Welcome to Mastering Metrics!

Econ 140 Spring 2025, Section 1

Jonathan Old

Syllabus/OH bCourses Website Feedback form (**Always open**) RStudio

Roadmap

1. Getting Started & Housekeeping
2. Time for your questions
3. Econ 140: The Big Picture
4. Correlation and Causation

Getting Started & Housekeeping

Introduce yourself ...

... with one interesting and one boring fact about you that you would like us to know!

Housekeeping

- What you can expect in this section and from me as GSI:

Housekeeping

- What you can expect in this section and from me as GSI:
  - Safe Space

Housekeeping

- What you can expect in this section and from me as GSI:
  - Safe Space
  - Diversity

Housekeeping

- What you can expect in this section and from me as GSI:
  - Safe Space
  - Diversity
  - Challenges in this course

Housekeeping

- What you can expect in this section and from me as GSI:
  - Safe Space
  - Diversity
  - Challenges in this course
  - Mental Health

Housekeeping

- What you can expect in this section and from me as GSI:
  - Safe Space
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  - Challenges in this course
  - Mental Health
- Core values: Transparency, Integrity, Respect

Housekeeping

- What you can expect in this section and from me as GSI:
  - Safe Space
  - Diversity
  - Challenges in this course
  - Mental Health
- Core values: Transparency, Integrity, Respect
- I am your learning companion. I see grades as feedback, not as an evaluation of your abilities or personality.

What your peers advise!

What advice would you give to another student who is considering taking this course?

Comments
Attend every section, they make the course more engaging and easier to comprehend
Review and asking a lot of questions, going to outside help (SLC)
Go to class and pay attention and you should be okay.
Be active in sessions. Cooperate with others.

What advice would you give to another student who is considering taking this course?

Comments
Ask questions and try your best not to fall behind because it often compounds!
Stay on top of your work. This class is not one where you can skip lectures and cram material right before exams. Attend lectures and sections in person even if things aren't making sense.
Make sure you attend lectures, and definitely make sure you attend discussion sections – but also take advantage of the recordings to go over and cement the concepts and materials ahead of the exams.
You should have some programming skills, even if its the slightest knowledge of R or Python. It helps.
Pay attention in lecture/review the recordings if needed and go to section.
Please ask questions, no matter how simple the question may be.
Do the section handouts if you have time.
Attend sections, approach GSIs and Professors if needed. Do assignments on time and start reviewing early.

What your peers advise (2)!

What advice would you give to another student who is considering taking this course?

Comments
Go to office hours and create study groups!
Take advantage of GSI resources!
Don't fall behind lecture content

What advice would you give to another student who is considering taking this course?

Comments
Go to section and read the textbook!
Go to section!

What your peers advise (3)!

Please identify area(s) where you think the course could be improved.

Comments
Get rid of the group work.
–more practice problems
pace
n/a

What advice would you give to another student who is considering taking this course?

Comments
attend the sections.
–this isn't your regular math or coding class, come to class and exams with a creative, story telling mindset so you can best answer exam questions and paint a causal story
relax
Go to Jonathan's section.
attend lectures and office hours
go to office hour. I understood everything correctly in office hours.
Read the textbook! Attend section! It's so easy and it significantly increases your understanding.

What your peers critiqued!

Please identify area(s) where you think the course could be improved.

Comments
Sometimes I felt like in discussion topics were simplified a little too much compared to how they were described in lecture. i felt like lectures would be more complex and harder to understand while discussion sometimes seems like I was learning common sense. Now, this could have been a result of my GSI's incredible teaching style (since he was amazing at explaining concepts clearly and answering questions) but I just wanted to be sure that we were not skimping over any of the topics in lecture in section.
No improvements necessary.
The tone could be a little bit faster maybe
n/a
Perhaps break down concepts even further, for easier understanding.

Please identify area(s) where you think the course could be improved.

Comments
N/A
I think it could be beneficial to all students if section was made optional. When the students who don't have much interest in section show up, it brings down the morale and energy of the whole room. I felt bad because Jonathan would put in a good amount of energy into his sections and it often wasn't reciprocated
Recorded discussion sections.
This class felt very conceptual, or at least lectures. I think having more examples of applying the concepts would have been useful. I know the worksheets were intended for that but I think the worksheets were sometimes very dense and I wouldn't be able to finish them.
Sometimes the material was a bit boring/dry.
Uploading slides ahead of time.
Perhaps more section assignment explanation time.

What your peers critiqued (2)!

Please identify area(s) where you think the course could be improved.

Comments
N/A
Grammer was unclear sometimes.
Could be potentially more engaging, but good practice is most important and this is not a huge issue.
NA

Please identify area(s) where you think the course could be improved.

