

PA 5932 Working with data: finding, managing, and using data

Humphrey School of Public Affairs – University of Minnesota
1.5 credits
Fall 2023

Meeting

When: Mon/Wed 11:15 AM – 12:30 PM
Where: Computer lab HHH 85

Instructor

Sarah Wahby (she/her/hers)
wahby001@umn.edu
Office: HHH 55-04.

Office Hours

Mondays after class until 2:00 PM and by appointment. Office hours will be held in the computer lab. For online meetings please send a calendar invite with a zoom link.

Course Description

This course teaches you to use quantitative data to answer policy questions. You will learn how to find, manage, analyze and present quantitative data for policy analysis. You will gain hands-on experience working in Excel and Stata through class exercises and assignments. You will also be able to apply the skills learned to policy issues that concern you. The software applications used in this class are Excel and Stata (mainly Stata).

A typical class will start with an introduction to the topic and then be followed by class exercises. This class is not meant to teach you all the finer details of Excel and Stata. The main purpose is to introduce you to the main tools and techniques you can use to analyze your data, recognize common pitfalls and avoid them, to use available resources to troubleshoot mistakes and start self-learning to become an independent user.

Course goals

The goal of this course is to:

- Become familiar with different types of data and how to find it
- Learn data management and analysis techniques using Stata and Excel
- Present data in tables, figures and writing to deliver a policy message

Course outcomes

After successful completion of this course, you should be able to:

1. List and describe different types of quantitative data
2. Identify credible sources of data for policy-related topics
3. Develop a data management plan
4. Apply data cleaning techniques to your dataset
5. Create tables and figures to analyze policy issues
6. Interpret your results and create a story
7. Produce a policy brief

Prerequisites

There are no prerequisites for this course, although some Statistics background is preferred.

Technology and Texts

- Stata is available on all computers in Humphrey Lab 85. You can use lab computers during non-class times. Lab schedule is posted outside the lab door for your reference.
- You can also access lab computers remotely via the University of Minnesota's [AppsToGo](#). To use the AppsToGo service on your own device, follow the instruction [here](#) (or reach out to the instructor for help).
- To ease storage of the work we will do during class we will be using Humphrey School's T drive: check [here](#) for more information
- There is no textbook for the course.
- Other useful resources for working with Stata:
 - [Stata Support](#) - Accessible by typing "help" into the Stata command line.
 - [Statalist](#)
 - [UCLA's statistical consulting office](#)
 - [UWM's social science computing cooperative](#)
 - [Guttmacher Institute Coding Style Guide](#)
 - [Statistics help](#)

Evaluation

You are evaluated based on attendance and participation in class as well as the assignments and the final policy brief you submit. Attendance and participation in class exercises are essential to practice and apply the techniques you learn. Assignments are incremental and are designed to

help you develop step by step the policy brief that you will submit at the end of the semester. There are no extra credit assignments in this course.

This is how each of these components will contribute to your grade:

Attendance and participation	20%
Assignments	60% (10% each)
Final policy brief	20%

Grading scale

93% and above A	77% and above C+
90% and above A-	73% and above C
87% and above B+	70% and above C-
83% and above B	67% and above D+
73% and above B-	

Attendance and Participation

Data cleaning and analysis techniques are learned best by doing. Practicing these techniques through in-class exercises aims to assist you and save your time when you are working on your assignments later. If you attend class meetings and participate by responding to questions and asking for help with exercises when needed, you are guaranteed the full 20%.

Weekly Assignments

- Assignments will be uploaded to Canvas on Wednesday of each week and will be due the following Wednesday.
- You can work in groups of 2 or 3 students on your assignments and your final policy brief
- For each assignment you will submit through Canvas a do file with your code and a word document with your output and written commentary.
- Assignments are made up of two components:
 - o A uniform activity similar for everyone
 - o A customized activity that helps you develop the policy brief you will submit in the end of the semester.
- The customized component of the assignment will give you instructions to implement the techniques you learned in class and explore your dataset and the policy issue you are interested in.
- For the customized component of the assignment, if you want to go beyond the code learned in class and add other components using the help and available online resources, you are welcome to do that. I am happy to help as needed during office hours and provide feedback.

Final Policy Brief

The policy brief is a compilation of all the customized portion of all assignments you have done throughout the semester. The aim is to mimic policy publications such as policy reports and policy briefs. This kind of publication generally addresses policy makers who are busy and do not have time to go through long readings. The goal is, therefore, to deliver your message with as little words as possible. Tables and figures are your main support tools to achieve this goal. But remember, tables and figures, without a story do not mean much. You need to think carefully about the main story that can be distilled from your tables and figures and tell it concisely.

You will work on this policy brief with the same group that you have worked with throughout the semester.

