The University of Texas at Austin School of Social Work

Secondary Data Analysis

Course Number:	SW 395K	**Instructor:**	Kirk von Sternberg, Ph.D.
Unique Number:		**Office Number:**	HPB 295, (Off. Hrs. SSW 3.130E)
Semester:	Spring 2015	**Office Phone:** **Email:**	(512) 232-0633 office (512) 779-3313 cell vonsternberg@mail.utexas.edu
		TA:	XXXXXXX
Meeting Time: **Place:**	TU 8:30-11:30 SSW 1.214	**Office Hours:** **Dr. vS.** **TA**	 T 11:30-1:30 or by appointment By appointment

I. Course Description

This course will introduce students to the advantages and challenges of working with secondary data. Students will get hands on experience with the preparation and data analysis of large data sets.

II. Course Objectives

At the end of this course, students should:

1. Be able to locate data sets available in the public domain.
2. Be able to formulate a secondary stat analysis research question.
3. Be able to demonstrate an understanding of the challenges involved in working with secondary data (i.e. potential mismatch of secondary data variables to the research question, mismatch of level of measurement).
4. Be able to demonstrate techniques for computing variables.
5. Be able to demonstrate an understanding of the effects of missing data and methods for handling missing data.
6. Be able to demonstrate the process of weighting variables to compensate for non-random sampling.
7. Be able to demonstrate appropriate empirical methods to answer a secondary data analysis research question.
8. Be able to demonstrate the difference between control, mediating and moderating variables.
9. Be able to demonstrate in AMOS a Confirmatory Factor Analysis of a measurement instrument.
10. Be able to demonstrate in AMOS a causal path analysis with latent variables using SEM.
11. Be able to demonstrate multigroup invariance testing of a measurement model using SEM in AMOS

III. Methods of Instruction

The methods of instruction will be informal lectures (questions and answers are encouraged), class discussions, computer exercises working with SPSS and AMOS data analytic software, class exercises, guest presentations, and student presentations.

IV. Course Readings and Software

1. **Required Text:** Structural equation modeling with AMOS: basic concepts, applications, and programming. Barbara M. Byrne, 2nd edition, New York: Routledge, 2010.
http://catalog.lib.utexas.edu/search~S29?/abyrne/abyrne/1%2C472%2C1156%2CB/frameset&FF=abyrne+barbara+m&6%2C%2C8/indexsort=-

2. **Suggested Texts:**
   a. Principles and practice of structural equation modeling. Rex B. Kline, 3rd edition, New York: Guilford Press, 2010.
   http://catalog.lib.utexas.edu/search~S29?/akline%2C+rex/akline+rex/1%2C1%2C6%2CB/frameset&FF=akline+rex+b&5%2C%2C6/indexsort=-

   b. Secondary Data Analysis. Thomas P. Vartanian. Pocket guides to Social Work research methods, Oxford University press 2011.

3. **Required Research Articles and Book Chapters**. The instructor will provide an on-line link to these readings or provide a hard copy in advance of the assigned reading.

4. SPSS/ AMOS 18 (or above) - Most recent version is SPSS/AMOS 21

V. Grading and Course Requirements

The final grade for the course will be based on:

1.	Class assignments	50 points
2.	Research Question	10 points
3.	Short Quizzes or Assignments	12 points
4.	Results Section	10 points
5.	Final Multi-group Assignment	15 points
6.	Class Participation	3 point
		100 points

Accumulated points and grading scale

94. 0 and above	A
90.0 to 93.999	A-
87.0 to 89.999	B+
84.0 to 86.999	B
80.0 to 83.999	B-
77.0 to 79.999	C+
74.0 to 76.999	C

70.0 to 73.999	C-
67.0 to 69.999	D+
64.0 to 66.999	D
60.0 to 63.999	D-
Below 60.0	F

Course Requirements and Grade Assignment

1. Class Assignments (**50 points**): Class assignments will be completed during class or as take home assignments. They will include assignments to determine student's mastery of concepts as well as mastery of methods of data manipulation and analysis. There will be 5 class assignments which will be worth 10 points each for a total of **50 points**.
    a. Data cleaning and subgroup comparisons
    b. Compute target variables
    c. CFA – first order CFA
    d. CFA – second-order CFA
    e. Testing validity of a causal structure

2. Research Question: **(10 points)** Taking an area of particular interest to the student, the student will develop a secondary data analysis causal research question. The expectation is that the research question will include specific, measurable variables that are directly tied to the outcome variable and that elucidate specific causal mechanisms that are directly testable.

