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Subject: Sex ratio at birth using IR file , India, NFHS-5

Posted by [Kanika](#) on Sat, 04 Feb 2023 18:18:53 GMT

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Hello all,

I am working on the DH7-VII(NFHS 5) dataset for India. I need to calculate the number of girls per 1000 boys using appropriate weights. Can someone please give me the stata code for the IR file including the appropriate weights? Thank you!

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Subject: Re: Sex ratio at birth using IR file , India, NFHS-5

Posted by [Bridgette-DHS](#) on Mon, 06 Feb 2023 14:00:41 GMT

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Following is a response from Senior DHS staff member, Tom Pullum:

I believe you are referring to the sex ratio at birth. This can be calculated with logit regression using the KR file (births in the past 5 years). If you want the sex ratio for surviving children under 5 you just restrict the KR file to children with b5=1. To get the sex ratio for other populations, use the PR file. You do not use the IR file for this purpose, unless you want to reshape the birth histories, and they are already reshaped into the KR and BR files.

The sex ratio can be defined in different ways. In biology it is the proportion of individuals who are female. In demography it is usually the number of males per 100 females. You say you want the number of females per 1000 males. The following Stata program calculates males per 100 females and females per 1000 males and saves the results as scalars. If you want to loop over subpopulations and save the results in a separate file, you can adapt the Stata program we posted on Feb. 3 for the neonatal mortality rate (NMR). In the labels, P, L, and U are the point estimate, the lower end of the 95% confidence interval, and the upper end of the 95% confidence interval, respectively.

\* Calculate the sex ratio at birth for births in the past 5 years using the KR file

```
use "...IAKR7DFL.DTA" , clear
```

```
egen cluster_ID=group(v024 v001)
```

```
svyset cluster_ID [pweight=v005], strata(v023) singleunit(centered)
```

```
tab b4 [iweight=v005/1000000]
```

\* Sex ratio defined as males per 100 females

```
gen m_per_100f=0
```

```
replace m_per_100f=1 if b4==1
```

```
svy: logit m_per_100f
```

```
matrix T=r(table)
```

matrix list T

```
scalar P_m_per_100f=100*exp(T[1,1])
```

```
scalar L_m_per_100f=100*exp(T[5,1])
```

```
scalar U_m_per_100f=100*exp(T[6,1])
```

\* Sex ratio defined as females per 1000 males

```
gen f_per_1000m=0
```

```
replace f_per_1000m=1 if b4==2
```

```
svy: logit f_per_1000m
```

```
matrix T=r(table)
```

```
matrix list T
```

```
scalar P_f_per_1000m=1000*exp(T[1,1])
```

```
scalar L_f_per_1000m=1000*exp(T[5,1])
```

```
scalar U_f_per_1000m=1000*exp(T[6,1])
```

```
scalar list
```

Results:

```
. scalar list
```

```
U_f_per_1000m = 935.04401
```

```
L_f_per_1000m = 914.19561
```

```
P_f_per_1000m = 924.56104
```

```
U_m_per_100f = 109.38578
```

```
L_m_per_100f = 106.94684
```

```
P_m_per_100f = 108.15943
```

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Subject: Re: Sex ratio at birth using IR file , India, NFHS-5

Posted by [Kanika](#) on Mon, 06 Feb 2023 21:15:19 GMT

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Hello,

Many thanks for this very prompt response. The code is working. However, it is giving me SRB for the country. Can you please direct me what I have to do in order to get it district-wise.

Many many thanks,

Regards,

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Subject: Re: Sex ratio at birth using IR file , India, NFHS-5  
Posted by [Bridgette-DHS](#) on Tue, 07 Feb 2023 12:43:42 GMT  
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Following is a response from Senior DHS staff member, Tom Pullum:

I had hoped that you would adapt the NMR program for districts. However, Here is a Stata program to calculate the SRB in all districts. It can be modified for other subpopulations. It uses both definitions of the sex ratio.

- \* Program to produce the sex ratio at birth for districts in the India NFHS-5 survey.
- \* Can be adapted for subpopulations in any DHS survey.
  
- \* Two definitions of the sex ratio are used.
  
- \* The time interval is the past five years, all births in the KR file, except those
- \* in the month of interview.
  
- \* The program provides the lower and upper ends of 95% confidence intervals.
- \* The intervals are wide.
- \* The estimates use svy, including subpop (within the state).
- \* Bayesian procedures would reduce the confidence intervals and move the estimates
- \* toward the state value

- \* The results are saved into the workfile and then the workfile is reduced
- \* to just the saved results.

\* specify a workspace  
cd e:\DHS\DHS\_data\scratch

use "...IAKR7DFL.DTA"  
keep v001 v002 v003 v005 v008 v023 v024 v025 sdist b4

\* Construct binary variable m\_per\_f  
gen m\_per\_f=0  
replace m\_per\_f=1 if b4==1

\* Sex ratio defined as males per 100 females; do not construct until end  
\* m\_per\_100f

\* Sex ratio defined as females per 1000 males; do not construct until end  
\* f\_per\_1000m

\*\*\*\*\*

\* for testing; comment out the next line for a national run

```
keep if v024==24
```

```
*****
```

```
save IAKR7Dtemp.dta, replace
```

```
levelsof v024, local(lstates)
```

```
foreach ls of local lstates {
```

```
use IAKR7Dtemp.dta, clear
```

```
keep if v024==`ls'
```

```
* Trick: use this file to save the results
```

```
gen vstate=`ls'
```

```
gen vdist=.
```

```
gen vb=.
```

```
gen vL=.
```

```
gen vU=.
```

```
gen vcases=.
```

```
svyset v001 [pweight=v005], strata(v023) singleunit(centered)
```

```
* First do the state estimate
```

```
svy: logit m_per_f
```

```
matrix T=r(table)
```

```
replace vb=T[1,1] if _n==1
```

```
replace vL=T[5,1] if _n==1
```

```
replace vU=T[6,1] if _n==1
```

```
replace vcases=e(N) if _n==1
```

```
* Now loop through all the districts in this state
```

```
scalar sline=2
```

```
levelsof sdist, local(ldistricts)
```

```
quietly foreach ld of local ldistricts {
```

```
* Construct a variable for subpop to select the district
```

```
gen select_dist=1 if sdist==`ld'
```

```
svy, subpop(select_dist): logit m_per_f
```

```
matrix T=r(table)
```

```
replace vdist=`ld' if _n==sline
```

```
replace vb=T[1,1] if _n==sline
```

```
replace vL=T[5,1] if _n==sline
```

```
replace vU=T[6,1] if _n==sline
```

```
replace vcases=e(N) if _n==sline
```

```
drop select_dist
```

```
scalar sline=sline+1
```

```
}
```

```
* Finished with a state; save the results for this state in a data file
```

```
drop if vb==.  
keep vstate vdist vb vL vU vcases
```

```
rename v* *
```

```
* Re-attach the labels for state and district; must confirm the label names
```

```
label values state V024
```

```
label values dist SDIST
```

```
gen P_m_per_100f=100*exp(b)
```

```
gen L_m_per_100f=100*exp(L)
```

```
gen U_m_per_100f=100*exp(U)
```

```
gen P_f_per_1000m=1000*exp(-b)
```

```
gen L_f_per_1000m=1000*exp(-L)
```

```
gen U_f_per_1000m=1000*exp(-U)
```

```
save results_`ls'.dta, replace
```

```
}
```

```
format P_* L_* U_* %6.1f
```

```
list, table clean noobs
```