Sociology 5 – Evaluation of Evidence – Spring 2018
Professor Heather A. Haveman

Tuesdays and Thursdays, 3:30-5:00pm, 245 Li Ka Shing
Office hours Mondays 3:30-5:30, 494 Barrows Hall (signup sheet on office door)
haveman@berkeley.edu   510-642-3495

Course Objectives

People today are barraged by information – a torrent of facts, opinions, and analyses that appear in books, in newspapers and magazines, on radio and television, through the Internet. The pressure to make sense of that information has never been greater. This course will give you an overview of the research tools most commonly used by social scientists, journalists, and public-policy analysts to gather evidence and analyze it. By the end of the semester, you will be able to assess the soundness of research by evaluating research designs and data-collection strategies in light of research questions and theory. You will develop this knowledge by evaluating existing research and doing some of your own.

Enrolling in the Class

Each student must be registered for the lecture course and for one of the sections:

Section	CCN	Day/Time	Location
5.101	30242	TR 8-9	104 Barrows
5.102	30243	TR 9-10	175 Barrows
5.103	30244	TR 10-11	587 Barrows
5.104	30245	TR 10-11	45 Evans
5.105	30246	TR 12-1	475 Barrows
5.106	30247	TR 1-2	185 Barrows
5.107	30248	MW 8-9	155 Barrows
5.108	30249	MW 9-10	151 Barrows
5.109	32153	MW 10-11	285 Cory
5.110	32154	MW 11-12	185 Barrows
5.111	32608	MW 12-1	185 Barrows
5.112	32609	MW 1-2	587 Barrows
5.113	40942	MW 2-3	51 Evans
5.114	40943	MW 3-4	55 Evans

First section meetings will be held on Weds. 24 Jan. (MW sections) and Thurs. 25 Jan. (TuTh sections).

Lectures

Lectures explore the philosophical underpinnings of research design and describe the many different ways of gathering and evaluating evidence. You are responsible for all material discussed in lectures, as well as any announcements made there.

Sections

Sections provide you with opportunities to ask questions about the readings or lectures, and otherwise engage the material actively, which is hard to carry off in a large lecture. Sections on Weds. 24 Jan. for MW sections and Thurs. 25 Jan. for TuTh sections.

Sections are led by Graduate Student Instructors (GSIs). Section meetings and your GSI's office hours are your main points of contact. Please do not deluge the GSIs with emails. Please do not phone your GSI, unless she or he invites you to do so (GSIs are not required to give out their phone numbers). Each GSI has a mailbox in 410 Barrows.

Here is a list of GSIs, along with their email addresses:

GSI	Email
Mario Castillo	mdcastillo@berkeley.edu
Esther Cho	esther.cho@berkeley.edu
Naniette Coleman	nhcoleman@berkeley.edu
Jaren Haber	jhaber@berkeley.edu
Michael Menefee	menefeem@berkeley.edu
Krista Schnell	kkschnell@berkeley.edu
Jenny Segura	jennygsegura93@berkeley.com

Required Readings

Readings offer you the chance to learn how working social scientists and policy analysts actually DO research, how they gather and analyze data. You are expected to do assigned reading before class. You will be tested on the readings in quizzes at some point during every lecture. To help focus your reading, the schedule of classes includes questions to consider for each set of readings. Think through these questions carefully, as they will inform the quizzes, midterm, and final exam.

The textbook is required: Deborah Carr, et al. 2017. *The Art and Science of Social Research*. New York: W.W. Norton. It is available at the ASUC bookstore. ISBN 978-0393911589. The print (paperback) version is about $125, the 3-hole-punch loose-leaf version about $100, the e-book is $45, and the e-book plus access to the loose-leaf version is $60. You can purchase the e-book from digital.wwnorton.com/socialresearch. I have put copies of the book on 2-hour reserve in Moffitt.

Other readings: Some are journal articles that are available through the UC Berkeley library. The schedule of classes provides links to these readings that work if you are on campus or if you are off campus and have connected via the library's virtual private network. (To download and install the software for this, go to http://www.lib.berkeley.edu/using-the-libraries/vpn.) A few readings are not available online from the library. They are available on bcourses. To accommodate students who are on the waitlist, all readings for classes 1-4 are available on bcourses

Assignments and Grades

You will be graded on your understanding of readings, lectures, and discussions in section meetings, and on your ability to complete hands-on research projects, as listed below.