3. Short Quizzes or assignments **(12 points)** will be given at the instructor's discretion to help inform the student and the instructor about the level of understanding and the pace of the course. There will be 3 quizzes at 4 points each = **12 points**.

4. Results Section: **(10 points total)** The student will write a journal ready results section for an assigned SEM.

5. Final Multi-group Assignment: **(15 points)** The student will design and conduct a multigroup analyses comparing the invariance of a measurement model across two samples. The student will present the analysis plan and results of a multigroup measurement model invariance testing assignment to the class.

VI. Class Policies

***Remember that as a Ph.D. student, you are ultimately responsible for your own learning and development. The professor is there to support and facilitate your learning, but you need to take the initiative for your own education.

1. Students are expected to attend class sessions and participate in an **interactive** framework with the professor. Students are expected to **complete the readings prior to class** and should be well prepared to participate in discussions. Failure to regularly attend classes and demonstrate through discussions that one has comprehended the readings will be considered in the final grade. Students are to

notify the professor if they are going to be absent. Students are responsible for any material missed due to absences.

2. Except in the case of extreme emergencies, and then only with the permission of the professor, **late assignments will not be accepted without penalty**. Students are expected to email all required assignments on the night before the due date. Assignments turned in after the 10:00 P.M. deadline (the night before the class) will be considered late. If accepted, late assignments will be assessed point penalties at the rate of **5% each day it is late.** If students have conflicts with due dates, they should see the professor and negotiate another due date WELL in advance of the original due date. Note that the professor will send a reply email when the assignment is received; if you do not get a reply, contact the professor immediately. Email is great, but not ALWAYS reliable!

3. Student feedback is welcome. During this course the professor will ask students to provide feedback on their learning in informal as well as formal ways, including through anonymous surveys about how the professor's teaching strategies are helping or hindering student learning. It is very important for the professor to know the students' reactions to what is taking place in class, so students are encouraged to respond to these surveys, ensuring that the professor and students together can create an environment effective for teaching and learning.

4. Students are also encouraged to provide feedback during office hours, by phone, by e-mail, and by appointment, if they desire.

5. If students are concerned about their class performance, the professor is more than willing to work with students to help improve their course grades prior to the end of the semester. **Final grades assigned in the course are not negotiable.**

The University of Texas Honor Code
The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

Professional Conduct in Class
The professor expects students to act as professionals in class. This means students should arrive on time for class, be prepared to participate in the class discussion, and show respect for one another's opinions. We will not, nor should we, always agree with one another. In this environment we should be exposed to diverse ideas and opinions, and sometime we will not agree with the ideas expressed by others. However, the professor does require that students engage one another with respect and professionalism.

Classroom Civility. A course brings together a group of diverse individuals with various backgrounds. Students are influenced and shaped by such factors as ethnicity, gender, sex, physical abilities, religious and political beliefs, national origins, and sexual orientations, among others. We expect to learn from each other in an atmosphere of positive engagement and mutual respect. Social Work deals with complex and controversial issues. These issues may be challenging and uncomfortable, and it would

be impossible to offer a substantive classroom experience that did not include potentially difficult conversations relating to challenging issues.

Unanticipated Distress. Students may experience unexpected and/or distressing reactions to course readings, videos, conversations, and assignments. If so, students are encouraged to inform the instructor. The instructor can be responsive and supportive regarding students' participation in course assignments and activities, but students are responsible for communicating clearly what kind of support is desired. If counseling is needed, students can contact a service provider of their choosing, including the UT Counseling Center at 512-471-3515 or online at www.utexas.edu/student/cmhc/.

Policy on Social Media and Professional Communication
Public social networks are not private. Even when open only to approved or invited members, users cannot be certain that privacy will exist among the general membership of sites. If social work students choose to participate in such forums, please assume that anything posted can be seen, read, and critiqued. What is said, posted, linked to, commented on, uploaded, subscribed to, etc., can be accessed and archived, posing potential harm to professional reputations and prospective careers.

