Subject: How to make and interpreting Bivariate statistics analysis?
Posted by hamzah on Mon, 12 Dec 2016 19:14:49 GMT
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Dear experts

Regarding statistics to population survey, could you please tell me which one of the syntax using for bivariate analysis [chi square] and what does different the meaning of each syntax like below:

1.
svy: tabulate sex malaria
and output here :

```
Number of strata   =         1              Number of obs     =     259,885
Number of PSUs     =     4,418              Population size   =  30,152,652
                                Design df         =       4,417

------------------------------
gender of |
responden |       malaria
ts        |    no    yes  Total
----------+-------------------
     male | .4744  .0185  .4929
   female | .4909  .0162  .5071
          |
    Total | .9653  .0347      1
------------------------------
  Key:  cell proportion

  Pearson:
    Uncorrected   chi2(1)        =   58.3020
    Design-based  F(1, 4417)     =   49.6352     P = 0.0000
```

2.
. svy: tabulate sex malaria, row
and output here :
(running tabulate on estimation sample)

```
Number of strata   =         1              Number of obs     =     259,885
Number of PSUs     =     4,418              Population size   =  30,152,652
                                Design df         =       4,417

------------------------------
gender of |
responden |       malaria
ts        |    no    yes  Total
```

```
----------+--------------------
     male | .9625  .0375      1
   female |  .968   .032      1
          |
    Total | .9653  .0347      1
------------------------------
  Key:  row proportion

  Pearson:
    Uncorrected   chi2(1)        =   58.3020
    Design-based  F(1, 4417)     =   49.6352     P = 0.0000
```

3.
. svy linearized : tabulate sex malaria, obs row percent ci

and output here :
 (running tabulate on estimation sample)

```
Number of strata   =         1              Number of obs     =     259,885
Number of PSUs     =     4,418              Population size   =  30,152,652
                                 Design df         =       4,417

-------------------------------------------------------
gender of |
responden |                malaria
ts        |           no           yes         Total
----------+--------------------------------------------
     male |         96.25         3.746           100
          | [96.01,96.48]  [3.518,3.987]
          |       1.2e+05          5595       1.3e+05
          |
   female |          96.8         3.198           100
          | [96.57,97.02]  [2.979,3.431]
          |       1.3e+05          4971       1.3e+05
          |
    Total |         96.53         3.468           100
          | [96.31,96.74]  [3.257,3.692]
          |       2.5e+05        1.1e+04       2.6e+05
-------------------------------------------------------
  Key:  row percentage
        [95% confidence interval for row percentage]
        number of observations

  Pearson:
```

Uncorrected chi2(1) = 58.3020
Design-based F(1, 4417) = 49.6352 P = 0.0000

How to make odds ratio for cross-sectional design survey? Should I make syntax for prevalence ratio or may I take directly odds ratio in the syntax below?

5.
. svy linearized : logistic sex malaria

and output here :
(running logistic on estimation sample)

Survey: Logistic regression

Number of strata = 1 Number of obs = 259,885
Number of PSUs = 4,418 Population size = 30,152,652
Design df = 4,417
F(1, 4417) = 49.54
Prob > F = 0.0000

| Linearized
sex	Odds Ratio Std. Err. t P>|t| [95% Conf. Interval]
malaria	.8488294 .0197667 -7.04 0.000 .8109481 .8884803
_cons	1.034818 .0042681 8.30 0.000 1.026484 1.043219

Based on the table above [chi square and binary logistic].

Where the sex variable which assumptions male is given code = 0 and female is given code = 1. Malaria prevalence differs by sex Males are more likely to have malaria than females (1.85% males versus 1.62% females, P = 0.000). Based on odds ratio (OR) female have the chances of getting malaria 0.85% or 0.85 times than male (as categorical reference)

How do I interpret an odds ratio less than 1 in a logistic regression?
May I will be written male with a chance of 1 / 0.85 times or 1.2 times to get malaria compared than female as well?

or

The odds of malaria in male decreased by (1 - 0.85) 15% compared those in a female. Whatever on the dependent variable decreases. For each unit increase, it decreases by a multiple of (1 -

OR)

Thank you in advance for your reply

Sincerely yours,

Hamzah