Comments
I really liked it when summery slides where made. Like before the midterm, keep up with more of that.
Hard to follow because the concepts are so hard
The main weakness is sometimes the material was taught different to how it was in lecture or we covered material in a different way than what the instructor would want from us from the midterm and final.
Release section assignments earlier.

What your peers critiqued (3)!

What did you like LEAST about the section with Jonathan?

Comments
Not a lot of students showed up
Discussing in groups
N/a
Last minute changes, OH too early

What did you like LEAST about the section with Jonathan?

Comments
I did not like the group work
Ummmm, i feel like jonathan had a really great section which was organized and prioritized participation. Maybe something I would add is more practice problems and more in depth walk through for answers on practice problems.
Emphasis on groupwork.
nothing
OH times. I kind of wish he offered it at alternative day of the week so I could attend.
n/a
office hour is too early << this is highly subjective
N/A

Newer feedback!

Which section that Jonathan taught has helped you THE LEAST? examples: Intro,regression, IV, DiD, RDD, coding, etc)?Why?

Comments
Probably coding but I already know coding so that was never an issue
I think DiD or coding, since the coding section was super light.
Coding. We just don't spend enough time on it. This makes sense since coding is not something we are tested on in this course.
Coding but that probably because I dislike R immensely
There was not a ton of coding examples in class. This may have made the problem sets more difficult.
Anything regarding code, it tends to be that Berkeley on the whole does a poor job of meeting students where they are code–wise, this is not a dig on you at all so much as I personally believe that R is not a great language to be teaching this course in. Not a relevant comment on your teaching as I thought you did the best with what you had, but I find R is finicky and obnoxious in general.
Maybe can talk a bit more about R

Newer feedback!

What advice would you give to another student who is considering taking this course?

Comments
Go to Jonathan's section
Make sure to attend sections and watch YouTube videos on each topic! Also attend lecture for sure.
Definitely make sure you have a solid understanding of intro level statistics and economics. They are critical in understanding the more advanced topics of econometrics.
Pay attention to the content and practice and ask your GSIs for help if you need it
Take it with the other professor in the fall
I would tell them to buy the textbook and primarily use the textbook and SLC review sessions for studying. I would also recommend them to start the problem sets as soon as they are assigned.
Learn python and go to class
Well it is required for Econ majors, I wouldn't recommend this as a fun course

Newer feedback!

What advice would you give to another student who is considering taking this course?

Comments
Stay engaged and read the textbook.
Don't fall behind.
Going to discussion really helps you understand the material clearly.
Go to lecture and pay attention.
section helps
Know how to code.
Learn how to code in R

Your questions

Any questions?

...Remember – this is a safe space! Every question is useful!

Econ 140: The Big Picture

The Big Picture

Econometrics can help us

- Understand causal relationships
- Critically consume news, research, claims
- Make decisions

in

- Our private lives
- (Economic) Research
- Business
- Public Policy

The Big Picture

- Econometrics gives us amazing tools to answer economic questions, but also to answer any quantitative question based on data. For example:
  1. Will my outcomes be better if I invest my time into finding summer internships or into my coursework?
  2. What is the effect of democracy on economic growth?
  3. Will a firm make more money if it introduces pay-for-performance contracts?
  4. Do minimum wages increase unemployment?

  In short: What is the effect of X on Y?
- Difference between econometrics and data science.
  - Causality vs prediction (see here)
  - Economic models

Correlation and Causation

Dissecting Bad Causal Claims

Discuss in groups of 4: Why is this statement problematic?



Over the past 60 years, more spending on police hasn't meant less crime

The Washington Post

Intuitively, one might worry that reducing police spending would lead to a spike in crime. A review of spending on state and local police over the past 60 years, though, shows no correlation nationally between spending and crime rates.

In 1960, about $2 billion was spent by state and local governments on police. There were about 1,887 crimes per 100,000 Americans, including 161 violent crimes. By 1980, spending had increased to $14.6 billion — and crime rates had soared to 5,950 crimes per 100,000 Americans and 597 violent crimes. Over the next two decades, those rates thankfully fell, down to about 4,120 crimes per 100,000 people and 507 violent crimes. Spending spiked to more than $67 billion. Eighteen years later — by 2018, the most recent year for which full data are available — crime rates had fallen further to 2,580 crimes per 100,000, including 381 violent crimes.

Figure 1: Police spending and Crime (Source)

Dissecting Bad Causal Claims II

Discuss in groups of 4: Why is this statement problematic?