Social work students who use social media (i.e. Facebook, Twitter, etc.) and other forms of electronic communication (i.e. blogs, etc.) must be mindful of how their communication may be perceived by clients, colleagues, faculty, and others. Social work students are expected to make every effort to minimize material which could be considered inappropriate for a professional social worker in training. Because of this, social work students are advised to manage security settings at their most private levels and avoid posting information/photos or using any language that could jeopardize their professional image. Students are asked to consider the amount of personal information posted on these sites and are obliged to block any client access to involvement in the students' social networks. Client material should not be referred to in any form of electronic media, including ***any*** information that might lead to the identification of a client or compromise client confidentiality in ***any*** way. Additionally, students must critically evaluate any material that is posted regarding community agencies and professional relationships, as certain material could violate the standards set by the School of Social Work, the Texas Code of Conduct for Social Workers, and/or the NASW Code of Ethics.

Social work students should consider that they will be representing professional social work practice as well as the University of Texas at Austin School of Social Work program while in the classroom, the university community, and the broader area communities.

Policy on Scholastic Dishonesty
Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. For further information, the student may refer to the Web Site of the Student Judicial Services, Office of the Dean of Students (http://deanofstudents.utexas.edu/sjs/).

Use of Class Materials. The materials used in this class, including, but not limited to, exams, quizzes, and homework assignments are copyright protected works. Any unauthorized copying of the class materials is a violation of federal law and may result in

disciplinary actions being taken against the student. Additionally, the sharing of class materials without the specific, express approval of the instructor may be a violation of the University's Student Honor Code and an act of academic dishonesty, which could result in further disciplinary action. This includes, among other things, uploading class materials to websites for the purpose of sharing those materials with other current or future students.

Documented Disability Statement
Any student who requires special accommodations must obtain a letter that documents the disability from the Services for Students with Disabilities area of the Division of Diversity and Community Engagement (471- 6259 voice or 471-4641 TTY for users who are deaf or hard of hearing). Present the letter to the professor at the beginning of the semester so that needed accommodations can be discussed. The student should remind the professor of any testing accommodations no later than five business days before an exam. For more information, visit http://www.utexas.edu/diversity/ddce/ssd/.

Religious Holidays
By UT Austin policy, students must notify the professor of a pending absence at least fourteen days prior to the date of observance of a religious holy day. If the student must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, the professor will give the student an opportunity to complete the missed work within a reasonable time after the absence.

Use of E-Mail for Official Correspondence to Students
Email is recognized as an official mode of university correspondence; therefore, students are responsible for reading their email for university and course-related information and announcements. Students are responsible to keep the university informed about changes to their e-mail address. Students should check their e-mail regularly and frequently—daily, but at minimum twice a week—to stay current with university-related communications, some of which may be time-sensitive. Students can find UT Austin's policies and instructions for updating their e-mail address at http://www.utexas.edu/its/policies/emailnotify.php.

Safety
As part of professional social work education, students may have assignments that involve working in agency settings and/or the community. As such, these assignments may present some risks. Sound choices and caution may lower risks inherent to the profession. It is the student's responsibility to be aware of and adhere to policies and practices related to agency and/or community safety. Students should notify the professor regarding any safety concerns.

Behavior Concerns Advice Line (BCAL)
If students are worried about someone who is acting differently, they may use the Behavior Concerns Advice Line to discuss by phone their concerns about another individual's behavior. This service is provided through a partnership among the Office of the Dean of Students, the Counseling and Mental Health Center (CMHC), the Employee Assistance Program (EAP), and The University of Texas Police Department (UTPD). Call 512-232-5050 or visit http://www.utexas.edu/safety/bcal.

Emergency Evacuation Policy

Occupants of buildings on the UT Austin campus are required to evacuate and assemble outside when a fire alarm is activated or an announcement is made. Please be aware of the following policies regarding evacuation:

- Familiarize yourself with all exit doors of the classroom and the building. Remember that the nearest exit door may not be the one you used when you entered the building.
- If you require assistance to evacuate, inform the professor in writing during the first week of class.
- In the event of an evacuation, follow the professor's instructions.
- Do not re-enter a building unless you're given instructions by the Austin Fire Department, the UT Austin Police Department, or the Fire Prevention Services office.

