Example 4: Logistic Regression

In the following sample code, current asthma status (astcur) is examined, controlling for race (racehpr2), sex (srsex), and age (srage_p). SUDAAN and Stata require the dependent variables to be coded as 0 and 1 for logistic regression, so a new dependent variable ast is created and assigned 1 where astcur=1 (“Current asthma”) and 0 where astcur=2 (“No current asthma”). The category “No current asthma” is used as the reference in the analysis.

**SAS:**

```
PROC SURVEYLOGISTIC DATA = data VARMETHOD=JACKKNIFE;
FORMAT astcur astcurf. racehpr2 racehprf. srsex srsex.;  
WEIGHT rakedw0;
REPWEIGHT rakedw1-rakedw80/JKCOEFS=1;  
CLASS astcur (REF=”NO CURRENT ASTHMA”) racehpr2 (REF=”WHITE”) 
srsex (REF=”MALE”) /PARAM=REF;
MODEL astcur = racehpr2 srsex srage_p;
RUN;
```

**SUDAAN:**

```
DATA newdata;
SET data;
IF astcur=1 THEN ast=1;
ELSE IF astcur=2 THEN ast=0;
RUN;
PROC RLOGIST data = newdata FILETYPE=SAS DESIGN=JACKKNIFE;
WEIGHT rakedw0;
JACKWGTS rakedw1-rakedw80/ADJJACK=1;
SUBGROUP racehpr2 srsex;
LEVELS 7 2;
REFLEVEL racehpr2 = 6 srsex = 1;
MODEL ast = racehpr2 srsex srage_p;
```
Example 4: Logistic Regression continued.

**Stata:**

*Sample design specification step*  
use "DATASET LOCATION"
svyset [pw=rakedw0], jkrw(rakedw1-rakedw80, multiplier(1)) vce(jack)
mse

*Analysis*
recode astcur (2=0) (1=1) (-9=.), gen (ast)

```
xi: svy: logit ast srage_p i.race i.srsex
```

This statement produces parameter estimates.

```
xi: svy: logistic ast srage p i.race i.srsex
```

This statement produces odds ratios. Stata automatically chooses the lowest value of the categorical variable as the reference group for the independent and dependent variables.