Requirements	Value	Due Date
In-class quizzes	15%	
Participation in section meetings	20%	
Research project 1: Identifying units of analysis	5%	Mon. 29 Jan.
Research project 2: Identifying variables & units of analysis	5%	Tues. 6 Feb.
Research project 3: Identifying independent & dependent variables	5%	Tues. 20 Feb.
Midterm exam (in class)	10%	Thurs. 22 Feb.
Research project 4: Constructing & analyzing data tables	15%	Tues. 20 Mar.
Research project 5: Designing a survey	15%	Thurs. 12 Apr.
Final exam (in exam period)	10%	Fri. 11 May 7pm

The median grade in past years has been between B and B+.

In-class quizzes
These will be drawn from the readings, section discussions, and/or lectures. They will be held at a random point during every lecture, beginning with lecture 4. They will usually consist of 3 or 4 multiple-choice questions.

You will take these quizzes using clickers, which resemble remote controls and allow students to take quizzes, respond to polls, and provide feedback in real time. You can purchase clickers at the ASUC bookstore, new or used. After purchasing them, you must register them in order for them to work. To do so, go to http://www.iclicker.com/registration/ and follow the instructions on that web site. Use your 8-digit student ID (5-digit ID for Concurrent Enrollment students).

I adopted this technology for several reasons. Research by cognitive psychologists (e.g., Brown, Roediger, and McDaniel *Make It Stick* 2014) indicates that students should be graded frequently throughout the semester rather than at only a few points in time. Clickers make this possible in large classes. Clickers also make it possible for me to determine how well you grasp the material so I can spend less time on the concepts you understand well and more time on the challenging ones. This, in turn, leads to more interesting discussions. Finally, using clickers makes it easier for your reactions and opinions to serve as launching point for in-class discussion and debate.

Bring your clicker to class every day. The care and keeping of your clicker is your responsibility. If you forget it, if it runs out of batteries, if it fails to communicate with the receiver, or if it experiences any other kind of technical difficulty, you will get zero on that day's quiz. I will not change any quiz grade based on a report of a technical malfunction.   I understand, however, that freak accidents happen and that even the most conscientious person can forget something once in a while. To allow for that possibility, I will drop your 2 lowest quiz scores.

Midterm and final exam
These will test you on your comprehension of course material. Both are <u>closed-book tests</u>. Each constitutes 10% of your grade. The midterm is **Thurs. 22 Feb., in class**. The final exam is **Fri. 11 May, 7-8:30pm.** The exam period runs from 7-10pm, but the final for this course will take only 1 hour 20 minutes to complete, because it has the same weight as the midterm.

Research projects
These are designed to give you hands-on experience with research.   The list of research projects is at the end of the syllabus, after the schedule of classes and readings. These projects are **due in your GSI's mailbox in Barrows Hall by 4pm** on their respective due dates. Late projects will be marked down 1 full grade (*e.g.*, B→C) for each day late.

You will complete 3 individual research projects (projects 1-3) and 2 group research projects (projects 4-5). A lot of sociological research is coauthored; doing this work in groups gives you a sense of what it is like to work on a research team. It also allows you to learn from each other.

Participation in Section
Your GSI will assign 20% of your grade based on your participation in section. Participation involves attending sections, contributing to discussions, asking relevant questions (they're usually the questions that other section members wonder about), and answering questions asked by GSIs. Motormouths beware: the quality of your contribution is <u>far</u> more important than the quantity.

Course Policies

Lectures
I will post slides from the lecture the day before lecture. You can print these out to avoid having to draw every figure on the slides or write down every set of bullet points. You can also take notes to cement your understanding of the lecture material. Recent research shows that taking notes on laptops is detrimental to learning because it results in shallower information processing (Mueller and Oppenheimer, *Psychological Science* 2014 – see article abstract at http://pss.sagepub.com/content/early/2014/04/22/0956797614524581.abstract).

