

THE UNIVERSITY OF CALGARY
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF SOCIOLOGY

Seminar in Quantitative Research Methods
Sociology 613.01 (Winter 2014)

Instructor: Dr. Jean E. Wallace
Class: Tuesday, 12:30-3:15
Social Sciences 905

TA: Alicia Polachek
Lab: Wednesday, 9:00-10:45
Social Sciences 905

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COURSE DESCRIPTION

This course is a graduate-level seminar on sociological research methods. It is assumed that all students have successfully completed an introductory course in social research methods at the undergraduate level. If it has been a while since you completed such a course, I would recommend that you review a text such as W.L. Neuman's *Social Research Methods*.

Throughout the term, we will examine the fundamental principles and logic governing research design. In doing so, we will address many of these issues as they relate to survey methods and mixed methods from a more quantitative perspective. It is expected that upon completion of this course, students will have a good understanding of the central methodological debates in sociology and a good foundation in practical sociological research skills.

COURSE REQUIREMENTS

Your grade in this course will be based on three written assignments, twelve short lab assignments and class participation. Each is described in greater detail below.

Component:	Date Received:	Date Due:	Weight:
Model Development	Tues. Jan 28	Fri. Feb. 14 by 4:00	20%
Article Review	Tues. March 5	Fri. Mar. 21 by 4:00	20%
Proposal	Weds. January 8	Fri. Apr. 11 by 4:00	25%
12 Lab Assignments	Weds. January 8	Every Monday by noon	25%
Class Participation	Weds. January 8	Ongoing & April 8 & 9	10%

Term Paper Assignments: You will be expected to complete the following term paper assignments that you will electronically submit to the **instructor**:

Assignment #1 (Model Development): You will derive a research question, variables, hypotheses and a testable model from a theoretical monograph (value=20%).

Assignment #2 (Paper Review): You will critically review an empirical research paper (value=20%).

Assignment #3 (Proposal): You will write a complete research proposal (value=25%).

Lab Assignments: Each week you will electronically submit a short lab assignment to the **teaching assistant** that is due by noon on Monday. The lab assignments are presented in greater detail in the "Lab Assignments" section below. Each assignment is limited to two double-spaced pages unless otherwise indicated. Each lab assignment is worth 2% for a total of 25% of your final grade (including a bonus mark).

Class Participation: You are expected to read the assigned materials prior to class. Parts of the course will be conducted in a seminar format and students will be asked to participate in the discussion. The lab time will be a discussion format where students will be asked to discuss the assigned topic and the lab assignment material. You will also give a brief, informal presentation of your thesis research in the last week of class. These various components of participating in the class and lab discussions will count as 10% of your final grade.

Grading System: Grades are entered as raw scores into the grading system. Your final letter grade is computed based on the weighted sum of your raw scores. The letter grade descriptions listed below are from the University of Calgary calendar. Please note that the full range of these letter grades may be used in evaluating your assignments.

Excellent, superior performance:	A+ = 95%-100%	A = 85%-94%	A- = 80%-84%
Good, above average performance:	B+ = 77%-79%	B = 73%-76%	B- = 70%-72%
Satisfactory, basic understanding:	C+ = 67%-69%	C = 63%-66%	C- = 60%-62%
Minimal pass, marginal performance:	D+ = 55%-59%	D = 50%-54%	
Unsatisfactory performance:	F = 0%-49%		

CLASS TOPICS AND ASSIGNED READINGS

Week 1: Introduction: Linking Theory and Data (January 8)

Lieberson, S. (1992). Einstein, Renoir, and Greeley: Some Thoughts about Evidence in Sociology. *American Sociological Review*, 57:1-15.

Anonymous Article #1

Week 2: Research Questions, Variables & Hypotheses (January 14)

Merton, R.K. (1959). "Introduction: Notes on Problem Finding in Sociology" (pp. ix-xxxiv) in R.K. Merton, L. Broom & L.S. Cottrell (Eds.), *Sociology Today: Problems and Prospects*. New York: Basic Books, Inc.

