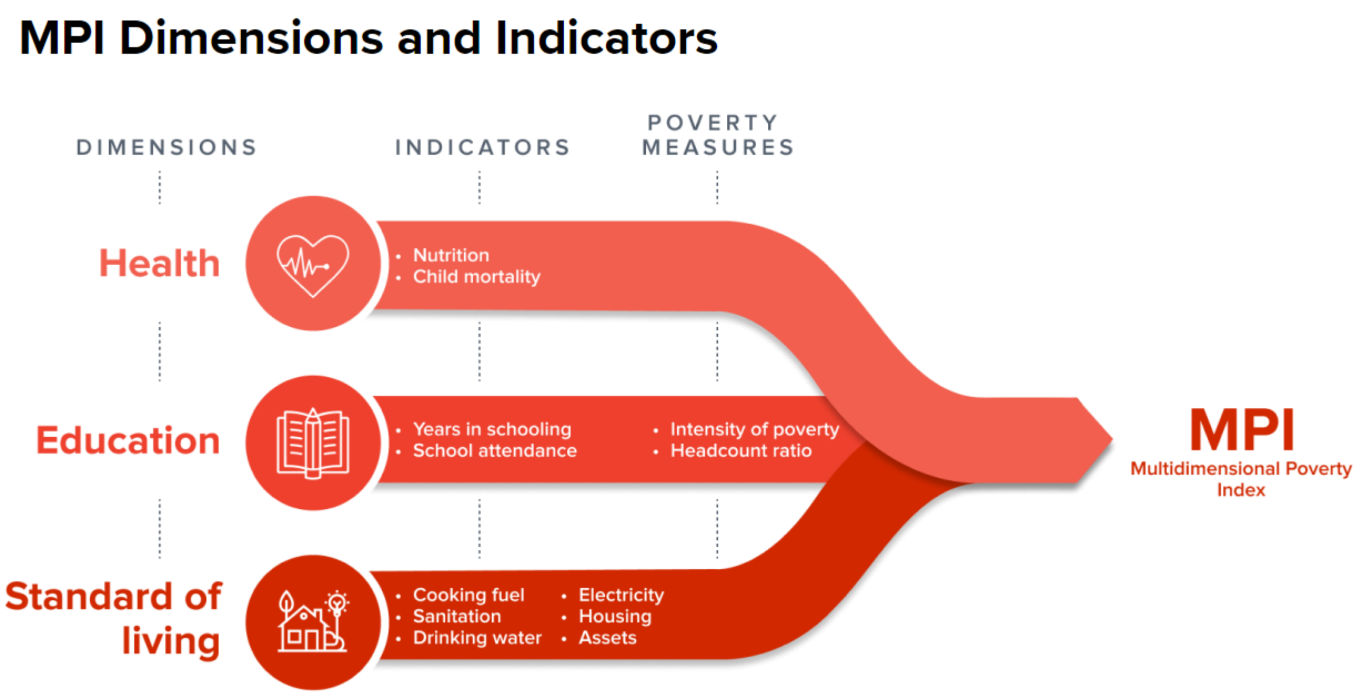



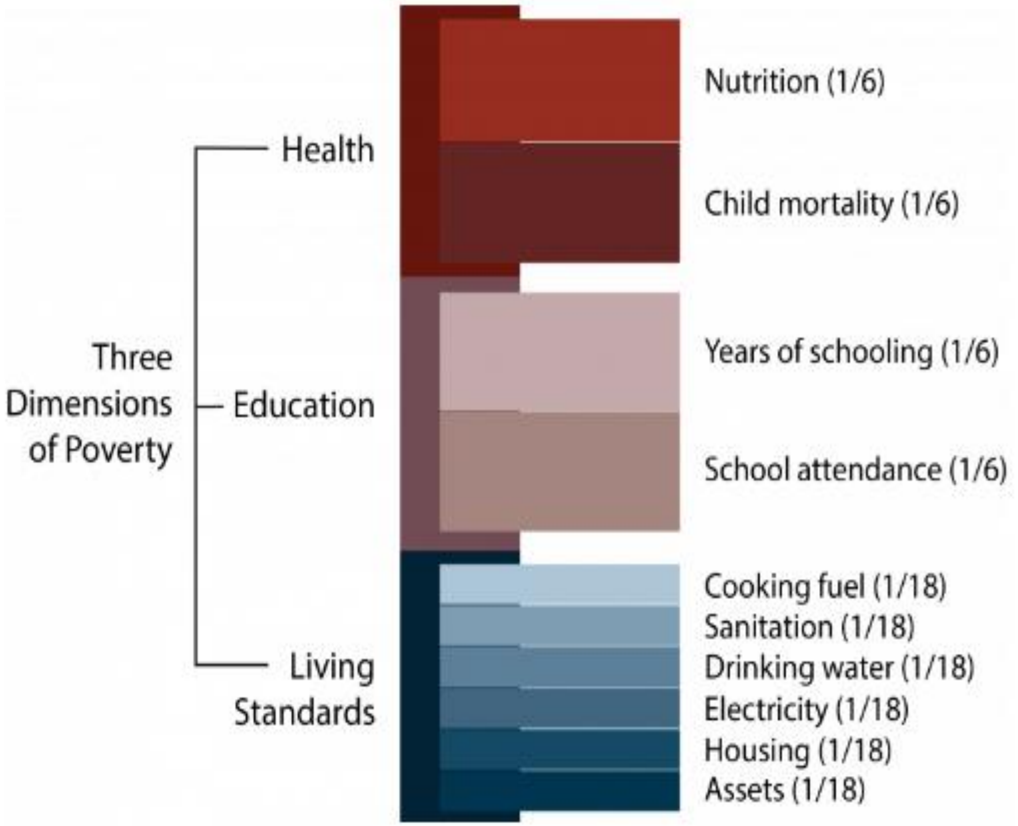
# What is Poverty?