Absence and late work

- If you need to miss a class or submit a late assignment you can request instructor's approval. Failing to obtain such approval will affect your grade.
- Assignments are due on Wednesday of each week. Late assignments that were not granted deadline extension will lose 10% of the grade if submitted between Thursday and the following Sunday, 20% if submitted between Monday and Sunday of the week after. **Assignments submitted afterwards will not be graded.**

To be successful in this course you need to:

- Attend classes and practice through in-class exercises
- Ask for help when needed during class time and office hours
- Submit assignments on time
- Incorporate feedback on assignments in your final report

It is expected that the academic work required of Graduate School and professional school students is at least three hours per credit per week. This means that your work on this course will be at least four and a half hours per week.

Course Schedule

<i>Timeline</i>	<i>Focus</i>	<i>To Do</i>
Week 1 Oct 23	Introduction and finding data <ul style="list-style-type: none">• Types of quantitative data	

	<ul style="list-style-type: none"> • Where to find data? 	
Week 2 Oct 28, 30	Excel <ul style="list-style-type: none"> • Functions • Figures • Pivot Table 	Assignment 1 (due Oct 30): Exercise 1 + Choose your policy issue and your dataset
Week 3 Nov 4, 6	Stata tools and organizing your files <ul style="list-style-type: none"> • Do-files and Logs • Use “help” • Workflow Explore your data and basic cleaning <ul style="list-style-type: none"> • Know your data: browse, tabulate, summarize. 	Assignment 2 (due Nov 6): Exercise 2 + Introduce your policy issue and dataset
Week 4 Nov 11, 13	Clean your data and make tables <ul style="list-style-type: none"> • Create, rename and code variables • Weights in data • Export tables 	Assignment 3 (due Nov 13): Exercise 3 + Explore and clean your dataset
Week 5 Nov 18, 20	Clean your data and make graphs <ul style="list-style-type: none"> • Reshape • Collapse • Scatter plot • Merge 	Assignment 4 (due Nov 20): Exercise 4 + Create tables
Nov 25, 27	Thanksgiving	
Week 6 Dec 2, 4	Clean your data and make graphs (Cont'd) <ul style="list-style-type: none"> • Macros • Loops • Append • Graphs 	Assignment 5 (due Dec 4): Exercise 5 + Create graphs
Week 7 Dec 9, 11	Bringing it all together <ul style="list-style-type: none"> • Reviewing data management principles • Policy writing 	Assignment 6 (due Dec 11): Exercise 6 + organize your do files, add more graphs
Policy brief (due Wednesday 18): Create a storyline, conclude and submit your final policy brief		

Instructor-Student informal contract

Instructor will:

- Remain present for students throughout the class session and during office hours.
- Strive to help students achieve their goals from this course (including if their goals are beyond the scope of what is covered in class)
- Strive to give feedback to students on their assignments within a week of submission. If not able to, she will aim to give feedback within 2 weeks
- Communicate changes in the time and place of office hours whether temporarily or permanently through electronic announcement
- Communicate if a class is cancelled or held in a different modality through electronic announcement

Students are expected to:

- Remain present and engaged throughout the class session
- Reach out to the instructor if they need assistance
- Request instructor approval if they need to miss a class or submit a late assignment
- Collaborate and help each other. They are however not expected to copy/paste code from their peers.

Acknowledgement

Teaching is a collective endeavor, and this class has particularly benefited from generous sharing by Tom VanHeuvelen, Kenn Chua, Sangyoo Lee, Anna Bolgrien and Yi Wang.

University of Minnesota Policies

<https://policy.umn.edu/education/syllabusrequirements>

1. Student Conduct Code

The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. Similarly, the University seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community.

As a student at the University you are expected adhere to Board of Regents Policy: *Student Conduct Code*. To review the Student Conduct Code, please see: <https://regents.umn.edu/student-conduct-code-pdf-0>

Note that the conduct code specifically addresses disruptive classroom conduct, which means "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."

2. Scholastic Dishonesty

You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis. (Student Conduct Code:

<https://regents.umn.edu/student-conduct-code-pdf-0>

If it is determined that a student has cheated, the student may be given an "F" or an "N" for the course, and may face additional sanctions from the University. For additional information, please see:

<https://policy.umn.edu/education/instructorresp>

The Office for Community Standards has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty:

<https://communitystandards.umn.edu/avoid-violations/avoiding-scholastic-dishonesty>

If you have additional questions, please clarify with your instructor for the course. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class-e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.

3. Makeup Work for Legitimate Absences

Students will not be penalized for absence during the semester due to unavoidable or legitimate circumstances. Such circumstances include verified illness, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, and religious observances. Such circumstances do not include voting in local, state, or national elections. For complete information, please see: <https://policy.umn.edu/education/makeupwork>

4. Incomplete

If you need to request an incomplete please check the policy in your school. This is the policy of the Humphrey School of Public Affairs

<https://www.hhh.umn.edu/academic-policies/humphrey-school-academic-policies/contract-completion-incomplete-grades>

The instructor is open to have an agreement for an Incomplete grade as long as the student abides by their school's policy.