Bryman, A. (2007). The Research Question in Social Research: What is its Role? *International Journal of Social Research Methodology*, 10:5-20.

Anonymous Article #2

Week 3: Introduction to Causation (January 21)

Stinchcombe, A.L. (1968). "The Logic of Scientific Inference (pp. 15-37) in *Constructing Social Theories*. New York: Harcourt Brace & World.

Hanneman, R.A. (2009). *Graphical Conventions for Causal Models*. Unpublished Notes.

Thompson, L. (1991). Family work: Women's sense of fairness. *Journal of Family Issues*, 12:181-196.

Week 4: And More on Causation (January 28)

Russo, F., & J. Williamson (2007). Interpreting Causality in the Health Sciences. *International Studies in the Philosophy of Science*, 21:157-170.

Piquero, A.R. (2009). Do Gun Laws Affect Crime the Way Steroids Affect Homeruns in Baseball? *American Journal of Criminal Justice*, 34:3-8.

Stack, S., & J. Gundlach (1992). The Effect of Country Music on Suicide. *Social Forces*, 71:211-218.

Week 5: Research Design (February 4)

Spector, P.E. (1981). "Introduction" (pp. 7-10), "Basic Concepts" (pp. 11-19), "Basic Logic of Design" (pp. 19-27) in *Research Designs*. Sage University Paper series on Quantitative Applications in the Social Sciences, 07-023. Newbury Park, CA: Sage Publications.

Fowler, F.F. (1993). "Methods of Data Collection (pp. 54-68) in *Survey Research Methods*. Sage University Paper series on Applied Social Research Methods, Volume 1. Newbury Park, CA: Sage Publications.

Burns, K.E.A., Duffett, M., Kho, M., et al. (2008). A Guide to the Design and Conduct of Self-Administered Surveys of Clinicians. *CMAJ*, 179:245-252.

Thompson, L. (1991). Family Work: Women's Sense of Fairness. *Journal of Family Issues*, 12:181-196.

Week 6: The Qualitative vs. Quantitative Debate (February 11)

Coser, L.A. (1975). "Presidential Address: Two Methods in Search of a Substance." *American Sociological Review*, 40:691-700.

Brannen, J. (2005). Mixing Methods: The Entry of Qualitative and Quantitative Approaches into the Research Process. *International Journal of Social Research Methodology*, 8:173-184.

Tashakkori, A., & C. Teddlie (1998). "Introduction" (pp. 3-19), "Pragmatism and the Choice of Research Strategy" (pp. 20-39), "Research Design Issues" (pp. 40-58), "Conclusions and Future Directions" (pp. 167-169) in *Mixed Methodology: Combining Qualitative and Quantitative Approaches*. Sage University Paper series on Applied Social Research Methods, Volume 46. Newbury Park, CA: Sage Publications.

O'Cathain, Murphy, E., & J. Nicholl (2008). The Quality of Mixed Methods Studies in Health Services Research. *Journal of Health Services Research and Policy*, 13:92-98.

Week 7: Sampling (February 25)

- Henry, G.T. (1990). "Introduction" (pp. 9-16), "Sample Selection Approaches" (pp. 17-32), "Practical Sample Design" (pp. 33-59), "Sample Size" (pp. 117-128) in *Practical Sampling*. Sage University series on Applied Social Research, Volume 21. Newbury Park, CA: Sage Publications.
- Mangione, T.W. (1995). "The Basics of Sampling" (pp. 38-53) and "Pitfalls in Sampling" (pp. 54-59) in *Mail Surveys: Improving the Quality*. Sage University Series on Applied Social Research, Volume 40. Newbury Park, CA: Sage Publications.
- Pager, D., and Quillian, L. (2005). Walking the Talk? What Employers Say versus What They Do. *American Sociological Review*, 70:355-380.
- Riley, L.A. and Glass, J.L. (2002). You Can't Always Get What You Want – Infant Care Preferences and Use Among Employed Mothers. *Journal of Marriage and Family*, 64:2-15.

