SOCIOLOGY 252H1S:
INTERMEDIATE QUANTITATIVE METHODS IN SOCIOLOGY

Instructor: Lei Chai, PhD
Department of Sociology
Summer 2023

Email: lei.chai@mail.utoronto.ca
Website: Quercus
Classes: Mondays and Wednesdays: 10:10 am-12:00 pm via Zoom
Link: https://utoronto.zoom.us/j/82566397293 **Passcode:** 738145
Office hours: By appointment

Tutorials: Wednesdays: 12:10 pm-2:00 pm via Zoom
Teaching assistant: Catherine Yeh
Link: TBD
Email: catherine.yeh@mail.utoronto.ca
Office hours: TBD

Course description: This course provides students with the opportunity to develop an understanding of the logic of multivariate analysis by applying various strategies for the analysis of complex multivariate data.

Prerequisites: SOC202H1 or equivalent. Students without this prerequisite will be removed at any time discovered and without notice.

Student learning outcomes: By the end of the course, you will be able to:
- Demonstrate the logic of quantitative methods used by sociologists
- Understand the fundamentals of multiple linear regression, including confounders, mediators, and moderators
- Understand extensions to the linear regression model, including logistic regression, ordinal logistic regression, and multinomial logistic regression
- Gain experience in coding and analyzing data using Stata (statistical software)

Quercus: All announcements will be posted on Quercus. Quercus will also be used to access course content, assignments, assessments, and grades. **Please ensure your settings on Quercus allow for course announcements to be sent immediately to your email.**

Readings: All assigned readings will be available on Quercus. You do not need to purchase any textbook or other readings.

Class format: Classes will be delivered **online**. All classes will highlight the central concepts and logic in statistics and elaborate upon them with examples. Students are required to complete all assigned materials before each class and be prepared to engage in a discussion.

Software: This class will use Stata, which can be accessed remotely by students via Remote Desktop software (https://www.remotepc.com/index.html).

Data: The 2017 Canadian General Social Survey.

Evaluation components:

Description	Due date	Weight
Class participation	Ongoing	10%
Lab assignment 1: OLS regression	2023-07-14	20%
Lab assignment 2: Logistic regression	2023-07-21	20%
Final research project consultation	2023-07-26	5%
Lab assignment 3: Ordinal and Multinomial logistic regression	2023-08-04	20%
Final research project	2023-08-14	25%

Course policies:

➢ **Communication:** Students must use their utoronto.ca email addresses to communicate with me. I will do my best to respond to your emails within 24 hours, excluding weekends. However, I will not respond to emails about issues that are clearly specified in the syllabus (e.g., "how much is assignment X worth?"). All emails must include the course code (SOC252) in the subject line. Please write your emails in a professional manner by proofreading and using appropriate language. When contacting faculty members, it is good practice to open with a professional greeting (e.g., "Dear Professor X"). Please use full sentences, be coherent and sensible, and sign your name at the end.

➢ **Grade Appeals:** I take the marking of assignments very seriously, and will work diligently to be fair, consistent, and accurate. Nonetheless, mistakes and oversights occasionally happen. If you believe that to be the case, you must adhere to the following rules: If it is a mathematical error, simply alert me of the error. In the case of more substantive appeals, you must: wait at least 24 hours after receiving your mark and carefully re-read your assignment, all assignment guidelines, marking schemes, and my comments. All students may review their tests or assignments with me or the teaching assistant during office hours. If you wish to appeal: **You must submit to me a written explanation of why you think your mark should be altered. Please note statements such as "I need a higher grade to apply to X" are not compelling. Also, please note that upon re-grade your mark may increase, decrease, or remain the same.** Attach to your written explanation your original assignment, including all of the original comments.

➢ **Accommodations:** Extensions are provided under exceptional circumstances. Arrangements for an extension must be made with the Course Instructor *prior to* assignment due date. If prior arrangements were not made, a penalty for late submission will apply. The late submission penalty is 10% per day (including weekends) starting from the day after the due date. Students who miss or are late in submitting an assignment for reasons, such as family or other personal reasons, should request their College Registrar to email the instructor.

➢ **Academic integrity:** Academic integrity is fundamental to learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the degree that you earn will be valued as a true

indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

Cheating and misrepresentation will not be tolerated. Students who commit an academic offence face serious penalty. Avoid plagiarism by citing properly: practices acceptable in high school may prove unacceptable in university. Know where you stand by reading the "Code of Behaviour on Academic Matters" in the Calendar of the Faculty of Arts and Science.

Familiarize yourself with the University of Toronto's Code of Behaviour on Academic Matters (http://www.governingcouncil.utoronto.ca/policies/behaveac.htm). It is the rule book for academic behaviour at U of T, and you are expected to know the rules.

The University of Toronto treats cases of academic misconduct very seriously. All suspected cases of academic dishonesty will be investigated following the procedures outlined in the *Code*. The consequences for academic misconduct can be severe, including a failure in the course and a notation on your transcript. If you have any questions about what is or is not permitted in this course, please do not hesitate to contact me. If you have questions about appropriate research and citation methods, seek out additional information from us, or from other available campus resources like the U of T Writing Website. If you are experiencing personal challenges that are having an impact on your academic work, please seek the advice of your college registrar.

