Subject: Weighting and Multilevel Logistic Regression
Posted by gwaa on Wed, 29 Jan 2020 02:19:44 GMT
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Dear DHS Specialists,

I have been reading the posts on the forum regarding the use of weights with multilevel analyses and wanted to check to see if there were any updates on recommendations on how to go about this. As another user pointed out, there are papers out there conducting multilevel analyses with DHS data. Since we cannot separate out the household weights from the cluster weights to incorporate them in the statistical coding (I am using SAS but I assume this is the case for all programs), does the DHS have any recommendations on how to go about running multilevel models with DHS data? Would you all recommend running unweighted models? Or would a weighted model including the survey design (i.e. survey procs) be more suitable? I would like to run multilevel models looking at childhood vaccinations and want to make sure I am going about it in the most proper way.

Any help or guidance on this from those at DHS or out in the forum would be greatly appreciated!

Subject: Re: Weighting and Multilevel Logistic Regression
Posted by Bridgette-DHS on Thu, 27 Feb 2020 18:52:35 GMT
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Following is a response from DHS Research & Data Analysis Director, Tom Pullum:

We are currently preparing a guidance document on separating household and cluster weights for multilevel models. It will include an explanation of why only a combined weight is provided in the data files. (The main reason is to make it more difficult to identify the actual cluster.) We will probably only be able to provide an approximate separation.

One possible approximation would be just to use the square root of hv005/1000000 for each of the two desired weights. Not a very good approximation, certainly, but better than just saying that one of the weights is 1. We will also look into the sensitivity of results to the method of allocation. Needless to say, we hope the sensitivity is low.

Subject: Re: Weighting and Multilevel Logistic Regression
Posted by gwaa on Sun, 01 Mar 2020 16:16:15 GMT
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Thank you so much for the response and look forward to the extended guidance you may be able to provide. In the meantime, I will try out your suggested apporzimation. Do you have any sort of

justification as to why the square root of hv005/1000000 can be used for each of the two desired weights?

Again, thank you for your help on this matter. It is much appreciated.