Week 8: Measurement Issues (March 4)

- Spector, P.E. (1992). "Introduction" (pp. 1-9), "Theory of Summated Rating Scales" (pp. 10-12), "Defining the Construct" (pp. 12-18), "Designing the Scale" (pp. 18-29) in *Summated Rating Scale Construction: An Introduction*. Sage University series on Quantitative Applications in the Social Sciences, No. 07-082. Newbury Park, CA: Sage Publications.
- Carmines, E.G., & R.A. Zeller (1979). "Introduction" (pp. 9-16), "Validity" (pp. 17-27), "Classical Test Theory" (pp. 29-35), and "Assessing Reliability" (pp. 37-54) in *Reliability and Validity Assessment*. Sage University Series on Quantitative Applications in the Social Sciences, 07-017. Newbury Park, CA: Sage Publications.
- Pager, D., and Quillian, L. (2005). Walking the Talk? What Employers Say versus What They Do. *American Sociological Review*, 70:355-380.
- Riley, L.A. and Glass, J.L. (2002). You Can't Always Get What You Want – Infant Care Preferences and Use Among Employed Mothers. *Journal of Marriage and Family*, 64:2-15.

Week 9: Practical Measurement Strategies (March 11)

- Dillman, D.A. (2007). "Writing Questions" (pp. 32-78) in *Mail and Internet Surveys: The Tailored Design Method*. Wiley: Hoboken, NJ.
- Fowler, F.J. (1993). "Designing Questions to be Good Measures" (pp. 69-93) in *Survey Research Methods*. Sage University series on Applied Social Research, Volume 1. Newbury Park, CA: Sage Publications.
- Thompson, L. (1991). Family Work: Women's Sense of Fairness. *Journal of Family Issues*, 12:181-196.

Week 10: Mail-Out Surveys (March 18)

- Dillman, D.A. (2007). "Writing Questions" (pp. 79-148) in *Mail and Internet Surveys: The Tailored Design Method*. Wiley: Hoboken, NJ.
- Diaz de Rada, V. (2005). Influence of Questionnaire Design on Response to Mail Surveys. *International Journal of Social Research Methodology*, 8:61-78.
- Thompson, L. (1991). Family Work: Women's Sense of Fairness. *Journal of Family Issues*, 12:181-196.

Week 11: High Tech Surveying (March 25)

- Brick, J.M. (2011). The Future of Survey Sampling. *Public Opinion Quarterly*, 872-888.
- Brick, J.M., Brick, P.D., Dipko, S., Presser, S., Tucker, C., & Yuan, Y. (2007). Cell Phone Survey Feasibility in the US: Sampling and Calling Cell Numbers versus Landline Numbers. *Public Opinion Quarterly*, 71:23-39.
- Shin, E., T.P. Johnson & K. Rao (2012). Survey Mode Effects on Data Quality: Comparison of Web and Mail Modes in a U.S. National Panel Survey. *Social Science Computer Review*, 30:212-228.
- Thompson, L. (1991). Family Work: Women's Sense of Fairness. *Journal of Family Issues*, 12:181-196.

Week 12: Proposal Writing and Ethics (April 1)

- Wallace, B.B (2009) "Unit 3 – Writing a Research Proposal."
UC's CFREB Information to Help Applicants, Application for Ethics Review and Consent Form Template
- Crow, G., Wiles, R., Heath, S., and Charles, V. (2006). Research Ethics and Data Quality: The Implications of Informed Consent. *International Journal of Social Research Methodology*, 9:83-95.
- Thompson, L. (1991). Family Work: Women's Sense of Fairness. *Journal of Family Issues*, 12:181-196.

