Hello,
I am trying to match with the Table 2.12 of Rwanda DHS 2019_30 using the GITHUB Codes but i
don't see results matching with this table comparing with any of the used backgrounds.
here the codes used:

```
/******************************************************** ******************************************
 ************************************************************ ******************************************/


 /*------------------------------------------------------- -----------------
Variables created in this file:

ph_sch_nar_prim   "Primary school net attendance ratio (NAR)"
ph_sch_nar_sec   "Secondary school net attendance ratio (NAR)"
ph_sch_gar_prim   "Primary school gross attendance ratio (GAR)"
ph_sch_gar_sec   "Secondary school gross attendance ratio (GAR)"
ph_sch_nar_prim_*_gpi "Gender parity index for NAR primary"
ph_sch_nar_sec_*_gpi "Gender parity index for NAR secondary"
ph_sch_gar_prim_*_gpi "Gender parity index for GAR primary"
ph_sch_gar_sec_*_gpi "Gender parity index for GAR secondary"
 ------------------------------------------------------------ ---------------*/
clear all
set memory 1000m
set maxvar 10000
set more off
* For net attendance rates (NAR) and gross attendance rates (GAR) we need to know the age of
children at the start of the school year.
* For this we need to get date of birth from birth history and attach to children's records in the PR
file.
* open the birth history data to extract date of birth variables needed.
cd"C:\Users\ICF Rwanda\Desktop\district\DHS6"
use RWBR81FL, clear

* keep only the variables we need
keep v001 v002 v003 b3 b16
* drop if the child in the birth history was not in the household or not alive
drop if b16==0 | b16==.
* rename key variables for matching
rename b16  hvidx
rename v001 hv001
rename v002 hv002
* sort on key variables
sort hv001 hv002 hvidx

* if there are some duplicates of line number in household questionnaire, we need to drop the
duplicates
```

```
* gen dup = (hv001 == hv001[_n-1] & hv002 == hv002[_n-1] & hvidx == hvidx[_n-1])
* drop if dup==1
* drop dup
* re-sort to make sure still sorted
* sort hv001 hv002 hvidx

* save a temporary file for merging
save tempBR, replace

use RWPR81FL, clear

* use the PR file for household members for the NAR and GAR indicators

* merge in the date of birth from the women's birth history for the household member
merge 1:1 hv001 hv002 hvidx using tempBR
* there are a few mismatches of line numbers (typically a small number of cases) coming rom the
BR file, so let's drop those
drop if _merge==2

* restrict to de facto household members age 5-24, and drop all others
keep if hv103==1 & inrange(hv105,5,24)

* now we calculate the child's age at the start of the school year
* but first we have to specify the month and year of the start of the school year referred to in the
survey
* example, for Zimbabwe 2015 survey this was January 2015
global school_start_yr = 2015
global school_start_mo = 1
* also need the age ranges for primary and secondary
* example, for Zimbabwe 2015, the age range is 6-12 for primary school and 13-18 for secondary
school
global age_prim_min = 7
global age_prim_max = 12
global age_sec_min = 13
global age_sec_max = 18

* produce century month code of start of school year for each state and phase
gen cmcSch = ($school_start_yr - 1900)*12 + $school_start_mo
* calculate the age at the start of the school year, using the date of birth from the birth history if we
have it
gen school_age = int((cmcSch - b3) / 12) if b3 != .
* Impute an age at the beginning of the school year when CMC of birth is unknown
* the random imputation below means that we won't get a perfect match with the report, but it will
be close
gen xtemp = hv008 - (hv105 * 12) if b3 == .
gen cmctemp = xtemp - int(uniform()*12) if b3 == .
replace school_age = int((cmcSch - cmctemp) / 12) if b3 == .