<Source: Pantazia, C., Gordon, D., Levitas, R. (2006). Poverty and Social Exclusion in Britain, Bristol: The Policy Press, page 39>

The **Global Multidimensional Poverty Index (MPI)** was **developed in 2010** by the **Oxford Poverty & Human Development Initiative (OPHI)** and the **United Nations Development Programme** and uses health, education and standard of living indicators to determine the incidence and intensity of poverty experienced by a population.



| Dimensions of Poverty | Indicator | Deprived if living in the household where... | Weight |
|---|---|---|---|
| Health | Nutrition | Any adult under 70 years of age or any child for whom there is nutritional information is undernourished.[1] | 1/6 |
| | Child mortality | Any child under the age of 18 years has died in the family in the five-year period preceding the survey.[2,3] | 1/6 |
| Education | Years of schooling | No household member aged 'school entrance age + six[4] years or older has completed at least six years of schooling. | 1/6 |
| | School attendance | Any school-aged child is not attending school up to the age at which he/she would complete class eight.[5] | 1/6 |
| Standard of living | Cooking Fuel | The household cooks with dung, wood, charcoal or coal. | 1/18 |
| | Sanitation | The household's sanitation facility is not improved (according to SDG guidelines) or it is improved but shared with other households.[6] | 1/18 |
| | Drinking Water | The household does not have access to improved drinking water (according to SDG guidelines) or improved drinking water is at least a 30-minute walk from home, round trip.[7] | 1/18 |
| | Electricity | The household has no electricity.[8] | 1/18 |
| | Housing | At least one of the three housing materials for roof, walls and floor are inadequate: the floor is of natural materials and/or the roof and/or walls are of natural or rudimentary materials.[9] | 1/18 |
| | Assets | The household does not own more than one of these assets: radio, television, telephone, computer, animal cart, bicycle, motorbike or refrigerator, and does not own a car or truck.[10] | 1/18 |

1. Adults 19 to 70 years of age (229 to 840 months) are considered undernourished if their **Body Mass Index (BMI)** is below 18.5 kg/m2. Those 5 to 19 years (61 to 228 months) are identified as undernourished if their age-specific BMI values are below minus two standard deviations from the median of the reference population (https://www.who.int/growthref/en/).

2. All reported deaths are used if the date of child's death is not known.
3. Child mortality information is typically collected from women of reproductive ages 15-49 years.
4. This country-specific age cutoff was introduced in 2020.
5. Source for official entrance age to primary school
6. A household is considered to have access to improved sanitation if it has some type of flush toilet or latrine, or ventilated improved pit or composting toilet, provided that they are not shared.
7. A household has access to improved drinking water if the water source is any of the following types: piped water, public tap, borehole or pump, protected well, protected spring or rainwater, and it is within 30 minutes' walk (round trip). If the survey report uses other definitions of improved drinking water, we follow the survey report.
8. A few countries do not collect data on electricity because of 100% coverage. In such cases, we identify all households in the country as non-deprived in electricity.
9. A household is considered deprived if the dwelling's floor is made of mud/clay/earth, sand or dung; or if the dwelling has no roof or walls or if either the roof or walls are constructed using natural materials such as cane, palm/trunks, sod/mud, dirt, grass/reeds, thatch, bamboo, sticks or rudimentary materials such as carton, plastic/ polythene sheeting, bamboo with mud/stone with mud, loosely packed stones, uncovered adobe, raw/reused wood, plywood, cardboard, unburnt brick or canvas/tent.
10. Television (TV) includes smart TV and black and white TV, telephone includes cell phones, computer includes tablets and laptops, and refrigerator includes freezers.

# Who is an Older Adult?

| 연령 | 사업수 | 사업명 | 주요 정책 목적 |
|---|---|---|---|
| 75세 | 2개 | 단기 가사서비스(부부), 고령운전자 의무교육 | 돌봄, 교통안전 |
| 70세 | 1개 | 경로우대자 추가(세금) 공제 | 소득보장 |
| 66세 | 1개 | 의료급여 생애전환기 검진 | 의료보장 |
| 65세 | 24개 | 기초연금, 노인장기요양보험, 노인맞춤돌봄서비스, 노인여가복지시설(경로당), 경로우대제, 노인주거복지시설, 노인건강진단, 노인일자리(공공형, 사회서비스형), 독거노인 공동생활 홈서비스, 단기 가사서비스(독거), 이동통신비 감면, 노인 치과 지원, 노인 틀니·임플란트 지원, 행복주택, 응급안전안심서비스, 노인 외래 정액제, 어촌 가사도우미, 고령자 전세임대주택(전세금 지원), 고령자 복지주택, 예방접종, 노인 이동통신비 감면, 학대피해노인 상담지원, 학대피해노인 쉼터, 노인양로시설 | 경로우대, 소득보장, 일자리, 의료보장, 돌봄, 주거서비스, 사회참여, 교통안전 |
| 62세 | 1개 | 국민연금 | 소득보장 |
| 60세 | 14개 | 치매검진사업, 치매치료관리비 지원, 노인여가복지시설(노인복지관), 결식우려노인 무료급식지원, 노인실명 예방관리(안검진, 개안수술비 지원), 노인저시력예방교육·상담·재활사업, 무릎인공관절수술 지원, 노인일자리(시장형), 노인여가복지시설(노인교실), 농지연금, 예방접종(Covid-19), 국민연금 노후긴급자금 대부사업 | 소득보장, 일자리, 의료보장, 주거서비스, 사회참여 |
| 56세 | 1개 | 아름다운 이야기 할머니 사업(56~74세) | 사회참여 |
| 55세 | 2개 | 국민연금(조기노령연금), 주택연금 | 소득보장 |
| 50세 | 3개 | 고령자 인재은행, 신중년 경력형일자리, 신중년 적합직무 고용장려금 | 일자리, 사회참여 |