Week 13: Presentation of Proposals (April 8)

SUMMARY OF CLASS TOPICS AND ASSIGNED READINGS

Date	Topic	Assigned Reading
Jan. 8	Introduction: Linking Theory and Data	Liebertson (1992):1-15
Jan. 8 (lab)	Lab #1: Linking Theory and Data	Anonymous Article #1
Jan. 14	Research Questions & Hypotheses	Merton (1959):ix-xxxiv Bryman (2007):5-20
Jan. 15 (lab)	Lab #2: Questions, Variables & Hypotheses	Anonymous Article #2
Jan. 21	Introduction to Causation	Stinchcombe (1968):15-38 Hanneman (2009):1-11
Jan. 22 (lab)	Lab #3: Introduction to Causation	Thompson (1991):181-196
Jan. 28	And More on Causation	Russo & Williamson (2007):157-170 Piquero (2009):3-8
Jan. 29 (lab)	Lab #4: More Causation	Stack & Gundlach (1992):211-218
Feb. 4	Research Design	Spector (1981):7-27 Fowler (1993):54-68 Burns et al. (2008):245-252
Feb. 5 (lab)	Lab #5: Research Design	Thompson (1991):181-196
Feb. 11	The Qualitative vs. Quantitative Debate	Coser (1975):691-700 Brannen (2005):173-184 Tashakkori & Teddlie (1998):3-58;167-169
Feb. 12	Lab #6: Qualitative vs. Quantitative	O'Cathain et al. (2008):92-98
Feb. 18 & 19	Reading Week	Read whatever you like or not at all!
Feb. 25	Sampling	Henry (1990):9-59;117-128 Mangione (1995):38-59
Feb. 26 (lab)	Lab #7: Sampling	Pager & Quillian (2005):355-380 Riley & Glass (2002):2-15
Mar. 4	Measurement Issues	Spector (1992):1-29 Carmines & Zeller (1979):9-54
Mar. 5 (lab)	Lab #8: Measurement	Pager & Quillian (2005):355-380 Riley & Glass (2002):2-15
Mar. 11	Practical Measurement Strategies	Dillman (2007):32-78 Fowler (1993):69-93
Mar. 12 (lab)	Lab #9: Practical Measurement Issues	Thompson (1991):181-196
Mar. 18	Mail-Out Surveys	Dillman (2007):79-148 Diaz de Rada (2005):61-78
Mar. 19 (lab)	Lab #10: Mail-Out Surveys	Thompson (1991): 181-196
Mar. 25	High Tech Surveying	Brick (2011):872-888 Brick et al. (2007):23-39 Shin et al. (2012):212-228
Mar. 26 (lab)	Lab #11: High Tech Surveying	Thompson (1991):181-196
Apr. 1	Proposal Writing and Ethics	Wallace (2009) UC's CFREB Information (3 files) Crow et al. (2006)
Apr. 2 (lab)	Lab #12: Proposal Writing and Ethics	Thompson (1991):181-196
Apr. 8	Student Presentations	
Apr. 9 (lab)	Student Presentations	

WEEKLY LAB ASSIGNMENTS

Each week you will submit a lab assignment that is due by **noon on Monday** unless otherwise indicated. You are encouraged to email your lab to the **teaching assistant** and only print your ID number on your lab assignment. Each assignment is limited to **two double-spaced pages** unless otherwise indicated (12 font Times New Roman).

You must submit all twelve lab assignments in order to meet the requirements of this course. Each lab assignment is worth 2% for a total of 25% of your final grade (including a bonus point).

The lab exercises are based on the assigned readings for that week. Note that you should also be prepared to discuss these issues in each lab as they relate to your research extension. I expect that you will be developing your research extension on an ongoing basis as we progress through the course. For example, in Lab #2 you should be thinking about the research question, variables and hypotheses that you might address in your proposed project. While this is not part of the written assignment, I hope it will get you to think about applying the material in class to the development of your research extension proposal. As well, you might refer to journal articles in seeing how different methodological issues and sections of a research paper are presented and formatted. I highly recommend the journal *Social Forces* for this purpose as it presents a nice variety of theoretical and methodological papers.

Lab #1: Introduction: Linking Theory and Data (Due January 13)

Identify and discuss one issue raised in the Lieberman (1992) reading and apply it to Anonymous Article #1 in writing a "Discussion" section and a "Conclusions" section for this paper. In the "Discussion" section indicate whether the theoretical argument(s) received empirical support and how. Also present a "Conclusions" section in which you present your own conclusions in regards to the empirical support presented for the theoretical argument(s). Be sure to label and write two separate sections, one labeled "Discussion" and one labeled "Conclusions."

