INFO371 Lab 5

Your name:

Deadline: Wed, Feb 7, 11:59pm

Introduction

Please submit the completed lab by end of the day. You should submit a) your code (notebooks, rmd, whatever) and b) the lab in a final output form (html or pdf).

Please do not just provide computer output. Always comment on your main findings. Include any substantial comments as a separate text blocks. Also limit your output: do not submit pages and pages of whatever your code spits out.

Note: you may want to do some of it on paper instead of computer. You are welcome to do it but please include the result as an image into your final file.

Working together is fun and useful but you have to submit your own work. Discussing the solutions and problems with your classmates is all right but do not copy-paste their solution! Please list all your collaborators below:

1.

2. ...

1 Was Montana Meth Prevention Project Effective?

Your task is to determine if Montana Meth Prevention Project (MMP) was effective in decreasing the methamphetamine use among Montana teens.

1.1 Background and Data

2005-2007 Montana conducted an agressive ad campaign to decrease the meth abuse by the youth.

Your task is to analyze the efficacy of the campaign using Youth Risk Behavior Surve (YRBS) data. You will implement a) cross-sectional estimator; b) before-after estimator; c) differences-in-differences (DiD) estimator. The sample, necessary for this lab, is on canvas. The full data and documentation can be obtained from `https://www.cdc.gov/healthyyouth/data/yrbs/data.htm`.

The variables in the sample are:

year survey year (2003-2009)

age age, 14-17 years

sex M,F

meth 1 = has used methamphetamines in life

tv 1 = watches more than 1hr TV on average schoolday (a large number of the project ads were displayed on TV).

state MT = Montana, XX = national sample

1.2 Your Tasks

1 Before-After Load the data. Explore the data: what's it's dimension? How are variable coded? Are there any missings?

Compute an additional variable: before the campaign (=2003, 2005) and after the campaign (=2007, 2009).

2 Graphical Exploration Plot the mean value of meth use for each year, separately for Montana and national sample. Comment your results.

3 Before-After Estimator Compare the meth use (mean value) in Montana before and after the campaign. In each case interpret the most important outcome.

1. Do it as a simple table
2. Do it using regression without any other controls
3. Run a regression with full controls.

4 Cross-Sectional Estimator Compare the meth use (mean value) in Montana and nationally after the project. In each case interpret the results.

- Do it as a simple table
- Do it using regression without any other controls
- Run a regression with full controls.

5 Differences-in-Differences Estimator Compare the differences in trends in meth use in Montana and nationally between pre-project and post-project years. In each case interpret the results.

- Do it as a simple table: report average use before and after the campaign in both Montana and nationally. Compute the effect by calculating the trend difference.
- Do it using regression without any other controls
- Run a regression with full controls.