# Multidimensional poverty among different age cohorts in South Korea

(International Journal of Social Welfare 2022;31:433-448)

- **Data**: 10th panel of the 2015 Korea Welfare Panel Study (**KOWEPS, 2015**)
- **Sample**: **a young group aged 54 years or less** (n=2434), **young-old group aged 55–64** years (n=1182), **old-old group aged 65–74 years** (n=1446), and **oldest-old group aged 75 years and over** (n=1852)
- **Analysis:** Count Approach, Latent Class Analysis

Table 2. Participant Characteristics: According to Age

| | ≤54 (n=2434) Frequency (%) | 55-64 (n=1182) Frequency (%) | 65-74 (n=1446) Frequency (%) | 75≤ (n=1852) Frequency (%) | $\chi^2$ | $p$ |
|---|---|---|---|---|---|---|
| Gender | | | | | | |
| Male | 2074 (85.2) | 868 (73.4) | 883 (61.1) | 897 (48.4) | 708.331 | .000 |
| Female | 360 (14.8) | 314 (26.6) | 563 (38.9) | 955 (51.6) | | |
| Marital Status | | | | | | |
| Yes | 1768 (72.6) | 761 (64.4) | 815 (56.4) | 778 (42.0) | 427.429 | .000 |
| No | 666 (27.4) | 421 (35.6) | 631 (43.6) | 1074 (58.0) | | |
| Education | | | | | | |
| Uneducated | 2 (.1) | 30 (2.5) | 180 (12.4) | 578 (31.2) | 3606.873 | .000 |
| Elementary School | 56 (2.3) | 287 (24.3) | 547 (37.8) | 718 (38.8) | | |
| Middle School | 128 (5.3) | 275 (23.3) | 295 (20.4) | 231 (12.5) | | |
| High School Diploma | 984 (40.4) | 413 (34.9) | 302 (20.9) | 204 (11.0) | | |
| Undergraduate Degree and higher | 1264 (51.9) | 177 (15.0) | 122 (8.4) | 121 (6.5) | | |

# **Measure of Poverty**….

## Capability Approach

Based on the capability approach, poverty is explained according to the vectors of various dimensions of the standard of living. To examine multidimensional poverty, the dimensions that determine poverty should first be defined, and then it must be determined whether the **“minimally acceptable level” of each dimension** has been attained.

## Analysis of Poverty

- Intersection vs. Union
- Counting Approach (by. Atkinson,2003)
- Foster-Grier-Thorbeke (FGT) (by. Alkire and Foster, 2007)

$$FGT(\alpha) = \frac{1}{N}\sum_{i=1}^{H}\left(1 - \frac{y_i}{z}\right)^{\alpha}$$

*Z*= poverty threshold, *N*= the number of people in the economy, *H*= the number of poor (those with incomes at or below *z*), $y_i$ = the income of each individual *i*. If $\alpha$ is low then the FGT metric weights all the individuals with incomes below z roughly the same.

# Measure of Poverty….

## Constructing poverty measures

The headcount ratio (*H*) is calculated by counting the number of deprived individuals (q) to the whole (N) (H = q/N).

$$H = \frac{\text{Number of people below the poverty line (q)}}{\text{Total population (N)}}$$

The adjusted headcount ratio ($M_0$) was calculated to reflect the degree of poverty (Alkire & Foster, 2011).
This measure reflects both the *incidence* of poverty (the percentage of the population who are poor) and the *intensity* of poverty (the percentage of deprivations suffered by each person or household on average). $M_0$ is calculated by multiplying the incidence (H) by the intensity (A).

$$A = \frac{\sum_{i=1}^{n} c_i(k)}{dq}$$

- *Adjusted Poverty Gap ($M_1$):* This measure reflects the incidence, intensity and depth of poverty. The depth of poverty is the average 'gap' (*G*) between the level of deprivation poor people experience and the poverty cut-off line. $M_1 = H \times A \times G$.
- *Adjusted Squared Poverty Gap ($M_2$)*: This measure reflects the incidence, intensity, and depth of poverty, as well as inequality among the poor (captured by the squared gap, *S*). $M_2 = H \times A \times S$.