```

```
* Generate variables for whether the child is in the age group for primary or seconary school
gen prim_age = inrange(school_age,$age_prim_min,$age_prim_max)
gen sec_age  = inrange(school_age,$age_sec_min ,$age_sec_max )

* create the school attendance variables, not restricted by age
gen prim = (hv122 == 1)
gen sec  = (hv122 == 2)

* set sample weight
cap gen wt = hv005/1000000

* For NAR we can use this as just regular variables and can tabulate as follows, but can't do this
for GAR as the numerator is not a subset of the denominator
* NAR is just the proportion attending primary/secondary school of children in the correct age
range, for de facto children
gen nar_prim = prim if prim_age == 1
gen nar_sec  = sec  if sec_age  == 1
lab var nar_prim "Primary school net attendance ratio (NAR)"
lab var nar_sec "Secondary school net attendance ratio (NAR)"

* tabulate primary school attendance
tab hv104 nar_prim [iw=wt] , row
tab hv025 nar_prim [iw=wt] , row

* tabulate secondary school attendance
tab hv104 nar_sec [iw=wt] , row
tab hv025 nar_sec [iw=wt] , row


* Program for calculating NAR or GAR
* NAR just uses a mean of one variable
* GAR uses a ratio of two variables

* Program to produce NAR or GAR for background characteristics (including total) for both sex,
combined and separately
cap program drop nar_gar
program define nar_gar
  * parameters
  * type of rate - nar or gar
  * type of schooling - prim or sec
  * background variable for disaggregation

  * generates variables of the following format
  * ph_sch_`rate'_`sch'_`backvar'_`sex'
  * e.g. ph_sch_nar_prim_total_0
  * or   ph_sch_gar_sec_hv025_2
  * sex: 0 = both sexes combined, 1=male, 2=female
```

```
* type of rate - nar or gar
local rate `1'
if "`rate'" != "nar" & "`rate'" != "gar" {
di as error "specify type of rate as nar or gar"
exit 198
}
* type of schooling - prim or sec only
local sch `2'
if "`sch'" != "prim" & "`sch'" != "sec" {
di as error "specify schooling as prim or sec"
exit 198
}
* name of background variable
local backvar `3'
* do for total = 0, and each sex male = 1, female = 2
foreach sex in 0 1 2 {
  if `sex' == 0 local select 0==0 /* always true */
  else          local select hv104==`sex'
if "`rate'" == "nar" { /* Net Attendance Rate (NAR) */
  mean `sch' [iw=wt] if `select' & `sch'_age == 1, over(`backvar')
  * results matrix for mean - used for NAR
  mat x = e(b)
}
else { /* Gross Attendance Rate (GAR) */
    ratio `sch' / `sch'_age [iw=wt] if `select', over(`backvar')
  * results matrix for ratio - used for GAR
    mat x = r(table)
}
* generate the output variable we will fill
  gen ph_sch_`rate'_`sch'_`backvar'_`sex' = .
* get all of the characteristics of the background variable
  cap levelsof `backvar'
  local ix = 1
  local lev `r(levels)'
* loop through the characteristics and get the result from matrix x
  foreach i in `lev' {
  * capture the result for this characteristic
    replace ph_sch_`rate'_`sch'_`backvar'_`sex' = 100*x[1,`ix'] if `backvar' == `i'
    local ix = `ix' + 1
  }
* label the resulting variable
local schooling primary
if "`sch'" == "sec" local schooling secondary
local sexlabel both sexes
if `sex' == 1 local sexlabel males
if `sex' == 2 local sexlabel females
lab var ph_sch_`rate'_`sch'_`backvar'_`sex' "`rate' for `schooling' education for background
characteristic `backvar' for `sexlabel'"
```

```
  }
  * gender parity index for a rate for a characteristic - female (2) rate divided by male (1) rate
  gen ph_sch_`rate'_`sch'_`backvar'_gpi = 100 * (ph_sch_`rate'_`sch'_`backvar'_2 /
ph_sch_`rate'_`sch'_`backvar'_1)
  lab var ph_sch_`rate'_`sch'_`backvar'_gpi "gender parity index for `rate' for `schooling' education
for background characteristic `backvar'"
end

* create total background characteristic
gen total = 0
lab var total "total"

* Caculate indicators and save them in the dataset
nar_gar nar prim total /* NAR primary   - total population */