Use of Blackboard in Class

In this class the professor uses Blackboard—a Web-based course management system with password-protected access at http://courses.utexas.edu—to distribute course materials. Students can find support in using Blackboard at the ITS Help Desk by calling 475-9400, Monday through Friday, 8 a.m. to 6 p.m. Please plan accordingly.

VII. Class Schedule

Date	Description	Assignments
Jan 20	• Introduction to Course; • Review Syllabus and texts. • Define Secondary Data Analysis; • Discuss the advantages and challenges of conducting secondary data analysis • . Discuss National Data Base Sources	Distribute Epi-survey and codebook
Jan 27	• Intro to SPSS • Introduce Project CHOICES assessments and databases. • Basic Statistical Concepts • Discuss generating research questions	Review codebook for Project CHOICES Epi database. Using Project CHOICES survey, generate Research Questions – as a class, determine if they are well-defined research questions
Feb 3	• Working with data sets in SPSS; frequency distributions, descriptive statistics; selecting subgroups; **computing variables** • What we need to know about the data; data cleaning, subgroup analyses. Mean comparisons and Chi Square analyses.	**ASSIGNMENT 1 in class**: Compare groups on assigned variables 1) Using Epi survey data compare risk groups on assigned variables **Read Byrne Chapter 1 SEM**: The Basics

Feb 10	• Multivariate Data Analyses • Discuss limitations of binary and categorical variables. • Introduce risk variables in project CHOICES Guest speaker: Christopher Salas-Wright	**ASSIGNMENT 2**: compute risk variables. Using the CHOICES Epi data write syntax and compute risk variables: Risk alcohol use Risk of pregnancy Risk of alcohol exposed pregnancy **Review Byrne Chapter 1 SEM**: The Basics
Feb 17	**Assignment 2 Due: risk variable syntax and computation** • Review Assignment 2 • Introduction to Causal Models • Building Causal Theory • Mediation / moderation	**Write Research Question** Read assigned articles
Feb 24	**Research Question Due** • Introduction to Limited Information models vs. Maximum Information models • Introduction to SEM	**Read Byrne Chapter 2 SEM**: Using The AMOS Program
March 3	• Using AMOS • Weighting variables Guest: Dr. Catherine Cubbin	**Read Byrne Chapter 3&4 SEM**: First order CFA
March 10	• Measurement Model – first-order CFA • missing data	***In Class***: Draw first-order CFA for measuring instrument **ASSIGNMENT 3**: Conduct first-order CFA on measurement instrument. **Read Byrne Chapter 5 SEM**: Second-order CFA
March 17	**SPRING BREAK**	
March 24	**Assignment 3 Due: first-order CFA** • Measurement Model – second order CFA • Missing data – comparisons of multiple methods	**ASSIGNMENT 4**: Test second order CFA model. **Read Byrne Chapter 6 SEM**: Testing validity of a Causal Structure
March 31	**Assignment 4 Due: second-order CFA** Testing validity of a Causal Structure	**ASSIGNMENT 5**: Test validity of a Causal Structure **Read Byrne Chapter 7 SEM**: testing for measurement invariance in multigroup analyses

April 7	**Assignment 5 Due: Causal structure SEM** Writing Results and presenting data. Testing the equivalence of measurement models in multigroup analyses	**RESULTS SECTION:** Write Results Section for causal Structure SEM Analyses **Final ASSIGNMENT:** Multigroup Invariance Testing
April 14	**Results Section Due** Testing the equivalence of measurement models in multigroup analyses	
April 21	Review and work on Final multigroup assignment	**PRESENTATION ASSIGNMENT:** Multigroup Invariance Testing
April 28	**Multigroup Invariance Test Due** Review and Wrap-up	
May 5	**Presentation Assignment Due** Presentations	

* Required readings (journal articles, NIH program announcements, etc.) will be assigned throughout the semester. The instructor will provide these readings to the class.

VIII. Course and Instructor Evaluations

At the end of the course, I will use the standard Course Instructor Survey (CIS) provided by the University of Texas at Austin. The CIS offers students a systematic, campus-wide method of evaluating courses and instructors. It also allows instructors to compare their course ratings with averages for their school. The results are also used by the Dean and the School's Executive Committee as one of the aspects of faculty and course evaluation. I hope that every student will complete the CIS. Although important, these evaluations are after the fact. I strongly encourage you to provide input and feedback regarding the course during the semester so that we can together make this course of maximum benefit to your academic pursuit.