Three's a crowd: Having more than 2 kids linked to weaker brain function

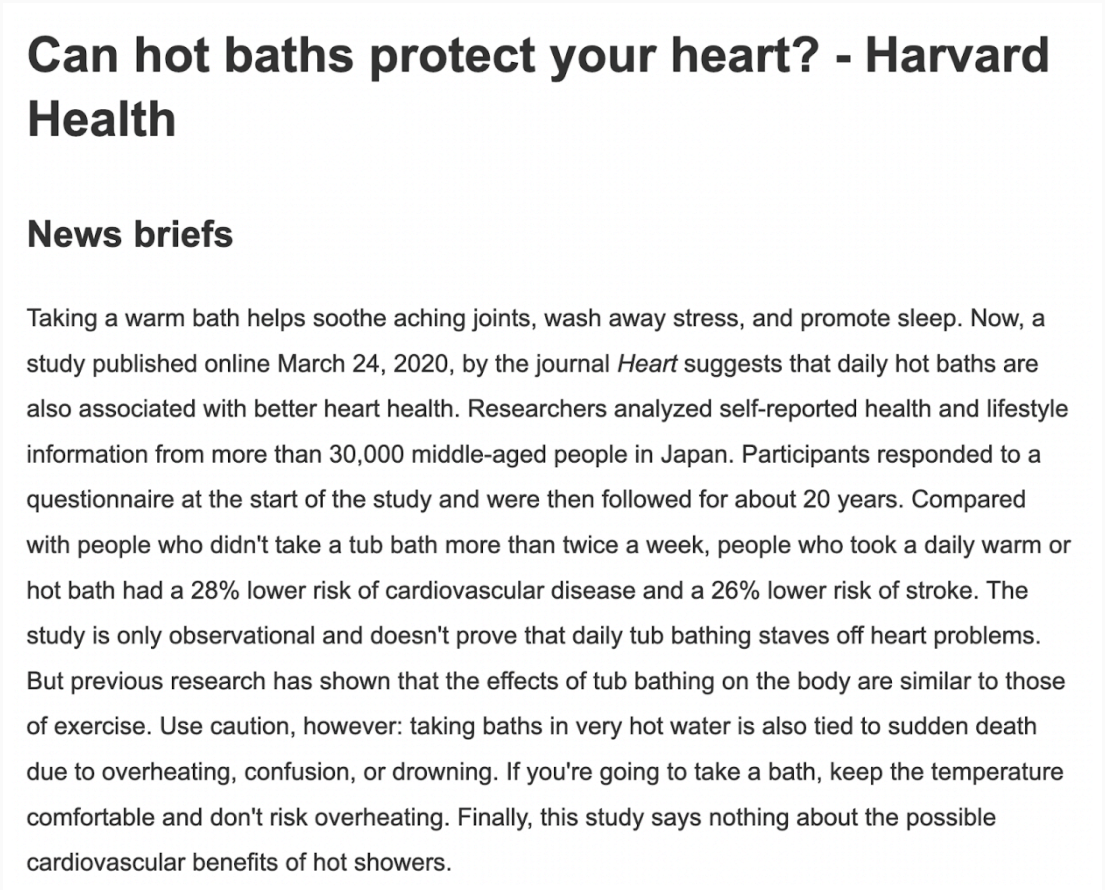


NEW YORK – Everything in moderation – even kids? Researchers from Columbia University and Université Paris-Dauphine report having more than two kids may have a negative impact on late-life cognition. The study shows that older parents with just two children appeared sharper cognitively than those with three.

Figure 2: Number of Children and Cognitive Function(Source)

Dissecting Bad Causal Claims III

Discuss in groups of 4: Why is this statement problematic?



Can hot baths protect your heart? - Harvard Health

News briefs

Taking a warm bath helps soothe aching joints, wash away stress, and promote sleep. Now, a study published online March 24, 2020, by the journal *Heart* suggests that daily hot baths are also associated with better heart health. Researchers analyzed self-reported health and lifestyle information from more than 30,000 middle-aged people in Japan. Participants responded to a questionnaire at the start of the study and were then followed for about 20 years. Compared with people who didn't take a tub bath more than twice a week, people who took a daily warm or hot bath had a 28% lower risk of cardiovascular disease and a 26% lower risk of stroke. The study is only observational and doesn't prove that daily tub bathing staves off heart problems. But previous research has shown that the effects of tub bathing on the body are similar to those of exercise. Use caution, however: taking baths in very hot water is also tied to sudden death due to overheating, confusion, or drowning. If you're going to take a bath, keep the temperature comfortable and don't risk overheating. Finally, this study says nothing about the possible cardiovascular benefits of hot showers.