Table 1. Dimensions and indicators of multidimensional poverty.

| Dimension | Indicators | Cut-offs (Deprived if) |
|---|---|---|
| Money | Household income with equivalence scale | Less than 50% of median income |
| | Household net assets | Less than basic property based on Statistics Korea |
| Health | Subjective health condition | "inclined not to be healthy,"; "health condition is very bad" |
| | Financial approach to medical service | Cost of medical treatment to disposable income ratio exceeds 20% |
| Housing condition | Vulnerable housing location | Basement floor, Semi-basement floor, Rooftop |
| | Housing type | Temporary building, rental housing for disadvantaged class, vinyl greenhouse, mud hut, shack, temporary makeshift, housing in non-residential building (arcade, factory, etc.) |
| | Housing expenses | Housing cost to disposable income ratio (rent + maintenance cost) exceeds 30% |
| Human relations | Family relationship | Very unsatisfactory, inclined to be unsatisfactory |
| | Social relationship | Very unsatisfactory, inclined to be unsatisfactory |
| Employment | Work ability | Do not engage in economic activity because work ability is lacking |
| | Participation in economic activity | temporary job, dayworker, self-support worker, public works, senior citizen's work, unpaid family worker, jobless, economically inactive population |
| Social security | Health insurance | Uninsured, insurance defaulter |

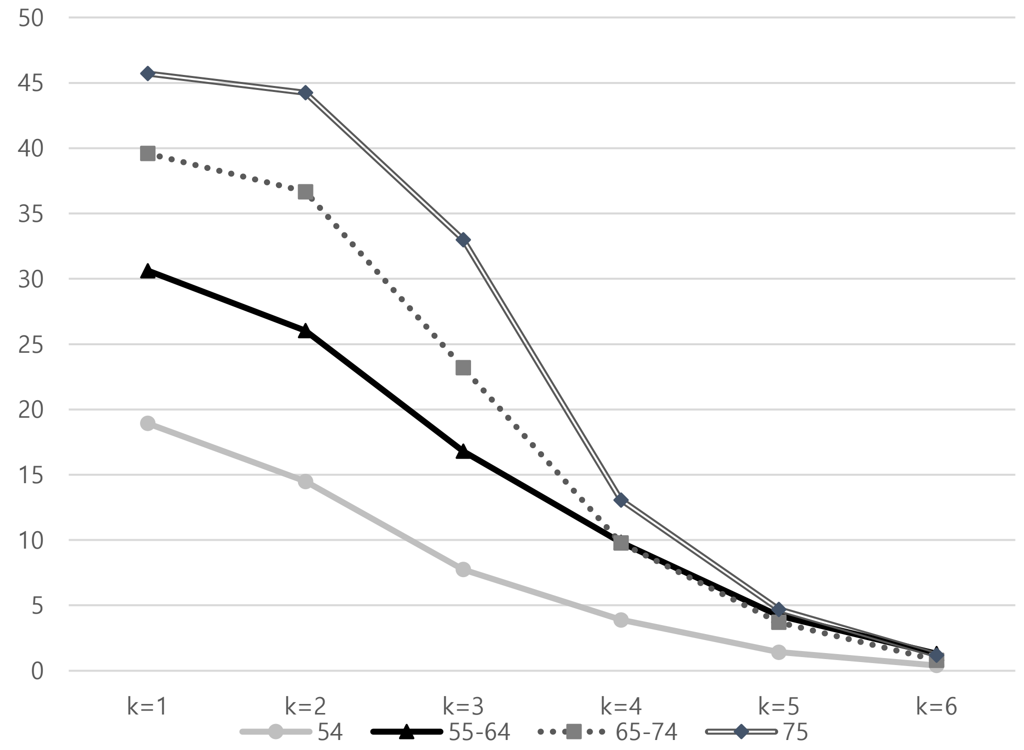
## Table 3. Poverty Ratio: According to Age

| | ≤54 | 55-64 | 65-74 | 75≤ |
|---|---|---|---|---|
| | Frequency (%) | Frequency (%) | Frequency (%) | Frequency (%) |
| Money | 1705 (70.0) | 841 (71.2) | 1327 (91.8) | 1808 (97.6) |
| Housing Condition | 255 (10.5) | 172 (14.6) | 172 (11.9) | 225 (12.1) |
| Health | 167 (9.5) | 261 (22.1) | 551 (38.1) | 1055 (57.0) |
| Employment | 717 (29.5) | 631 (53.4) | 1044 (72.2) | 1525 (82.3) |
| Human Relations | 147 (6.0) | 135 (11.4) | 125 (8.6) | 202 (10.9) |
| Social Security | 126 (5.2) | 113 (9.6) | 151 (10.4) | 224( 12.1) |