<u>I do not allow laptops in class</u> unless you have a legitimate, DSP-documented reason and have received explicit permission from me. (I know I couldn't resist surfing the web or emailing my friends during class, so I'm removing the temptation!) You must also <u>switch off your cell phones</u> (not just set to vibrate), unless you have a legitimate need (*e.g.*, your spouse is about to have a baby or a liver transplant) that you have told me about.

Office hours
I encourage you to sign up for office hours. Usually it's best to sign up in advance (there is a sign-up sheet on my door), but if there is an empty slot, I'm happy to meet with students who drop by. The GSIs will also hold office hours; they will tell you about these when you meet in section.

Academic honesty
According to a recent national survey (the National Study of Youth and Religion Wave 2), 50% of college students reported cheating at least once in the previous year and 18% reported more frequent cheating. It is nearly certain that some members of our class will try to cheat at some point during the semester. In fairness to students who are honest, those who are detected cheating will be dealt with as severely as University policy allows. Cheating includes, but is not limited to, using notes or written or electronic materials during an exam or quiz; copying another person's exam, quiz, or research project; allowing someone to copy your exam, quiz, or research project; having someone take an exam or quiz for you; or plagiarizing any written assignment. Any suspected cheating will be immediately reported to Student Judicial Affairs.

The use of clickers in lectures will allow us to have more enjoyable, more interactive discussions and to conduct daily quizzes quickly. It also, however, creates opportunities for academic dishonesty. Using someone else's clicker for them is the same as cheating on an exam. To ensure honesty and to avoid any appearance of dishonesty, no person may ever have more than one clicker in his or her possession. If I or one of the GSIs sees any student holding, touching, or otherwise interacting with more than one clicker at any time during class, those clickers will immediately be confiscated and the incident will be reported to Student Judicial Affairs.

Appealing grades
To appeal a grade on research project or the midterm please follow this procedure:

1) Within **7 days** after the project or midterm is handed back to you, write a note (1-2 paragraphs) explaining why you think your grade should be changed and deliver it to your GSI via email.

2) Make an appointment to meet with your GSI during office hours (for group assignments, not all group members have to be present), during which time your GSI will explain his/her decision about your appeal. If you can't meet your GSI during office hours, your GSI will respond to you via email.

3) If you are not satisfied with your GSI's decision and reasoning, within **7 days** of receiving your GSI's decision, make an appointment to meet Professor Haveman, who will be the final arbitrator.

Soc 5 – Evaluation of Evidence – Schedule of Classes and Readings

1. **Tues. 16 Jan.** **Introduction**
What are the goals of this course? What do I have to do to get a good grade? What should I do if I'm on the wait list?

2. **Thurs. 18 Jan.** **Sociology and Social Science**
What is (social) science? What does science <u>do</u>? What kinds of things do social scientists (especially sociologists) study? How do sociologists study those things?

Reading: Textbook. Chapter 1. The art and science of social research: An introduction.

3. **Tues. 23 Jan.** **The Structure of Science: Paradigms and Theories**
How is scientific knowledge organized? What are the elements of scientific theories? How does scientific knowledge evolve? How do sociologists use theories?

Readings: Collins, Harry, and Trevor Pinch. 1993. The sex life of the whiptail lizard. Chapter 6 in *The Golem: What Everyone Should Know about Science*. Cambridge: Cambridge University Press.

Textbook. Chapter 2. Research foundations: Linking sociological theory to research, p. 32-40.

Note: Sections begin Wed. 24 Jan. (for MW sections) or Thurs. 25 Jan. (for TuTh sections).
Note: GSI office hours begin on or after Wed. 24 Jan.

4. **Thurs. 25 Jan.** **The Structure of Science: Paradigms, Theories, and Hypotheses**
What are the elements of scientific theories? How do sociologists use theories?

Readings: Textbook. Chapter 2. Research foundations: Linking sociological theory to research, p. 41-65.

Greta Krippner. 2000. How to read a journal article.

Mon. 29 Jan.
Due: Research project 1. Put in your GSI's mailbox (410 Barrows) by <u>3pm</u>.

