

- i : region ($i = 1$ (Seoul), 2 (Busan), 3 (Daegu), ... , 16 (Gyeongnam), 17 (Jeju))
- j : gender ($j = 1$ (Male), 2 (Female))
- k : age group
($k = 1$ (19~29), 2 (30~39), 3 (40~49), 4 (50~59), 5 (60~69))
- N_{ijk} : Population in i region, j gender, k age group
- N : Total population
- n_{ijk} : Allocated sample size in i region, j gender, k age group
- n_{ijk} : Completed sample in i region, j gender, k age group
- n : Total number of completed responses
- W^1_{ijk} : Weight according to i region, j gender, k age group
- W^1_{ijk} : Weight according to the three stratum is calculated as below

$$W^1_{ijk} = \frac{N_{ijk}}{n_{ijk}} \times \frac{n_{ijk}}{n_{ijk}} \times \frac{n}{N}$$

Supplementary Fig. 1. Weight calculation methods.