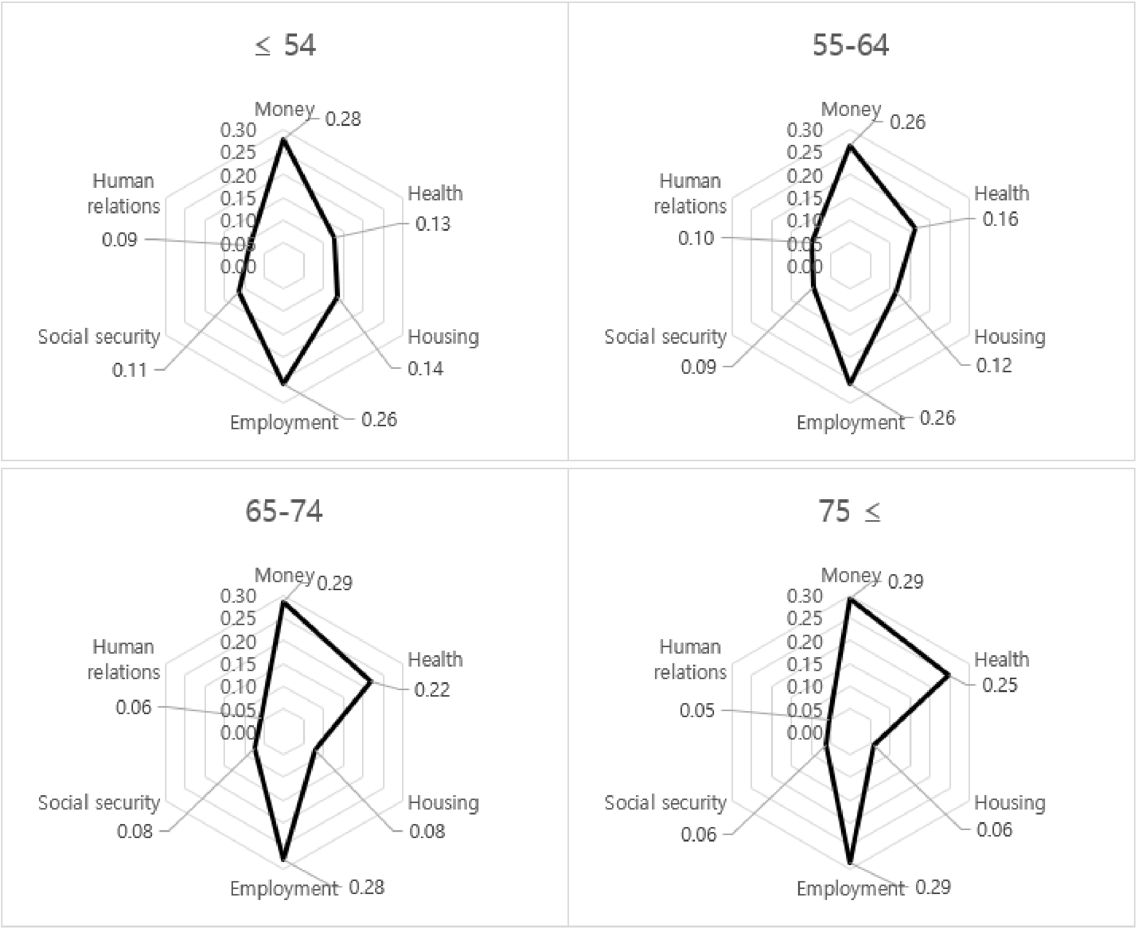
Table 4. Headcount Ratio and Adjusted Headcount Ratio: According to Age

| | ≤54 | | | 55–64 | | | 65–74 | | | 75≤ | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | H[a] | A[b] | M[c] | H[a] | A[b] | M[c] | H[a] | A[b] | M[c] | H[a] | A[b] | M[c] |
| 0 | 24.3 | - | - | 19.4 | - | - | 3.4 | - | - | 0.6 | - | - |
| 1 and more | 75.7 | 0.28 | 18.93 | 80.6 | 0.38 | 30.63 | 96.6 | 0.41 | 39.60 | 99.4 | 0.46 | 45.72 |
| 2 and more | 33.7 | 0.43 | 14.49 | 55.4 | 0.47 | 26.04 | 78.0 | 0.47 | 36.67 | 90.3 | 0.49 | 44.25 |
| 3 and more | 12.5 | 0.62 | 7.75 | 27.1 | 0.62 | 16.80 | 40.0 | 0.58 | 23.20 | 57.9 | 0.57 | 33.00 |
| 4 and more | 5.4 | 0.72 | 3.89 | 13.1 | 0.75 | 9.83 | 13.4 | 0.73 | 9.78 | 17.9 | 0.73 | 13.07 |
| 5 and more | 1.6 | 0.88 | 1.41 | 4.8 | 0.88 | 4.22 | 4.3 | 0.86 | 3.70 | 5.4 | 0.87 | 4.70 |
| 6 | 0.4 | 1.0 | 0.40 | 1.3 | 1.0 | 1.30 | 0.8 | 1.0 | 0.80 | 1.2 | 1.0 | 1.20 |

Note. [a] Headcount ratio is the percentage of people identified as poor; [b] Average deprivation score is the percentage of people identified as poor (H) multiplied by the average share of weighted deprivations that the poor experience; [c] Adjusted headcount ratio= HA




Adjusted Headcount Ratio




The Contribution of Poverty Dimensions to Multidimensional Poverty (*k*=3)

$MPI = w_1 CH_1 + w_2 CH_2 + w_3 CH_3$, Here $w_1$ is the weight of indicator 1 and $CH_1$ is the censored headcount ratio of indicator 1, and so on for the other two indicators, with $\sum_{i=1}^{d} w_1 = 1.$ The percentage contribution of each indicator to overall poverty is computed as follows:

$$Contribution\ of\ Indicator\ i\ to\ MPI = \frac{w_i CH_i}{MPI} \times 100$$

**TABLE 3** The difference in total number of poverty dimension

| Young Mean (SD) | Young-old Mean (SD) | Old-old Mean (SD) | Oldest-old Mean (SD) | $F$ | $\eta_p^2$ | $p$ |
|---|---|---|---|---|---|---|
| 0.998[a] (0.867) | 1.288[b] (1.126) | 1.609[c] (0.933) | 1.897[d] (0.886) | 353.621 | 0.133 | 0.000 |

*Note*: In the Scheffé test, the significance of the mean difference of each group was verified at the 0.05 level, and the degree of the mean of each group was expressed as $a < b < c < d$.