5. **Tues. 30 Jan.** **Inductive Research: Generating Hypotheses**
How do sociologists come up with new ideas? How do they develop novel explanations from observing the social world? Why can we say that Becker's article takes an inductive sociological approach? What role does theory play in his argument? In what ways does he provide an example of pure inductive research, and in what way does he deviate from pure induction? How might you build on Becker's findings to study drug users today?

Readings: Ian Dey. 1999. Introduction. Chapter 1 in *Grounding Grounded Theory: Guidelines for Qualitative Inquiry*, pp. 1-12. New York: Academic Press.

Babbie. Chapter 13. Qualitative data analysis (read only pp. 382-392: introduction, linking theory and analysis, and qualitative data processing).

Howard S. Becker. 1953. Becoming a marihuana user. *American Journal of Sociology*, 59 (3): 235-242. (http://www.jstor.org/stable/2771989)

Soc 5 – Evaluation of Evidence – Schedule of Classes and Readings

6. Thurs. 1 Feb.   Deductive Research (I): Testing Hypotheses
How do sociologists test predictions derived from theory? How do they relate empirical observations to theoretical concepts? How do we know that X causes Y?

<u>Reading</u>:   Arthur L. Stinchcombe. 1968. Fundamental forms of scientific inference. Chapter 2 in *Constructing Social Theories*. Chicago: University of Chicago Press. Focus on pp. 15-28.

7. Tues. 6 Feb.   Deductive Research (II): Example
How is Pager's article an example of a deductive sociological approach? Identify one of the theories she discusses and the related hypotheses. How does she test these hypotheses?

<u>Reading</u>:   Devah Pager. 2003. The mark of a criminal record. *American Journal of Sociology*, 108 (5): 937-975. (http://www.jstor.org/stable/10.1086/374403)

<u>Due</u>:   Research project 2.

8. Thurs. 8 Feb.   Measurement (I): Conceptualization and Operationalization
How do we translate theoretical concepts into observable phenomena we can measure?

<u>Readings</u>:   Textbook. Chapter 4. From concepts to models: Hypotheses, operationalization, and measurement.

Christopher Jencks. 2015. The war on poverty: Was it lost? *New York Review of Books*, April 2, 2015. (http://www.nybooks.com/articles/2015/04/02/war-poverty-was-it-lost/)

<u>Watch</u>:   https://www.youtube.com/watch?v=q9EehZlw-zk (we will watch this in class)

9. Tues. 13 Feb.   Measurement (II): Validity and Reliability
How do we know that our measures of theoretical concepts are valid and reliable?

<u>Readings</u>:   Textbook. Chapter 5. Evaluating research: Reliability and validity.

Susan Mayer and Christopher Jencks. 1989. Poverty and the distribution of material hardship. *Journal of Human Resources*, 24 (1): 88-114. (http://www.jstor.org/stable/145934)

10. Thurs. 15 Feb.   Data Analysis and Statistics Refresher (I): Distributions and Tables
What are the basic ways to summarize quantitative data? How should we read tables of quantitative data and interpret them? How should we construct data tables?

<u>Readings</u>:   Textbook. Chapter 14. Univariate and bivariate analysis of quantitative data, pp. 460-473.

Jane Miller. 2004. Creating effective tables. Chapter 6 in *The Chicago Guide to Writing about Numbers*. Chicago: University of Chicago Press.

*** Note: Mon. 19 Feb. is President's Day. ***

11. Tues. 20 Feb.   Midterm Review

<u>Due</u>:   Research project 3.

12. Thurs. 22 Feb.   IN-CLASS MIDTERM (This will cover material up to class 9 ONLY)

Note: No section meetings Mon. 26 Feb. or Tues. 27 Feb., so GSIs have time to grade the midterm.

13. Tues. 27 Feb.   Data Analysis and Statistics Refresher (II): Associations between Variables
How do we quantify the relationship between two or more variables? How do we describe those relationships?

Reading: Textbook. Chapter 14. Univariate and bivariate analysis of quantitative data, pp. 476-493.

Video: Skewed distributions explained: https://www.youtube.com/watch?v=XSSRrVMOqlQ

14. Thurs. 1 Mar.   Sampling and Estimating Population Characteristics
How should we select units to observe – from what universe or population should we sample? How many observations should we take? How do we draw inferences from our samples to the populations from which they are drawn? How do we quantify the uncertainty inherent in our estimates of population characteristics, based on samples?

