Group Project

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Analysis in Stata

After establishing the need to use a negative binomial model above, the following code demonstrates how to clean the data and fit the models using Stata

Cleaning the data

```
cd "/Users/amandaketner/Documents/Grad_School/U_of_M/Semester_5 _Fall_2019/STATS_506/Group_project/"


*Import data
import sasxport5 "ALQ_D.xpt", clear
save "Alcohol.dta", replace
import sasxport5 "DBQ_D.xpt", clear
save "Diet.dta", replace
import sasxport5 "Demo_D.xpt", clear
save "Demographic.dta", replace

*Clean data and drop unwanted variables
use "Alcohol.dta", clear
keep seqn alq130
replace alq130=. if alq130==999
replace alq130=0 if alq130==1
rename alq130 alq_drink
save "Alcohol.dta", replace

use "Diet.dta", clear
keep seqn dbd091 dbq700
replace dbd091=0 if dbd091==6666
replace dbd091=21 if dbd091==5555
replace dbd091=. if dbd091==7777 | dbd091==9999
replace dbq700=. if dbq700==7 | dbq700==9
rename dbd091 meal_out
rename dbq700 diet
save "Diet.dta", replace

use "Demographic.dta", replace
keep seqn ridageyr riagendr indfmpir
replace riagendr=0 if riagendr==2
rename ridageyr age
rename riagendr gender
rename indfmpir pir
save "Demographic.dta", replace

*Merge data together and drop minors
use "Alcohol.dta", clear
merge 1:1 seqn using "Diet.dta", nogen
```

Table 1: Non-Zero-Inflated Negative Binomial

X	Point_estimate	Standard_error	Z.value	P.value
Diet	0.085	0.021	4.119	0
Gender	0.652	0.042	15.630	0
Age	-0.021	0.001	-16.600	0
PIR	-0.104	0.013	-8.206	0
Constant	1.474	0.103	14.310	0

Table 2: Zero-Inflated Negative Binomial

X	Point_estimate	Standard_error	Z.value	P.value
Diet	0.080	0.018	4.447	0
Gender	0.544	0.038	14.440	0
Age	-0.016	0.001	-13.140	0
PIR	-0.097	0.011	-8.839	0
Meal_out	-0.055	0.019	-2.924	0
Constant	1.547	0.089	17.380	0

```
merge 1:1 seqn using "Demographic.dta", nogen
drop if Age<21
save "Final.dta", replace
```

Negative binomial model (without zero-inflation)

```
nbreg alq_drink diet i.gender age pir
outreg2 using NegBin.xls, stats(coef se tstat pval) noaster replace
```

Zero-Inflated Negative binomial model

```
zinb alq_drink diet i.gender age pir, inflate(meal_out) forcevuong
outreg2 using ZeroNegBin.xls, stats(coef se tstat pval) noaster replace
```