Subject: Calculating level weight for multicounty data - determining level of alpha to use
Posted by cw21 on Fri, 18 Feb 2022 15:08:55 GMT
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I am calculating the level weights for a multi-country (n=4) study using the DHS guide (https://www.dhsprogram.com/pubs/pdf/MR27/MR27.pdf) to calculation of level weight for a multilevel logistic regression. Level 1 = Individuals, level 2 = clusters and level 3 = country (no level weights are applied to the country levels as it is assumed that there is equal probability to the country being included and is therefore not down to the sampling procedure).

Firstly, I have undertaken the analysis within each country separately (with a two-level model) and determined the determined the which level of alpha should be used (e.g., allocation of variation in weights to the level-1 and level-2 units). As the level of alpha is different for each of the countries, I am unsure of how to deal with the alpha level when combining the data into a multi-country data set. Do I need to re-evaluate the alpha to be used in the combined dataset or could I use the appropriate level weights based on alpha for each country?

For example:

Country A - the most appropriate allocation of variation in weights is alpha = 0.25
Country B - the most appropriate allocation of variation in weights is alpha = 0.50
Country C - the most appropriate allocation of variation in weights is alpha = 0.75

Therefore, is it possible to use these level weights in the combined dataset, despite having a different level of alpha. Or is it best to use the same level of alpha throughout?

Many thanks in anticipation of your help