Readings: Textbook. Chapter 6. Sampling strategies.

Nancy Reichman, Julien Teitler, Irwin Garfinkel, and Sara McLanahan. 2001. Fragile families: Sample and design. *Children and Youth Services Review*, 23 (4-5): 303-326. (https://www.sciencedirect.com/science/journal/01907409/23/4-5)

15. Tues. 6 Mar.   Data Analysis and Statistics Refresher (III): Hypothesis Testing
How do we test hypotheses about relationships between two or more variables, using samples to estimate population characteristics? How do we quantify the uncertainty inherent in our estimates of population characteristics, based on samples?

Reading: Textbook. Chapter 15. Multivariate and advanced quantitative methods.

16. Thurs. 8 Mar.   Ways to Gather Data: Experiments (I)
What are the features of a good (laboratory or field) experiment? What are the strengths and weaknesses of this research design? What can we learn from this research design that we can't learn from other research designs?

Reading: Textbook. Chapter 8. Experimental research.

17. Tues. 13 Mar.   Ways to Gather Data: Experiments (II)
What hypotheses did the authors set out to test? In what ways did they make sure that their methods and results were scientifically sound? Suppose that all their subjects (women and men) had more macho attitudes after the test than they had before the test, regardless of the result they were given. What conclusions would you draw? Think of another widely held belief in our culture. How might you test that belief through a laboratory experiment?

Reading: Robb Willer, Christabel Rogalin, Bridget Conlon, and Michael T. Wojnowicz. 2013. Overdoing gender: A test of the masculine overcompensation thesis. *American Journal of Sociology*, 118 (4): 980-1022. (http://www.jstor.org/stable/10.1086/668417)

18. Thurs. 15 Mar.   Ways to Gather Data: Surveys (I)
What does it take to design and construct a good survey? What are the strengths and weaknesses of this research design? What can we learn from this research design that we can't learn from other research designs?

Readings: Textbook. Chapter 7. Survey research.

Howard Schuman. 2002. Sense and nonsense about surveys. *Contexts*, 1 (2): 40-47. (http://www.jstor.org/stable/41800720)

19. Tues. 20 Mar.   Ways to Gather Data: Surveys (II)
What theory are Schneider and Harknett trying to test? Identify the IV(s), DV(s), and any moderator or mediator variables. What is their unit of analysis and sampling method? How do they measure their variables?

Reading: Daniel Schneider and Kirsten Harknett. 2018. Schedule instability and unpredictability: Worker and family health and wellbeing. Working paper.

Due: Research project 4.

20. Thurs. 22 Mar.   Ways to Gather Data: Natural Experiments
Why do researchers use natural experiments? What are some common strategies for doing this kind of study? What is Card and Krueger's natural experiment? What do they find?

Readings: Thad Dunning. 2012. Chapters 1 and 2 in *Natural Experiments in the Social Sciences: A Design-Based Approach*. New York: Cambridge University Press.

David Card and Alan Krueger. 1994. Minimum wages and employment: A case study of the fast-food industry in New Jersey and New York. *American Economic Review*, 84 (4): 772-793. (http://www.jstor.org/stable/2118030)

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***   Spring Break 26-30 Mar.   ***
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21. Tues. 3 Apr.   Ways to Gather Data: Interviews
What are in-depth interviews, and what is the best way to conduct them? What are the strengths and weaknesses of this research design? What can we learn from this research design that we can't learn from other research designs?

Readings: Textbook. Chapter 11. In-depth interviewing.

Robert S. Weiss. 2004. In their own words: Making the most of qualitative interviews. *Contexts*, 3 (4): 44-51. (http://www.jstor.org/stable/41800855)

22. Thurs. 5 Apr.   Ways to Gather Data: Direct Observation
What is ethnography? What is Rivera's research question? In what way is her study inductive? In what way is it deductive? How did she gather data? Why did she choose that method? How did she summarize her data? How generalizable are her findings? What conclusions does she draw?

Reading: Textbook. Chapter 10. Ethnography.

