Public Policy 712/Education 712
Causal Inference in Education Policy Research I:
Early Childhood through High School
Winter 2021 M/W: 1:00-2:20 PM

Professor Christina Weiland
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Office hours
Weiland: 3:45PM-4:45PM Fridays and as needed for conflicts with that time (all office hours are by appointment -- email for a slot)

Zoom passcode for all class sessions: 8884

Overview and objectives
This course examines several key policy areas in the realm of early learning and K-12 education. The two primary goals of the course are (1) to familiarize students with the arguments and evidence relating to important policies and/or interventions; and (2) to provide students with the analytic framework and skills necessary to evaluate education (or other public) policies in general. Specific policy topics include early learning, accountability, school choice, and research-practice partnerships. Specific methodological techniques include randomized-control trials (RCT), regression discontinuity analysis (RD), descriptive research, and lottery-based identification. We will also be studying topics related to the Institute of Education’s SEER standards (https://ies.ed.gov/seer/scaling.asp).

Prerequisites
Knowledge of introductory statistics (e.g., Stats 250, PP 529, SOE 793, or equivalent) and regression analysis (e.g., Stats 413, PP 639, SOE 794 or 795, or equivalent) are required for this course.
Course Requirements and Grading

Data Analysis Exercises (3) 50%
You will replicate and extend analyses that use the quantitative methods of the course. You will work singly or with one classmate; if you work with a classmate you will submit a single product. Because we are in a pandemic, one class session will be used per problem set to answer questions and provide you with extra work time. Problem sets 1 and 2 are worth 20% and Problem set 3 (much of which will be completed in class) is worth 10%. I will grade your first submission for completion only. I will then distribute an answer key. You are to check your answers against the key, revise any that you got incorrect using Microsoft Word tracked changes, and submit the corrected version within a week after you have received the answer key.

Take-Home Final Exam OR Research Project 30%
A take-home exam is due on the last day of class (April 21 by 1PM) and will be provided by 5 PM on the Wednesday before. Doctoral students can (and IES fellows are required to) instead complete a research product that will be defined in consultation with me. Drafts of this research product will be due on specified dates.

Reading Questions 20%
I will post questions about some of the readings (to be completed before class). All times of the semester, you should write down your answers. Four times during the semester (5% each; your choice of when), you will submit copies of your answers before class.

Participation
I expect active questioning and attendance in class. To further widespread participation, I will sometimes randomly call on students. The randomness is intended not to intimidate but to keep participation evenly distributed. Please let me know in advance if you need to miss class.

We’re in a pandemic
Life is a lot right now (for me too!). All class deadlines are flexible. Please communicate your needs to me through email and in office hours.

Readings
You are expected to complete the assigned reading before class. There will typically be one or two articles assigned for each class.

You must read these closely in order to understand what is going on. Read actively: circle what is unclear, highlight what you find most interesting, peruse the bibliography for useful sources, read the footnotes and tables especially closely. It is very useful to write a summary of the paper for your own files.
Course Material
One required book is available for free download from the UM Library:


There is no course packet. All articles are available online or on the CANVAS site. Assignments will be listed under the relevant lecture at least a week in advance. I try to provide links and/or PDFs but you are ultimately responsible for obtaining the readings. If a link is broken or a file corrupted, please find the article yourself.

Software
We will program in Stata, a software program used widely by researchers and policy analysts.

You can get a Stata license for just this semester. Order through the Stata website (http://www.stata.com/order/new/edu/gradplans/us-pickup/). You will need Intercooled Stata to use the large datasets we will work with.
## Assignment Schedule

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<thead>
<tr>
<th>All Students</th>
<th>Doctoral Student Option</th>
<th>Due</th>
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</thead>
<tbody>
<tr>
<td>Research product proposal: ½ page</td>
<td></td>
<td>1/27</td>
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<tr>
<td>Revised proposal (1 p)</td>
<td></td>
<td>2/10</td>
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<tr>
<td>Problem set #1 (posted 2/8)</td>
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<td>2/23</td>
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<tr>
<td>Progress Memo (paper option)</td>
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<td>3/15</td>
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<tr>
<td>Problem set #2 (posted 3/10)</td>
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<td>3/24</td>
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<tr>
<td>Problem set #3 (posted 4/5)</td>
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<td>4/12</td>
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<tr>
<td>Take-home final (posted 4/14) OR Research Product</td>
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<td>4/21</td>
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FORD SCHOOL OF PUBLIC POLICY INCLUSIVITY STATEMENT

Members of the Ford School community represent a rich variety of backgrounds and perspectives. We are committed to providing an atmosphere for learning that respects diversity. While working together to build this community we ask all members to:

- share their unique experiences, values and beliefs
- be open to the views of others
- honor the uniqueness of their colleagues
- appreciate the opportunity that we have to learn from each other in this community
- value one another’s opinions and communicate in a respectful manner
- keep confidential discussions that the community has of a personal (or professional) nature
- use this opportunity together to discuss ways in which we can create an inclusive environment in Ford classes and across the UM community

Accommodations for Students with Disabilities: If you believe you need an accommodation for a disability, please let your instructor know at your earliest convenience. Some aspects of courses may be modified to facilitate your participation and progress. As soon as you make your instructor aware of your needs, they can work with the Services for Students with Disabilities (SSD) office to help determine appropriate academic accommodations. Any information you provide will be treated as private and confidential.

