Subject: Weighting in multilevel model with pooled data
Posted by dgodha on Fri, 09 Feb 2018 15:26:27 GMT
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Hi,

I wish to do a multi-level model to look at the determinants of LBW at both individual level and community levels. The main focus is to get the determinants for each country and also for the region. I have pooled the latest DHS data from 5 countries in the region so as to get a good sample size- number of groups and average number of observations within groups. Accordingly, I am planning to use either districts or provinces as the group in my multilevel model. I am facing two problems:

My first problem is that 'melogit' is not allowing survey weights in any way. I think the reason is because it needs weights at each of the two levels and DHS data does not have those. I cannot use a pooled data without weighting. I plan to weigh the data by number of observations in each survey for country level estimations as has been explained in other threads and also proportionate to population size for regional analysis. If I use individual country data, then it falls short on either the number of groups or the average number of observations per group. The other option is to conduct a logistic regression analysis but then I will not be able to use the community level factors that are proxy for context.

My second problem or question relates to the creation of community level variables or prevalence. Is it ok if I create them at the PSU level when my group variable in the multi-level model is a higher unit?

I will really appreciate if someone can point me in the right direction.

Many thanks