Patricia Adler and Peter Adler. 2003. The promise and pitfalls of going into the field. *Contexts*, 2 (2): 41-47. (http://www.jstor.org/stable/41800774)

Rivera, Lauren A. 2012. Hiring as cultural matching: The case of elite professional service firms. *American Sociological Review*, 77 (6): 999-1022. (http://www.jstor.org/stable/41723081)

23. Tues. 10 Apr.   Ways to Gather Data: Use Existing Data (I)
What are archival data (a.k.a. "found" data)? Where can we find them? What are the strengths and weaknesses of this way of gathering data? What can we learn from this type of data that we can't learn from other types?

Reading: Textbook. Chapter 12. Material-based methods.

24. Thurs. 12 Apr.   Ways to Gather Data: Use Existing Data (II)
What is Haveman's research question? Why does she gather data from archives, rather than doing an experiment, a survey, or a direct-observation study? How did she summarize her data? What theoretical conclusions does she draw?

Reading: Heather A. Haveman. 2015. *Magazines and the Making of America: Modernization, Community, and Print Culture, 1741-1860*. Princeton University Press. Chapter 1 and Appendix 1.

Due: Research project 5.

25. Tues. 17 Apr.   Comparing the Different Ways to Gather Data
What are the pros and cons of each way of gathering data? What kinds of research questions are best answered using which data-gathering method?

26. Thurs 19 Apr.   Ethics
How can we be sure to conduct research ethically? What special requirements for ethics must we fulfill if our research involves human subjects?

Reading: Textbook. Chapter 3. Ethical issues in social science research.

Reading: Before class, visit these web sites to familiarize yourself with these 2 (in)famous experiments:
1) The Milgram Obedience Experiment: https://www.youtube.com/watch?v=fCVlI-_4GZQ

2) The Stanford Prison Experiment: https://www.youtube.com/watch?v=eL9vLJoK4T8

27. Tues 24 Apr.   Catch Up

28. Thurs. 26 Apr.   Final Exam Review

Fri. 11 May.   Final exam: 7:00-8:30 (1 hour 20 minutes, just like the midterm, with 10 minutes' "Berkeley time" at the start)

Soc 5 – Evaluation of Evidence – Research Projects (Individual and Group)

Research project 1 (individual): Identifying units of analysis (DUE Thurs. 25 Jan.)

Your GSI will hand out this assignment, which will consist of a series of statements. Your task is to determine the unit of analysis for each statement.

You are to work on this assignment on your own. You are expected to uphold the honor code and NOT collaborate with anyone else.

Research project 2 (individual): Identifying variables and units of analysis (DUE Tues. 6 Feb.)

Download this article: René D. Flores. 2017. Do anti-immigrant laws shape public sentiment? A study of Arizona's SB 1070 using Twitter data. *American Journal of Sociology*, 123 (2): 333-384. (link)

Most studies have only 1 unit of analysis; a few have 2 or more. What is the (or a) unit of analysis for this study? Provide a brief quotation from the article to justify your answer. Explain how this passage justifies your answer.

Most studies examine multiple variables that describe their unit of analysis. Identify 2 variables for the unit of analysis you identified and give a complete list of the attributes of both variables, as they were described in the article. Provide brief quotations from the article from the article to justify your answers. Explain how these passages justify your answer.

1-2 pages maximum. You are expected to do this assignment on your own.

HINT 1: For help on how to navigate this reading, look at the reading for class 4: Greta Krippner. 2000. How to read a journal article. (This is also useful for the next assignment.)

HINT 2: You can ace this assignment by reading the abstract, the introduction, and the data-and-methods section of the paper. (The same advice holds for the next assignment.)

Research project 3 (individual): Identifying independent and dependent variables (DUE Tues. 20 Feb.)

Download this article: Sarah K.S. Shannon. 2017. Punishment, religion, and the shrinking welfare state for the very poor in the United States, 1970–2010. *Socius*, 3: 1-16. (link)

Identify 1 dependent variable and 1 independent variable. Make sure that these 2 variables are predicted to be causally related to each other. Provide brief quotations from the article from the article to justify your answers. Explain, in your own words, how and **why** the independent variable is related to the dependent variable.

