

Two weights are provided in the parent dataset. The population for calculating weights was derived from Ministry of the Interior Department of Statistics, household registration records. Total of 250,246 children were born between 2016/4/1 and 2017/6/30, excluding offshore islands, in Taiwan. A number of 13, 692 children were sampled. Parents or the primary caregivers of 6, 588 children completed KIT-M3 wave 1 (3 months old) interview. Some respondents who didn't participate at wave 1 joined the study at wave2, and 6, 739 parents or the primary caregivers completed KIT-M3 wave 2 (6 months old) interview. The stratified two-stage probability-proportional-to-size sampling method was used with county and person as the primary and secondary sampling units, respectively. To account for the problem of nonresponse situation, sample size inflation was used during the sampling process. Therefore, the post-stratification weighting adjusted for unequal probabilities of selection was conducted for calculating sample weight. First, the unequal probabilities of selection, sampling weight was calculated according to the group of sample size inflation. Then, the post-stratification weighting was calculated based on the distribution of sex and registered areas (six geographical areas in Taiwan) of the children, adjusted with the unequal probability weighting. The detailed weighting methods are as follows:

Step 1 : Based on the group of sample size inflation, calculating unequal probabilities of selection, sampling weights

A. Calculating the original selection probability of each person in each group

$$f_{sel} = f_{\alpha} \times f_{\beta} = \frac{a_h B_{h\alpha}}{N_h} \times \frac{b_h}{B_{h\alpha}} = \frac{a_h b_h}{N_h}$$

N_h is the total number of people in group h

a_h is the number of counties selected from group h

b_h is the number of people selected from group h

$B_{h\alpha}$ is the total number of people from selected county α in group h

B. Calculating the selection probability of each person after sample size inflation

$$f_{(county)} = f_{sel} \times \text{Coef. of inflation}_{county} = \frac{a_h b_h \times \text{Coef. of inflation}_{county}}{N_h}$$

C. Calculating the probabilities of selection, sampling weight :

$$w_{sel}^0 = \frac{1}{f_{(county)}}$$

Step 2 : Calculating the weights of each strata (area X gender)

$$w_{ij}^0 = \frac{N_{ij}}{w_{sel_{ij}}^0 \times n_{ij}}$$

w_{ij}^0 is the post-stratification weight for people in area i for gender j

N_{ij} is the total number of people in area i for gender j

n_{ij} is the number of completed cases in area i for gender j

$w_{sel_{ij}}^0$ is the unequal probabilities of selection, sampling weights for people in area i for gender j

Step 3 : Adjusting weights, so the total number of weighted cases is equal to the total number of completed cases

$$w_{post_sel_{ij}} = w_{ij}^0 * n / N_v$$

w_{ij}^0 is the post-stratification weight for people in area i for gender j

N_v is the number of weighted cases before adjustment

n is the number of completed cases