Figure 3: Hot baths and health (Source)

Dissecting Bad Causal Claims IV

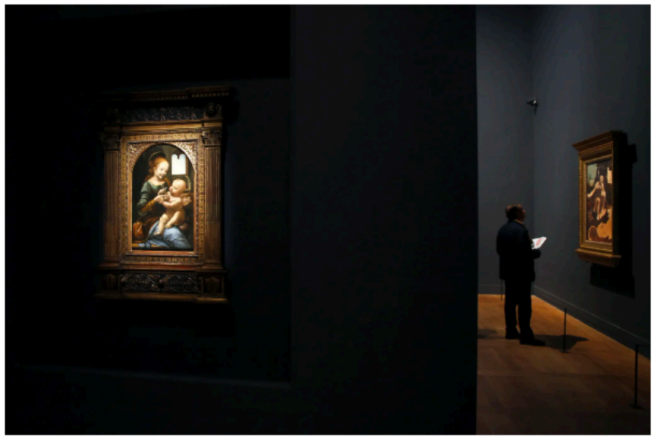
Discuss in groups of 4: Why is this statement problematic?

The New York Times

Another Benefit to Going to Museums? You May Live Longer

Researchers in Britain found that people who go to museums, the theater and the opera were less likely to die in the study period than those who didn't.

Give this article



Leonardo da Vinci's "The Virgin and Child" at the Louvre in Paris. A British study found that people who engaged with the arts had a lower likelihood of dying during the study period than those who did not. Thibault Camus/Associated Press

Figure 4: Museums and longevity (Source)

Dissecting Bad Causal Claims IV

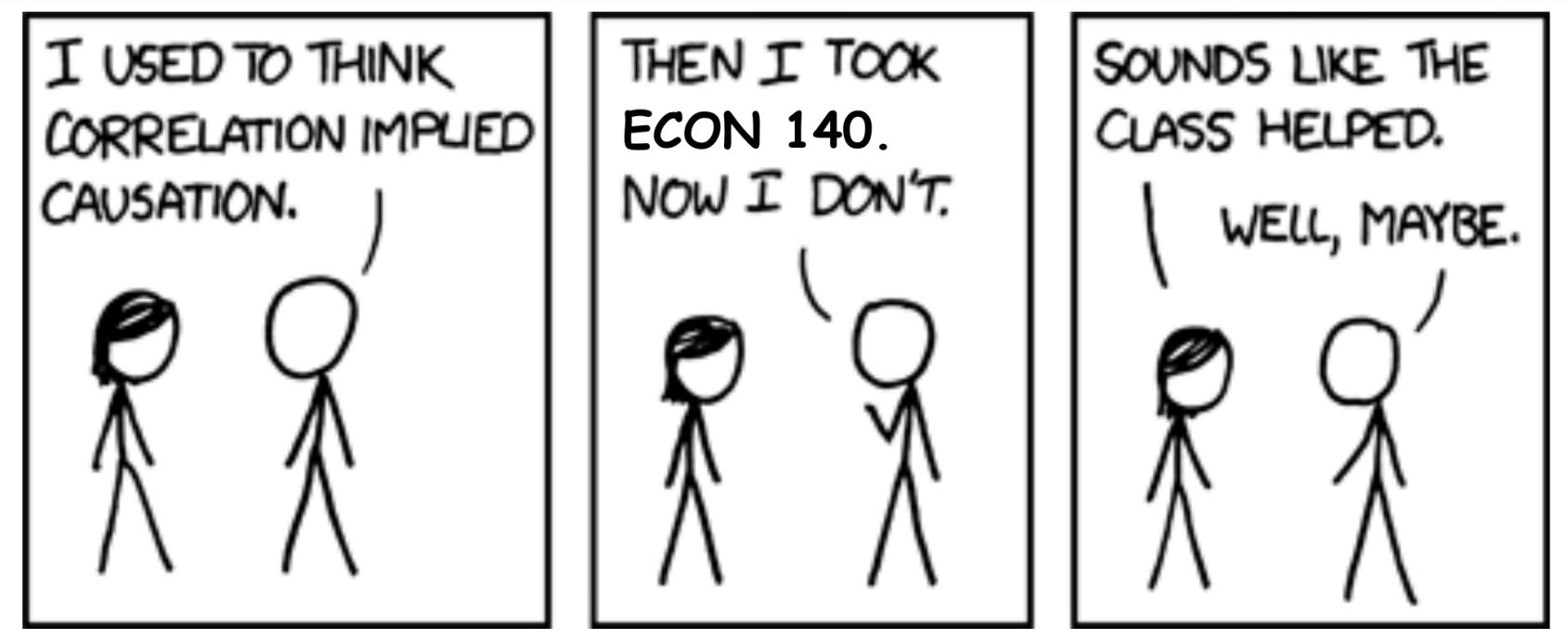


Figure 5: Correlation and causation

Quiz Time!

We have seen that
“Correlation Does Not Imply Causation”
What about:
“No Correlation Implies No Causation”?