1-2 pages maximum. You are expected to do this assignment on your own.

Soc 5 – Evaluation of Evidence – Research Projects (Individual and Group)

Research project 4 (group): Constructing and analyzing data tables (**DUE Tues. 20 Mar.**)

The Beatles famously (okay, famously if you're a baby boomer) argued that "money can't buy you love," and our grandparents often tell us that "money can't buy you happiness." Are John, Paul, George, Ringo, and your gramps right? Or can money buy you love and happiness? If money matters at all, then is it better at buying love or happiness?

To answer these questions, you will download 2 files from bcourses concerning the 2016 General Social Survey. These were downloaded from http://sda.berkeley.edu/archive.htm. The worksheet labelled "GSS 2012 married people" contains the data you are to analyze – the subset of observations on 900 people who are married, taken from the 2012 survey. The codebook lists the variables in the dataset and explains what each means and how each is coded; i.e., how each numeric value corresponds to a substantive response.

Note: In the GSS, several different codes are used to denote missing values. The specific form depends on the variable. Before you start tabulating the data, check the codebook for the each variable you are analyzing to make sure your tables don't include observations with missing values on any of the variables you are analyzing. (Create a new spreadsheet and copy the married people data to that spreadsheet.)

- Create 3 tables to display the distributions of 3 variables: income, general happiness, and happiness of marriage.
    - For income, there are a lot of categories (25), so you should aggregate data into a smaller number of categories (5-6).
    - For all 3 variables, show the actual distribution of observations, not just measures of central tendency and dispersion. (That means your tables should contain as many columns as remain in the data once you've eliminated missing values for any of the 3 variables.)
    - For all 3 tables, provide informative titles and calculate totals.
- Create 2 other tables (cross tabs) to show the bivariate associations between (a) income and general happiness, and (b) income and marital happiness.
    - Provide an informative title and informative label for the rows and columns of each table.
    - Provide row and column totals, as well as an overall total for each table.
- In your report, describe the level of measurement for each variable.
- In your report, describe the central tendency of each variable. Be sure to use measures that are appropriate for each variable, given its level of measurement.
- In your report, calculate and describe the association you observe between each pair of variables (its direction and strength).
- You can include bar charts in your report to "visualize" the data. But bar charts do not take the place of tables.

This project should be 4-6 pages long – 6 pages maximum.

If you need help learning how to use excel, go to https://www.youtube.com/watch?v=J4zq3R8b5dQ. This link will lead you through 4 video lessons on excel basics.

For help on creating cross-tabs in excel, go to https://www.youtube.com/watch?v=OXuQnro0UnE (excel 2016) or https://www.youtube.com/watch?v=a1n01NLXi3Y (excel 2013). For other spreadsheet programs/apps, google "create crosstab [name of program/app]."

Research project 5 (group): Designing a survey (DUE Thurs. 12 Apr.)

You will design a questionnaire that might be used in a survey to assess people's attitudes toward human-generated **climate change**. Your questionnaire should obtain the following from each respondent:

♦ their age, gender, race/ethnicity, and education;
♦ a 2-part contingency question about their occupation; and
♦ their beliefs about the contribution of human activity to climate change, in the form of a matrix question, using Likert-type responses to five statements.

This project should be 4-6 long – 6 pages maximum.

The first and second pages should be the questionnaire laid out in the format you would use if you were actually conducting the survey. Make sure that the format will be easy to read and will not be difficult for respondents to answer. Be sure to provide appropriate spaces for respondents to check or write-in their answers.

Question wording should be simple and straightforward: avoid double-barreled questions, loaded terms, and negations. Justify your choice of open or closed-ended question. For closed-ended questions, response categories should be exhaustive and mutually exclusive.   Matrix questions using Likert-type responses should have a consistent scale, but 1 or 2 questions should be reverse-coded.

In the following 3-4 pages, discuss these issues:

♦ *Question wording*: For each question, why are you asking this question? Why did you word it this way? Why did you ask an open- or closed-ended question?
♦ *Question level of measurement*: For each question, identify the level of measurement and explain why it is appropriate. (All questions in the 5-part matrix question should be at the same level.)
♦ *Question order*: Why did you put the questions in this order?