**TABLE 4** Headcount ratio and adjusted headcount ratio

| | Young | | | Young-old | | | Old-old | | | Oldest-old | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Deprivation dimension | H[a] | A[b] | M[c] | H[a] | A[b] | M[c] | H[a] | A[b] | M[c] | H[a] | A[b] | M[c] |
| 0 | 26.9 | – | – | 25.4 | – | – | 6.2 | – | – | 1.3 | – | – |
| 1 and more | 73.1 | 0.27 | 19.97 | 74.6 | 0.35 | 25.75 | 93.8 | 0.34 | 32.18 | 98.7 | 0.38 | 37.97 |
| 2 and more | 18.5 | 0.49 | 9.05 | 34.0 | 0.52 | 17.63 | 47.6 | 0.48 | 22.92 | 65.7 | 0.48 | 31.37 |
| 3 and more | 6.2 | 0.67 | 4.13 | 13.8 | 0.69 | 9.55 | 14.2 | 0.67 | 9.55 | 18.8 | 0.67 | 12.61 |
| 4 and more | 1.6 | 0.85 | 1.36 | 5.1 | 0.85 | 4.34 | 4.4 | 0.83 | 3.67 | 5.5 | 0.84 | 4.64 |
| 5 | 0.4 | 1.00 | 0.40 | 1.3 | 1.00 | 1.30 | 0.8 | 1.00 | 0.80 | 1.2 | 1.00 | 1.20 |

[a]Headcount ratio is the percentage of people identified as poor.
[b]Average deprivation score is the percentage of people identified as poor (H) multiplied by the average share of weighted deprivations that the poor experience.
[c]Adjusted headcount ratio = $H \times A$.

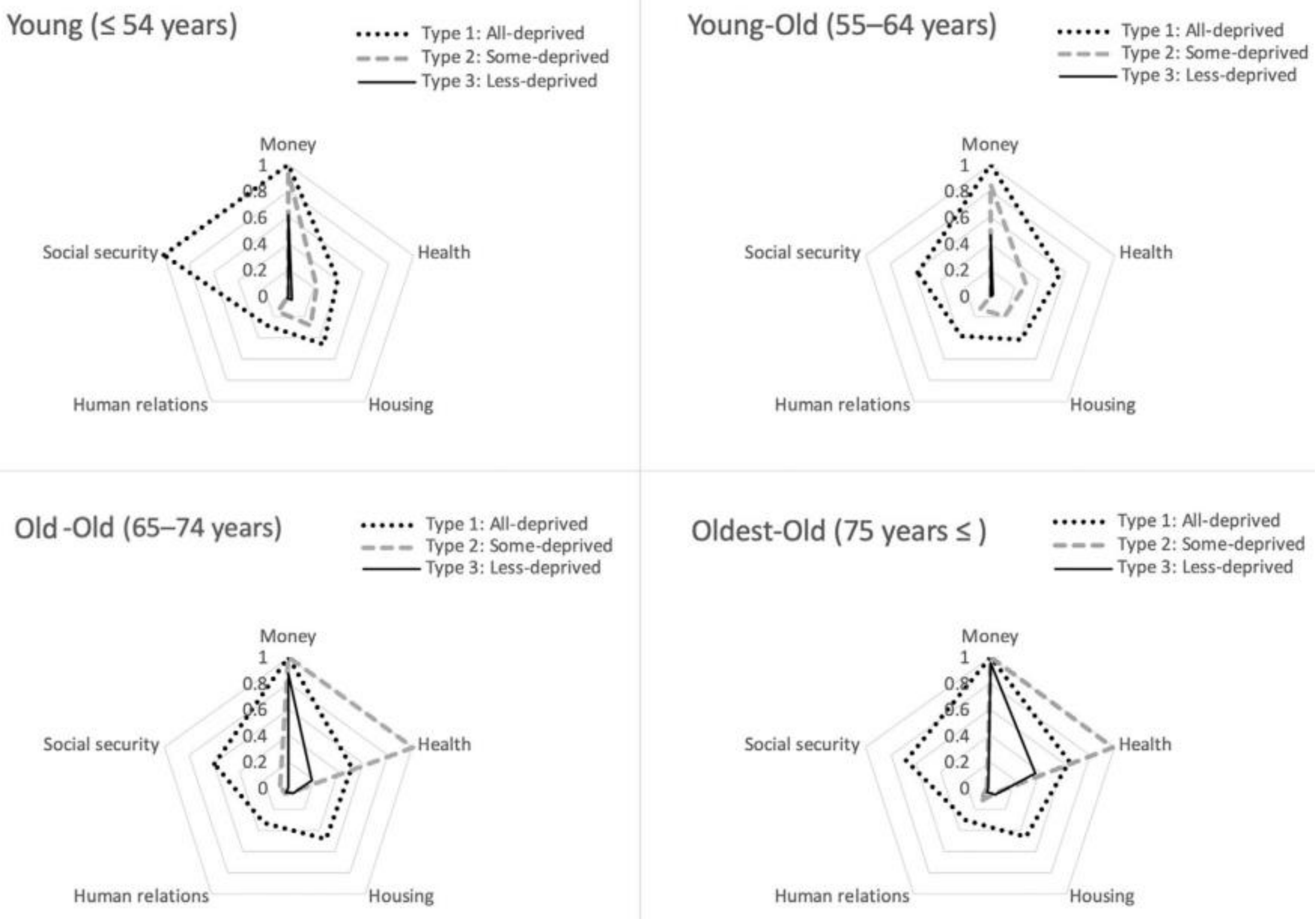
**TABLE 5** Fit indexes of latent class analysis

