Subject: Multilevel - Indonesian DHS
Posted by fajarsan on Sun, 13 Oct 2019 15:32:56 GMT
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Dear DHS specialist,

I am working on a thesis on the topic of teenage pregnancy and I use multilevel analysis. The data that I use is Indonesian data for 2017.
I want to make a variable of poverty level and education level of women at the community/cluster level. All I know from from DHS forum these variables can be created by aggregating individual values into community/cluster values. My question is what variable is the best to use?
1. For community education/cluster level variables is it appropriate to use v106?
2. For the community/cluster poverty variable, which variable i should use V190 or v191?

Could You kindly help me.

Best regards,

FajarSan

Subject: Re: Multilevel - Indonesian DHS
Posted by Bridgette-DHS on Mon, 21 Oct 2019 11:37:37 GMT
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Following is a response from DHS Research & Data Analysis Director, Tom Pullum:

In my experience it is easiest to interpret a cluster-level variable if it is binary or interval-level, rather than categorical. The two variables you propose to use seem fine to me. You could calculate the mean value of v106 in each cluster, say for women between 20 and 49, excluding women 15-19 because they may still be in school. You could construct an individual-level variable, say v190_q1q2 that was 1 if v190 was 1 or 2 and 0 otherwise, and then calculate the mean of that variable for women 15-49, within clusters. That mean could be interpreted as the proportion of women in a cluster whose household is in quintile 1 or 2 of the wealth quintiles. (I would do this with v190 rather than with the continuous index, v191.)

Subject: Re: Multilevel - Indonesian DHS
Posted by fajarsan on Thu, 24 Oct 2019 23:20:38 GMT
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Dear Mr. Pullum
I am very grateful for the explanation given earlier.
I want to ask further questions related to the thesis I'm working on.

My lecturer believes that my research is a three-level multilevel analysis with individuals characteristics (age, sex, education attaintment, etc) as the first level, households characteristics (place of residence, wealth index, etc) as the second level, and clusters characteristics as the third level.
Several multilevel analysis studies using DHS data it usually uses two levels of multilevel analysis with individual and household characteristics included in the first level while cluster characteristics as the second level.
What should I apply in my research, two-level or three-level analysis? and how do I use the right weighing in this study if I then use three-level multilevel analysis?

Could You kindly help me.
Thank You

Best regards,
fajarsan

Subject: Re: Multilevel - Indonesian DHS
Posted by Bridgette-DHS on Mon, 11 Nov 2019 14:07:50 GMT
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Following is another response from DHS Research & Data Analysis Director, Tom Pullum:

We apologize for the delay in this reply. I agree completely that a 3-level analysis would be ideal. However, there are a couple of problems with 3 levels. The first is that there is usually only an average of about one woman per household. You only get information about household-level clustering when you have more than one woman in the household. The estimation procedure would have difficulty with such a low density of level 1 units within level 2 units. The same thing is an issue when level 1 is mothers and level 2 is children born in the past 5 (say) years for whom we have health data. The density is higher for children per mother than for women per household but it's still hard to get leverage on maternal clustering.

A second problem is with weights. We are not able to separate household-level weights from cluster-level weights. All we have is the product, v005. We hope to move ahead with separating these weights in 2020 but at this time we cannot (with any confidence) give advice on how to allocate v005 into household-level and cluster-level components.

I'll add that I have some doubts about whether you would learn more from a 3-level analysis than from a 2-level analysis. Conceptually, there are 3 levels, but as a practical matter, 2 levels may be sufficient. Go ahead and try it but you may have to simplify.
