

Lab 12 Activity

We have already used this data in Lab 9. I recently found out that the data originates from the textbook *Introductory Econometrics: A Modern Approach* by Jeffrey M. Wooldridge. Find a descriptions of the variables in the table below:

Variable	Description
attend	Classes attended out of 32
termGPA	GPA for term
priGPA	Cumulative GPA prior to term
ACT	ACT score
final	Final exam score
atndrte	Percent classes attended
hwrte	Percent homework turned in
frosh	1 if freshman
soph	1 if sophomore
missed	number of classes missed
stndfnl	final - mean)/sd

Run the following code to name the data you will be using as `dat`:

```
# install package first if not in library  
library(wooldridge)  
dat <- attend
```

1. Run a mediation analysis where `final` is your outcome (Y), `hwrt` your predictor variable (X), and `prigpa` is the mediator (M). Make sure to create bootstrapped confidence intervals by using 2000 bootstrap samples.
2. What is the value and the 95% confidence interval for the indirect effect? How do you interpret the indirect effect?
3. What conclusions do you make about the relation between `hwrt` and `prigpa`? Which variable would you say is the most important in predicting `final`?
4. Calculate the Monte Carlo confidence intervals for your direct and indirect effects. How different are the confidence intervals compared to the bootstrapped confidence intervals? Would your conclusion change at all if you used the Monte Carlo confidence intervals?
5. Run the same model as before, but this time, treat `prigpa` as your X variable and `hwrt` as your mediator (M). Is the indirect effect the same? Why would this change happen? (Comparing the values of the a , b , and c paths from the previous model and this model may provide some insight)