| Number of groups (K) | Young | | | Young-old | | | Old-old | | | Oldest-old | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **2** | **3** | **4** | **2** | **3** | **4** | **2** | **3** | **4** | **2** | **3** | **4** |
| LR $\chi^2$ ($p$ value) | 21.940 (0.344) | 9.972 (0.764) | 6.321 (0.611) | 41.254 (0.004) | 14.864 (0.388) | 4.066 (0.851) | 24.206 (0.234) | 4.667 (0.990) | 1.726 (0.988) | 27.520 (0.121) | 8.000 (0.889) | 2.537 (0.960) |
| *df* | 20 | 14 | 8 | 20 | 14 | 8 | 20 | 14 | 8 | 20 | 14 | 8 |
| AIC | 7646.67 | 7646.70 | 7655.05 | 4867.53 | 4853.14 | 4854.34 | 5385.45 | 5377.91 | 5386.97 | 6759.38 | 6751.87 | 6758.40 |
| BIC | 7710.44 | 7745.26 | 7788.39 | 4923.36 | 4939.42 | 4971.07 | 5443.49 | 5467.61 | 5508.33 | 6820.15 | 6845.77 | 6885.45 |
| Adjusted BIC | 7675.49 | 7691.24 | 7715.31 | 4888.42 | 4885.42 | 4898.01 | 5408.55 | 5413.61 | 5435.27 | 6785.20 | 6791.76 | 6812.38 |
| BLRT ($p$ value) | −4037.19 (0.000) | −3812.34 (0.030) | −3806.35 (0.429) | −2617.10 (0.000) | −2422.77 (0.000) | −2409.57 (0.667) | −2809.11 (0.000) | −2681.73 (0.000) | −2671.96 (1.000) | −3479.92 (0.000) | −3368.69 (0.020) | −3358.93 (0.667) |
| Entropy | 0.759 | 0.690 | 0.856 | 0.630 | 0.504 | 0.699 | 0.719 | 0.667 | 0.697 | 0.690 | 0.527 | 0.604 |

**TABLE 6** Probability scale

| Dimension of poverty | Young | | | Young-old | | | Old-old | | | Oldest-old | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Type 1: all ($n = 126$) | Type 2: some ($n = 324$) | Type 3: less ($n = 1984$) | Type 1: all ($n = 124$) | Type 2: some ($n = 310$) | Type 3: less ($n = 748$) | Type 1: all ($n = 201$) | Type 2: some ($n = 403$) | Type 3: less ($n = 842$) | Type 1: all ($n = 243$) | Type 2: Some ($n = 825$) | Type 3: Less ($n = 784$) |
| Money | | | | | | | | | | | | |
| No | 0.000 | 0.057 | 0.379 | 0.000 | 0.147 | 0.539 | 0.000 | 0.000 | 0.124 | 0.000 | 0.000 | 0.041 |
| Yes | 1.000 | 0.943 | 0.621 | 1.000 | 0.853 | 0.461 | 1.000 | 1.000 | 0.876 | 1.000 | 1.000 | 0.959 |
| Health | | | | | | | | | | | | |
| No | 0.603 | 0.778 | 0.975 | 0.439 | 0.710 | 0.969 | 0.494 | 0.000 | 0.815 | 0.362 | 0.013 | 0.638 |
| Yes | 0.397 | 0.222 | 0.025 | 0.561 | 0.290 | 0.021 | 0.506 | 1.000 | 0.185 | 0.638 | 0.987 | 0.362 |
| Housing | | | | | | | | | | | | |
| No | 0.540 | 0.716 | 0.963 | 0.591 | 0.810 | 1.000 | 0.510 | 0.958 | 0.946 | 0.539 | 0.952 | 0.935 |
| Yes | 0.460 | 0.284 | 0.037 | 0.409 | 0.190 | 0.000 | 0.490 | 0.042 | 0.054 | 0.461 | 0.048 | 0.065 |
| Human relations | | | | | | | | | | | | |
| No | 0.722 | 0.853 | 0.975 | 0.620 | 0.875 | 1.000 | 0.671 | 0.942 | 0.962 | 0.691 | 0.866 | 0.955 |
| Yes | 0.278 | 0.147 | 0.025 | 0.380 | 0.125 | 0.000 | 0.329 | 0.058 | 0.037 | 0.309 | 0.134 | 0.045 |
| Social security | | | | | | | | | | | | |
| No | 0.000 | 1.000 | 1.000 | 0.421 | 1.000 | 1.000 | 0.403 | 0.932 | 1.000 | 0.319 | 0.979 | 0.981 |
| Yes | 1.000 | 0.000 | 0.000 | 0.579 | 0.000 | 0.000 | 0.597 | 0.068 | 0.000 | 0.681 | 0.021 | 0.019 |

# LCA Results



Young (≤ 54 years)
Type 1: All-deprived
Type 2: Some-deprived
Type 3: Less-deprived
Money
Health
Housing
Human relations
Social security
1
0.8
0.6
0.4
0.2
0
Young-Old (55–64 years)
Type 1: All-deprived
Type 2: Some-deprived
Type 3: Less-deprived
Money
Health
Housing
Human relations
Social security
1
0.8
0.6
0.4
0.2
0
Old -Old (65–74 years)
Type 1: All-deprived
Type 2: Some-deprived
Type 3: Less-deprived
Money
Health
Housing
Human relations
Social security
1
0.8
0.6
0.4
0.2
0
Oldest-Old (75 years ≤ )
Type 1: All-deprived
Type 2: Some-deprived
Type 3: Less-deprived
Money
Health
Housing
Human relations
Social security
1
0.8
0.6
0.4
0.2
0