Lab #2: Research Questions, Variables & Hypotheses (Due January 20)

After reading the front end of Anonymous Article #2, set out the following: (1) the research question in variable form; (2) why it is a research question (i.e., why is it problematic sociologically?); (3) conceptual definitions and labels of the dependent variable(s); (4) conceptual definitions and labels of the independent variables(s); (5) the hypotheses that you think should be tested empirically in this paper; and (6) what method best suits answering this research question?

Lab #3: Introduction to Causation (Due January 27)

Develop a theoretically-based causal model based on Thompson's (1991) article. Be sure to: (1) set out the research question to be addressed; (2) identify and define the independent and dependent variables; (3) explicitly set out the hypotheses to be tested; and (4) diagram the hypotheses to be tested by drawing the causal model and including the direction of hypothesized effects. You may submit the causal diagram on a separate page (i.e., 3 pages in total).

Lab #4: And More on Causation (Due February 3)

Use Stack and Gundlach (1992) to illustrate the criteria used in demonstrating causality as outlined in class and in the readings. In doing so: (1) illustrate pieces of evidence that might be used from Stack and Gundlach to demonstrate causality; and (2) identify any causality concerns that might be raised because they have failed to provide adequate evidence of causality. Be sure to refer to two or three specific issues identified in Russo and Williamson (2007) and Piquero (2009).

Lab #5: Research Design (Due February 10)

In Lab #3 you identified variables and developed hypotheses for Thompson's (1991) article. For this lab assignment, describe the research design that might be used to collect the data needed to test your model. At this stage you do not need to present specific measures, but rather describe the steps you would take in setting up a project to collect the relevant data, consistent with the suggestions made in Spector (1981), Fowler (1993) and Burns et al. (2008).

Lab #6: The Qualitative vs. Quantitative Debate (Due February 24)

Propose an additional data collection strategy that would strengthen O'Cathain et al.'s (2008) study in answering the research question: why are some researchers successful in completing mixed methods studies in HSR and others not? You do not need to provide measurement instruments, but you may propose and describe different sources or samples of data, units of analysis, etc. Discuss how you think the additional method/data would complement and challenge the findings presented in this paper. Be sure to refer to two or three issues identified by Coser (1975), Brannen (2005), Tashakkori and Teddlie (1998) or O'Cathain et al. (2008) in your assignment.

Lab #7: Sampling (Due March 3)

Identify the sampling strategy used in each of the sample descriptions in Pager and Quillian (2005) and Riley and Glass (2002). Identify any concerns you would have about the strategies they used and the specific samples they have obtained. Be sure to refer to two or three specific issues that are identified in the Henry (1990) and Mangione (1995) readings.

Lab #8: Measurement (Due March 10)

Discuss what you consider to be important measurement concerns based on the measurement sections presented in Pager and Quillian (2005) and Riley and Glass (2002). Be sure to refer to specific issues identified in the Spector (1992) and Carmines and Zeller (1979) readings.

Lab #9: Practical Measurement Strategies (Due March 17)

Construct a set of measures that tap the "justifications" argument of Thompson's (1991) article that you read for Lab #3. One of these measures must form a multiple-item scale. Be sure to take into consideration the assigned readings in constructing these measures.

Lab #10: Surveys (Due March 24)

Construct a self-administered questionnaire to measure the variables and test the hypotheses set out in Lab #3. Be sure to include the measure you already constructed for Lab #9. You are encouraged to use existing measures where appropriate, but be sure to report relevant measurement data as a justification for using an existing scale (instead of developing a new one) and provide a reference list to cite the source. Format the questionnaire so that it would be suitable for distribution to potential respondents. You may use an extra page for this lab due to formatting considerations.

Lab #11: High Tech Surveying (Due March 31)

Using the instrument you constructed for Lab #10, discuss whether you would use a cell phone interview, landline telephone interview or web survey. Be sure to discuss the pros and cons of the specific data collection approach you have selected and be sure to discuss these issues in light of your specific survey topic and relevant sample.

Lab #12: Proposal Writing and Ethics (Due April 7)

Identify any issues regarding Confidentiality and Anonymity and Informed Consent that you might have to address in your proposed survey in Lab #11.