nar_gar nar prim hv025 /* NAR primary   - urban/rural */
nar_gar nar prim hv024 /* NAR primary   - region */
nar_gar nar prim hv270 /* NAR primary   - wealth index */

nar_gar nar sec  total /* NAR secondary - total population */
nar_gar nar sec  hv025 /* NAR secondary - urban/rural */
nar_gar nar sec  hv024 /* NAR secondary - region */
nar_gar nar sec  hv270 /* NAR secondary - wealth index */

nar_gar gar prim total /* GAR primary   - total population */
nar_gar gar prim hv025 /* GAR primary   - urban/rural */
nar_gar gar prim hv024 /* GAR primary   - region */
nar_gar gar prim hv270 /* GAR primary   - wealth index */

nar_gar gar sec  total /* GAR secondary - total population */
nar_gar gar sec  hv025 /* GAR secondary - urban/rural */
nar_gar gar sec  hv024 /* GAR secondary - region */
nar_gar gar sec  hv270 /* GAR secondary - wealth index */

* Dividing GPI indicators by 100
foreach x in ph_sch_nar_prim_total_gpi ph_sch_nar_prim_hv025_gpi
ph_sch_nar_prim_hv024_gpi ph_sch_nar_prim_hv270_gpi ph_sch_nar_sec_total_gpi
ph_sch_nar_sec_hv025_gpi ph_sch_nar_sec_hv024_gpi ph_sch_nar_sec_hv270_gpi
ph_sch_gar_prim_total_gpi ph_sch_gar_prim_hv025_gpi ph_sch_gar_prim_hv024_gpi
ph_sch_gar_prim_hv270_gpi ph_sch_gar_sec_total_gpi ph_sch_gar_sec_hv025_gpi
ph_sch_gar_sec_hv024_gpi ph_sch_gar_sec_hv270_gpi {
 replace `x'=`x'/100
}

erase tempBR.dta


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```

*Tabulating indicators by background variables and exporting estimates to excel table Tables_edu
*the tabulations will provide the estimates for the indicators for the total, males, and females and by hv025, hv024, and hv270

//Primary school net attendance ratio (NAR) and gender parity index
tab1 ph_sch_nar_prim* [iw=wt]

tabout ph_sch_nar_prim* using Tables_schol.xls [iw=wt] , oneway cells(cell) replace

//Secondary school net attendance ratio (NAR) and gender parity index
tab1 ph_sch_nar_sec* [iw=wt]

tabout ph_sch_nar_sec* using Tables_schol.xls [iw=wt] , oneway cells(cell) append

//Primary school gross attendance ratio (GAR) and gender parity index
tab1 ph_sch_gar_prim* [iw=wt]

tabout ph_sch_gar_prim* using Tables_schol.xls [iw=wt] , oneway cells(cell) append

//Secondary school gross attendance ratio (GAR) and gender parity index
tab1 ph_sch_gar_sec* [iw=wt]

tabout ph_sch_gar_sec* using Tables_schol.xls [iw=wt] , oneway cells(cell) append

*/

Subject: Re: SCHOOL ATTENDANCE
Posted by Shireen-DHS on Wed, 01 Dec 2021 21:19:20 GMT
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Hello Francois,

Thank you for your question. We needed to update the PH_SCHOL code file to adjust for when surveys cross over two years such as the Rwanda 2019-2020 survey. Please go back to GitHub to download the updated file.

In addition, you need to make some country specific changes to the code. Please read the note at the top of the PH_SCHOL do file. You need to check the year and month of the school calendar as well as the age ranges for school attendance. These changes should be made in lines 63-73 of the code. The current code uses the Zimbabwe 2015 survey as an example. Therefore, you need to change the global school_start_yr to 2019 and the month remains as 1 for January. The age range in line 70 should be changed from 6 to 7, since in Rwanda the ages for primary school is 7-12 and secondary is 13-18.

After you make these changes you can run the code and it will produce an excel file that has the totals and the breakdown of the NAR and GAR by background variables. I checked this after making the country specific changes and it matches table 2.12.

Thank you.
Best,
Shireen Assaf
The DHS Program

Subject: Re: SCHOOL ATTENDANCE
Posted by Francois on Sat, 04 Dec 2021 21:50:12 GMT
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Dear Shireen,
I followed these instructions and they completely matched!
Thank you very much
Francois