Student Mental Health and Well-Being Resources: The University of Michigan is committed to advancing the mental health and well-being of its students. We acknowledge that a variety of issues, such as strained relationships, increased anxiety, alcohol/drug problems, and depression, directly impact students’ academic performance. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, counseling and mental health services are available. For help, contact Counseling and Psychological Services (CAPS) and/or University Health Service (UHS). This includes the Ford School embedded CAPS counselor.

In a crisis or emergency, students can call the CAPS Counselor on Duty at 734-764-8312 during business hours, or the same number and then press 0 after hours. For a listing of other mental health resources available on and off campus: http://umich.edu/~mhealth/

Please review additional information and policies regarding academic expectations, academic integrity, and resources at the Ford School of Public Policy at this link: http://fordschool.umich.edu/academics/expectations

I expect students to be familiar with all of the expectations and resources described therein.
READING LIST

Introduction

Class 1, Wednesday, January 20: Overview

Optional:

Module 1: Early Childhood and Randomized Trials

Class 2, Monday, January 25: Early childhood policy context


Optional:
Class 3, Wednesday, January 27: Introduction to randomized controlled trials

Murnane & Willett, Chapter 4


Class 4, Monday, February 1: Imperfect compliance

Murnane & Willett, Chapter 5


Class 5, Wednesday, February 3: Fixed vs. random effects


Class 6, Monday, February 8: How do we improve preschool quality?


Class 7, Wednesday, February 10: Identifying and Measuring Core Components and the Treatment-Control Contrast


Optional:
Class 8, Monday, February 15: Culturally Responsive, Strengths-Based Parent Interventions


Guest speakers: Dr. Diana Leyva, University of Pittsburgh, and Dr. Gloria Yeomans-Maldonado, Children’s Learning Institute, UT

Class 9, Wednesday, February 17: Problem Set Work Time

No class held this day. Instead, use the time to work on your problem set. I will be available to meet during class time about any problem set questions as well.

Class 10, Monday, February 22: Improving Kindergarten Math Learning and Preventing Preschool Fadeout


Guest speaker: Dr. Robin Jacob, University of Michigan

Wednesday, February 24: No class (UM Wellbeing Break)

Class 11, Monday, March 1: Subgroup analysis


Optional

Module 2: Descriptive Analysis and Research-Practice Partnerships

Class 12, Wednesday, March 3


Guest lecturer: Dr. Susan Dynarski, University of Michigan


**Class 13, Monday, March 8: Research-Practice Partnerships in Early Education**


Guest lecture: Dr. Daphna Bassok, University of Virginia

**Module 3: Regression Discontinuity**

**Class 14, Wednesday, March 10: Regression Discontinuity**


**Class 15, Monday, March 15: State Pre-K Impacts**


**Class 16, Wednesday, March 17: Problem Set Work Time**

No class held this day. Instead, use the time to work on your problem set. I will be available to
meet during class time about any problem set questions as well.

Class 17, Monday, March 22: Does School Starting Age Matter?

Guest speaker: Anna Shapiro

Module 4: School Choice and Lotteries as Identification

Class 18, Wednesday, March 24: Policy Context and Overview


Class 19, Monday, March 29: Small Schools of Choice


Guest lecturer: Dr. Howard Bloom

Class 20, Wednesday, March 31: Pre-k lotteries and generalizability


Module 5: Additional SEER Standards and Other Topics

Class 21, Monday, April 5: Missing Data

Review of Psychology, 60, 549-576.

Notes: In class, we will use Stata. There are no reading questions for this class.

Additional reading (not required):

Class 22, Wednesday, April 7: Mixed Methods


Class 23, Monday, April 12: Cost Analysis


Note: I will draw slides for this class largely from Brooks Bowden’s 2020 SREE training. The Webinar (optional) and slides are available here: https://www.sree.org/webinar

Class 24, Wednesday, April 14: Pre-registration


In class, we will examine two pre-registration approaches together:

https://aspredicted.org/ (Please make an account for yourself before class begins)

https://sreereg.icpsr.umich.edu/sreereg/ (We will use demo mode – no need to make an account)

Class 25, Monday, April 19: Meaningful Outcomes

Before class, familiarize yourself with this website (spend about 20-30 minutes navigating it and reading it): https://edinstruments.com/

Class 26, Wednesday, April 21: Wrap up