THE SMALL PRINT: CLASS POLICIES AND INFORMATION

1. Grade Reappraisal: Within two weeks of the date the exam/assignment is returned, students seeking reappraisal of examinations or assignments must submit a written response to the instructor explaining the basis for reconsideration of one's mark. The instructor will reconsider the grade assigned and will then book a time with the student to discuss his or her work and rationale. It should be noted that a reconsidered mark may be raised, lowered, or remain the same.
2. The main Sociology Department office does not deal with any course-related matters. Please speak directly to your instructor.
3. Academic Misconduct: Please refer to the website listed below for information on University of Calgary policies on Plagiarism/Cheating/Other Academic Misconduct: <http://www.ucalgary.ca/pubs/calendar/current/k-2-1.html>
4. Protection of Privacy: The Freedom of Information and Protection of Privacy (FOIPP) legislation does not allow students to retrieve any course material from public places. Anything that requires handing back will be returned directly during class or office hours. "If students are unable to pick up their assignments from the instructor, they provide the instructor with a stamped, self-addressed envelope to be used for the return of the assignment."
5. Ethical Research: Students are advised that any research with human subjects--including any interviewing (even with friends and family), opinion polling, or unobtrusive observation--must have the approval of the Departmental Ethics Committee. In completing course requirements, students must not undertake any human subjects research without discussing their plans with the instructor, to determine if ethics approval is required.
6. Deferrals: If possible, please provide advance notice to the instructor if you are unable to write an exam or complete/turn-in assignments on time. All requests for deferral of a course component due to health reasons must be accompanied by written documentation as outlined in the University Calendar and should be obtained while the student has the health issue rather than after recovery. Deferrals will be allowed in the following circumstances: illness, domestic affliction or religious conviction. Travel arrangements and misreading of the syllabus are not valid reasons for requesting a deferral. Deferrals will not be granted if it is determined that just cause is not shown by the student. If you have missed a test for a legitimate reason, the instructor can require you to write a "make up" test as close in time to the original test as possible or can choose to transfer the percentage weight to another course component. If the instructor schedules a "make up" test for you, its date and location will be at the convenience of the Department of Sociology. Deferred Final Exam Form: Please note that requests to defer a Registrar scheduled final exam are dealt with through the Registrar's Office. Further information about deadlines, and where paperwork should be taken, is available on the form, which can be found at: http://www.ucalgary.ca/registrar/files/registrar/Sp_Su_DFE_App.pdf
Deferred Term Work Form: Deferral of term work past the end of a term also requires a form to be filled out. It's available at <http://www.ucalgary.ca/registrar/files/registrar/defTW.pdf>
Once an extension date has been agreed between instructor and student, the form should be taken to the Faculty of Arts Program Information Centre (SS 110) for approval by an Associate Dean (Students).
7. Student Representation: The 2013-14 Students' Union VP Academic is [name]; email: suvpaca@ucalgary.ca. The Faculty of Arts has four SU representatives who may be contacted at any of the following email addresses: arts1@ucalgary.ca, arts2@ucalgary.ca, arts3@ucalgary.ca, and arts4@ucalgary.ca. You may also wish to contact the Student Ombudsperson for help with a variety of University-related matters: <http://www.ucalgary.ca/provost/students/ombuds/role>
8. Emergency Evacuation: In the case of fire or other emergency evacuation of this classroom, please proceed to the assembly point at Professional Faculties Food Court (Primary Assembly Point) or the Education Block Food Court (Alternate Assembly Point).
9. Safewalk: The University of Calgary provides a "safe walk" service to any location on Campus, including the LRT, parking lots, bus zones, and campus housing. For Campus Security/Safewalk call 220-5333. Campus Security can also be contacted from any of the "Help" phones located around Campus.
10. Academic Accommodation: Students with a disability, who require academic accommodation, must register with the Disability Resource Centre (MC 293, phone 403-220-8237). Please provide academic accommodation letters to the instructor as early in the semester as possible and no later than two weeks after the course begins.