
Subject: Applying correct strata in SAS

Posted by [Bouboulina](#) on Tue, 07 Feb 2017 16:31:30 GMT

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Hello,

I am using SAS to compute frequency tables for variables from several surveys. For each, I've appended the male to the female file and merged them with the HIV file. However, I'm not sure which variable(s) to use as strata. I've seen several threads on this topic, but whether to use v022, v023, or a combination of v024 and v025 seems to depend on the sampling design of each survey. I've consulted Annex A of the respective final reports but am still uncertain which variable(s) to use. Could you advise about the following surveys?

Burundi DHS 2010 -> has both v022 and v023 but they appear to be different

Cameroon DHS 2011 -> has v022 but NOT v023

Congo AIS 2009 -> has v022; v023=0 which means that sample is self-weighted at the national level

Democratic Republic of Congo 2013-2014 -> has both and they're identical

Rwanda 2014 -> has both and they're identical

If using a combination of v024 and v025 is best for some or all, how do I do that in SAS (I've seen threads with syntax for STATA but not SAS)? This is my syntax for Burundi (the weight "wgt" was calculated as HIV05/1000000):

```
proc surveyfreq data=burundifin;
table v012 v025;
weight wgt;
cluster v001;
stratum ???;
run;
```

Thanks very much!

Subject: Re: Applying correct strata in SAS

Posted by [Bridgette-DHS](#) on Thu, 09 Feb 2017 13:46:21 GMT

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Following is a response from DHS Senior Sampling Specialist, Mahmoud Elkasabi:

Quote: I recommend you to always consult the sampling design in Appendix A or B. although both v022, v023 should be consistent with the sampling design, in some cases they are not. In these scenario, you better construct the stratification variable guided by the sampling design in the Appendix. Below are my answers for each of your questions.

Burundi DHS 2010 -> has both v022 and v023 but they appear to be different

V022 is the one you should use. It is consistent with the sampling stratification as appears in

Table A.3 in Appendix A in the survey report. Since V024 was reserved for the country regions, not provinces, the cross-classification of V024 and V025 is not a valid stratification variable for this survey.

Cameroon DHS 2011 -> has v022 but NOT v023
Either V022 or the cross-classification of V024 and V025 can be used.

Congo AIS 2009 -> has v022; v023=0 which means that sample is self-weighted at the national level
V022 is not correctly coded. You can use the cross-classification of V024 and SHURBRUR as indicated in Appendix A in the survey report. SHURBRUR is the three-category residence variable that was used for stratification.

Democratic Republic of Congo 2013-2014 -> has both and they're identical
Either V022 or V023 can be used. It is consistent with the sampling stratification as appears in Table B.3 in Appendix B in the survey report. Since V024 was reserved for the country "old" provinces, the cross-classification of V024 and V05 is not a valid stratification variable for this survey. However, the cross-classification of SNPROVIN (the new provinces) and V026 can be used for stratification.

Rwanda 2014 -> has both and they're identical
Either V022 or V023 can be used. Since V024 was reserved for the country 5 provinces, the cross-classification of V024 and V05 is not a valid stratification variable for this survey. However, the cross-classification of SDISTRICT (the country districts) and V025 can be used for stratification.

Regarding the SAS code, in case if you are using two variables cross classifications, you can write the stratification statement as below, however note that none of the stratification variables can appear in the "table" statement

```
proc surveyfreq data=burundifin;  
table v012;  
weight wgt;  
cluster v001;  
strata v024 v025;  
run;
```

Subject: Re: Applying correct strata in SAS
Posted by [Bouboulina](#) on Mon, 03 Apr 2017 14:18:52 GMT
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Thanks so much for your help, Bridgette!

Based on Appendix A in the respective reports, I understand the stratum variable to use for the Rwanda 2005 and 2010 surveys is also v022. Could you confirm this?

Many thanks again!

Subject: Re: Applying correct strata in SAS

Posted by [Bridgette-DHS](#) on Thu, 06 Apr 2017 15:38:56 GMT

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Following is a response from DHS Senior Sampling Specialist, Ruilin Ren:

To be consistent with the sampling design described in Appendix A, for 2005 you can use HV024*HV025 for stratification, and for 2010 you can use HV023.
