1. Expressions of variance of men and women

**Given that the variance of u in the model is given by , the expression for the variance of males and females will be given by:**

**The null hypothesis states that there is no difference in variance of µ is between males and females while alternative hypothesis states that there is a significant difference in variance of µ is between males and females.**

**In other words:**

H0: )=E(

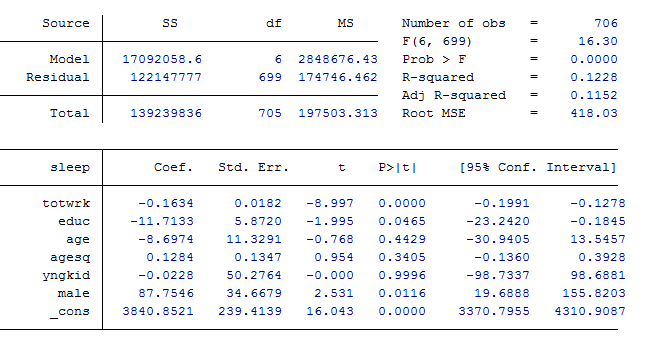
H1: which means there is heteroskedasticity present

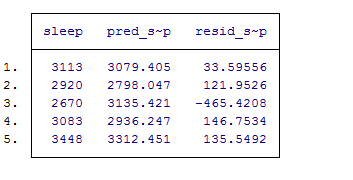
1. Model building

**The model is**

**.**

**The model shows that there is a significant difference in average sleeping minutes between males and females with males having 87 more minutes sleeping in a week than their female counterparts at 5% level of significance when other factors are held constant. There is a notable difference in variance of mu between males and females with variance in sleeping among males being higher than that of females.**





1. Test for difference in variance

The coefficient of male is negative and a very high value (-28849.63) indicating that the variance of error is higher for female than for males. However, this difference is NOT statistically significant with p-value of 0.291 at 5% not even 20% percent of significance level.

Hence p-value >0.05 The result shows that there is no statistical difference in variance between males and females.

regress sleep totwrk educ age agesq yngkid male

predict res, r

gen ressq = res\*res

regress ressq male