5. Appropriate Student Use of Class Notes and Course Materials

Taking notes is a means of recording information but more importantly of personally absorbing and integrating the educational experience. However, broadly disseminating class notes beyond the classroom community or accepting compensation for taking and distributing classroom notes undermines instructor interests in their intellectual work product while not substantially furthering instructor and student interests in effective learning. Such actions violate shared norms and standards of the academic community. For additional information, please see item #6:

<https://policy.umn.edu/education/studentresp>

6. University Grading Scales

The University has two distinct grading scales: A-F and S/N.

A-F grading scale. The A-F grading scale allows the following grades and corresponding GPA points:

Grade	GPA Points	Definitions for undergraduate credit
A	4.000	Represents achievement that significantly exceeds expectations in the course.
A-	3.667	
B+	3.333	
B	3.000	Represents achievement that is above the minimum expectations in the course.
B-	2.667	
C+	2.333	
C	2.000	Represents achievement that meets the minimum expectations in the course.

C-	1.667	
D+	1.333	
D	1.000	Represents achievement that partially meets the minimum expectations in the course. Credit is earned but it may not fulfill major or program requirements.
F	0.000	Represents failure in the course and no credit is earned.

S/N grading scale. The S/N grading scale allows for the following grades and corresponding GPA points.

Grade	GPA Points	Definitions for undergraduate credit
S	0.00	Satisfactory (equivalent to a C- or better) NOTE: For graduate level courses, the standard is S = B or better.
N	0.00	Not Satisfactory

For additional information, please refer to:

<https://policy.umn.edu/education/gradingtranscripts>

7. Sexual Harassment, Sexual Assault, Stalking and Relationship Violence

The University prohibits sexual misconduct, and encourages anyone experiencing sexual misconduct to access resources for personal support and reporting. If you want to speak confidentially with someone about an experience of sexual misconduct, please contact your campus resources including the Aurora Center, Boynton Mental Health or Student Counseling Services

<https://eoaa.umn.edu/report-misconduct>

If you want to report sexual misconduct or have questions about the University's policies and procedures related to sexual misconduct, please contact your campus Title IX office or relevant policy contacts.

Instructors are required to share information they learn about possible sexual misconduct with the campus Title IX office that addresses these concerns. This allows a Title IX staff member to reach out to those who have experienced sexual misconduct to provide information about personal support resources and options for investigation. You may talk to instructors about concerns related to sexual misconduct, and they will provide support and keep the information you share private to the extent possible given their University role (scroll down to Sexual Harassment ...).

<https://regents.umn.edu/policy/all>

8. Equity, Diversity, Equal Opportunity, and Affirmative Action

The University provides equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, membership or activity in a local commission created for the purpose of dealing with discrimination, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy (scroll down to Equity, Diversity, Equal Opportunity ...):

<https://regents.umn.edu/policy/all>

9. Disability Accommodations

The University views disability as an important aspect of diversity and is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

- If you have, or think you have, a disability in any area such as, mental health, attention, learning, chronic health, sensory, or physical, please contact the DRC office on your campus (UM Twin Cities 612-626-1333) to arrange a confidential discussion regarding equitable access and reasonable accommodations.
- Students with short-term disabilities, such as a broken arm, can often work with instructors to minimize classroom barriers. In situations where additional assistance is needed, students should contact the DRC as noted above.
- If you are registered with the DRC and have a disability accommodation letter dated for this semester or this year, please contact your instructor early in the semester to review how the accommodations will be applied in the course.
- If you are registered with the DRC and have questions or concerns about your accommodations please contact your access consultant/disability specialist.

For additional information, please refer to:

Twin Cities – <https://disability.umn.edu/> or drc@umn.edu

10. Mental Health and Stress Management

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: <http://www.mentalhealth.umn.edu/>

11. Academic Freedom and Responsibility: For courses that do not involve students in research

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.*

Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor (Sarah Wahby), your adviser, the Associate Dean of the college for Faculty and Academic Affairs (Abimbola Asojo) or the University Vice Provost for Faculty and Academic Affairs (Rebecca Ropers) in the Office of the Provost.

** Language adapted from the American Association of University Professors "Joint Statement on Rights and Freedoms of Students".*

12. Equity and Access: Gender Identity, Gender Expression, Names and Pronouns (Administrative Policy)

The University is committed to providing equal access and opportunity to individuals of all gender identities and gender expressions, as set forth in Board of Regents Policy (scroll down to Equity, Diversity ...):

<https://regents.umn.edu/policy/all>

To that end, this policy makes explicit the University's commitment to non-discriminatory programs, activities and facilities and promotes a respectful University community free from discrimination based on gender identity or expression. This policy is designed, and will be implemented, to uphold free speech and academic freedom principles.

For a complete description of this new policy (effective Dec 11, 2019), including definitions please visit the policy website:

<https://policy.umn.edu/operations/genderequity>