**Multidimensional Poverty Status of Householders with Disabilities in South Korea**

(International Journal of Social Welfare 2020;29:41-50)

- **Data**: 10th panel of the 2015 Korea Welfare Panel Study (KOWEPS, 2015)
- **Sample**: The KOWEPS provides information on 949 householders with disabilities (HDs) and 5,965 general householders (NDHCs)

Table 1. Characteristics of participants.

| | Non-disabled householders | | Householders with disabilities | | | |
|---|---|---|---|---|---|---|
| Category | Frequency | % | Frequency | % | $\chi^2$ | $p$ |
| Age | | | | | | |
| ~ 19 | 4 | 0.1 | 0 | 0 | 190.659 | 0.000 |
| 20 ~ 29 | 109 | 1.8 | 0 | 0 | | |
| 30 ~ 39 | 664 | 11.1 | 24 | 2.5 | | |
| 40 ~ 49 | 1072 | 18.0 | 77 | 8.1 | | |
| 50 ~ 59 | 1050 | 17.6 | 165 | 17.4 | | |
| 60~ | 3066 | 51.4 | 683 | 72.0 | | |
| Gender | | | | | | |
| Male | 4061 | 68.1 | 661 | 69.7 | 0.934 | 0.348 |
| Female | 1904 | 31.9 | 288 | 30.3 | | |
| Marital state | | | | | | |
| Yes | 3587 | 60.1 | 535 | 56.4 | 4.805 | 0.016 |
| No | 2378 | 39.9 | 414 | 43.6 | | |
| Education | | | | | | |
| No education | 650 | 10.9 | 140 | 14.8 | 180.375 | 0.000 |
| Elementary school | 1286 | 21.6 | 322 | 33.9 | | |
| Middle school | 756 | 12.7 | 173 | 18.2 | | |
| High school | 1688 | 28.3 | 215 | 22.7 | | |
| College | 1585 | 26.6 | 99 | 10.4 | | |
| Degreed of disability | | | | | | |
| Mild | – | – | 655 | 69.0 | | |
| Severe | – | – | 294 | 31.0 | | |

Table 4. Ratio of poverty.

| | Non-disabled householders | | Householders with disabilities | |
|---|---|---|---|---|
| | Those aged 59 and below ($n = 2899$) | Those aged 60 and above ($n = 3066$) | Those aged 59 and below ($n = 266$) | Those aged 60 and above ($n = 683$) |
| | Frequency (%) | Frequency (%) | Frequency (%) | Frequency (%) |
| Money | 1975 (68.1) | 2835 (92.5) | 224 (84.2) | 647 (94.7) |
| Housing | 293 (10.1) | 340 (11.1) | 69 (25.9) | 122 (17.9) |
| Health | 258 (8.9) | 1326 (43.2) | 81 (30.5) | 399 (58.4) |
| Employment | 902 (31.1) | 2286 (74.6) | 167 (62.8) | 562 (82.3) |
| Human relationships | 179 (6.2) | 290 (9.5) | 53 (19.9) | 87 (12.7) |
| Social security | 120 (4.1) | 294 (9.6) | 71 (26.7) | 129 (18.9) |

Table 5. Headcount ratio and adjusted headcount ratio.

| Total number of deprivations | Non-disabled householders | | | | | | Householders with disabilities | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Those aged 59 and below | | | Those aged 60 and above | | | Those aged 59 and below | | | Those aged 60 and above | | |
| | H[a] | A[b] | M[c] | H[a] | A[b] | M[c] | Ha | A[b] | M[c] | H[a] | A[b] | M[c] |
| 0 | 25.35 | – | – | 3.52 | – | – | 9.40 | – | – | 1.90 | – | – |
| 1 and more | 74.64 | 0.29 | 21.65 | 96.48 | 0.42 | 40.52 | 90.60 | 0.46 | 41.68 | 98.09 | 0.47 | 46.10 |
| 2 and more | 34.70 | 0.43 | 14.92 | 80.59 | 0.46 | 37.07 | 69.92 | 0.55 | 38.46 | 89.60 | 0.50 | 44.53 |
| 3 and more | 12.72 | 0.58 | 7.38 | 44.55 | 0.57 | 25.39 | 45.86 | 0.66 | 30.27 | 61.20 | 0.60 | 36.72 |
| 4 and more | 4.82 | 0.72 | 3.47 | 13.63 | 0.73 | 9.95 | 28.57 | 0.75 | 21.43 | 25.91 | 0.73 | 18.91 |
| 5 and more | 1.37 | 0.87 | 1.19 | 4.24 | 0.87 | 3.69 | 11.65 | 0.88 | 10.25 | 8.20 | 0.87 | 7.13 |
| 6 | 0.28 | 1.00 | 0.28 | .09 | 1.00 | .09 | 3.38 | 1.00 | 3.38 | 1.90 | 1.00 | 1.90 |

[a]Headcount ratio is the percentage of people who are identified as poor. [b]Average deprivation score is the percentage of people who are identified as poor (H) multiple by the average share of weighted deprivations that poor experience. [c]Adjusted headcount ratio= H x A.

# *Limitation*

- Self-reported items
- Monetary dimensions vs. Non-monetary dimensions
- Cross-sectional study