➢ **Accessibility:** The University of Toronto is committed to accessibility. If you require accommodations or have any accessibility concerns, please visit ***https://studentlife.utoronto.ca/task/register-with- accessibility-services/*** as soon as possible.

➢ **Equity, human rights, and respect for diversity:** The University of Toronto is committed to equity, human rights and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect where all members of our community can express themselves, engage with each other, and respect one another's differences. U of T does not condone discrimination or harassment against any persons or communities.

➢ **Privacy and use of course materials:** This course, including your participation, will be recorded on video and will be available to students in the course for viewing remotely and after each session. Course videos and materials belong to your instructor, the University, and/or other source depending on the specific facts of each situation and are protected by copyright. In this course, you are permitted to download session videos and materials for your own academic use, but you should not copy, share, or use them for any other purpose without the explicit permission of the instructor. For questions about recording and use of videos in which you appear please contact your instructor.

➢ **Grading criteria:** Assignments are graded in accordance with the evaluation criteria set out by the University of Toronto (please refer to http://calendar.artsci.utoronto.ca/Rules_&_Regulations.html). Evaluation rubrics will be posted on Quercus.

Course schedule
2023-07-05 (Wednesday) Introduction Review: descriptive statistics **No tutorial**
2023-07-10 (Monday) Review: OLS regression models Required readings: Stahl, S. T., Insana, S. P., Hall, M. H., & Buysse, D. J. (2022). Pediatric sleep disturbances and symptoms of depression in older adults. *The International Journal of Aging and Human Development*, *95*(4), 429-439. Nguyen, A. W., Taylor, H. O., Lincoln, K. D., Wang, F., Hamler, T., & Mitchell, U. A. (2022). Religious involvement and sleep among older African Americans. *Journal of Aging and Health*, *34*(3), 413-423. **No tutorial**
2023-07-12 (Wednesday) OLS regression models: mediation and moderation Required readings: Wang, F., Qin, W., & Yu, J. (2022). Neighborhood social cohesion and mobility limitations among community-dwelling older Americans: The mediating roles of depressive symptoms and mastery. *The International Journal of Aging and Human Development*, *94*(3), 290-311. Huang, J., Li, M., McPhillips, M. V., Lukkahatai, N., & Li, J. (2022). Association of sleep and physical activity among older adults and the moderation of chronotype. *The International Journal of Aging and Human Development*, 00914150221128974. **Tutorial 1: Lab assignment 1 Due: 2023-07-14 at 11:59pm**
2023-07-17 (Monday) Logistic regression models Required readings: McAlpine, A. A., George, U., Kobayashi, K., & Fuller-Thomson, E. (2022). Physical health of older Canadians: Do intersections between immigrant and refugee status, racialized status, and socioeconomic position matter? *The International Journal of Aging and Human Development*, *95*(3), 326-348. Sylvers, D., Taylor, R. J., Barnes, L., Ifatunji, M. A., & Chatters, L. M. (2022). Racial and ethnic differences in major and everyday discrimination among older adults: African Americans, Black Caribbeans, and Non-Latino Whites. *Journal of Aging and Health*, *34*(3), 460-471. **No tutorial**

2023-07-19 (Wednesday)
Guest speaker: Dr. Xiangnan Chai, Assistant Professor, Nanjing University, China
Chai, X., & Mei, J. (2022). Investigating food insecurity, health lifestyles, and self-rated health of older Canadians living alone. *BMC Public Health*, *22*(1), 2264.

Logistic regression models: Mediation and moderation

Required reading:
Chai, L. Food insecurity as mediator and moderator in the association between residential mobility and suicidal ideation among Indigenous adults in Canada. *Working paper*.

Tutorial 2: Lab assignment 2 Due: 2023-07-21 at 11:59pm

2023-07-24 (Monday)
Ordinal logistic regression models

Required readings:
Cho, J., & Smith, J. (2022). Relocation later in life and contact frequency with friends: Do contact modes matter? *Research on Aging*, 01640275221126103.

Upenieks, L., Uecker, J. E., & Schafer, M. H. (2022). Couple religiosity and well-being among older adults in the United States. *Journal of Aging and Health*, *34*(2), 266-282.

No tutorial

2023-07-26 (Wednesday)
Lecture: Final research project consultation

Tutorial 3: Final research project consultation

2023-07-31 (Monday)
Multinomial logistic regression models

Required readings:
Wong, J. S., Zhong, S., & Liu, H. (2023). Relationship quality change among partnered older adults during the COVID-19 pandemic. *The Journals of Gerontology: Series B*, *78*(2), 352-358.

Berman, M., Eaton, L. A., Watson, R. J., Earnshaw, V. A., Wiginton, J. M., & Layland, E. (2023). Factors associated with disclosure of sexual orientation among Black sexual minority men. *LGBT Health*, *10*(1), 51-61.

No tutorial

2023-08-02 (Wednesday)
Guest speaker: Cheng Chow, PhD Candidate, University of Hong Kong
Chow, C. Return or onward? Multiple migration, transgenerational trajectories, and destination hierarchies among different immigrant generations. *Working paper*.

Multinomial logistic regression models: Moderation

Required readings:

Coulter, R., & Hu, Y. (2017). Living apart together and cohabitation intentions in Great Britain. *Journal of Family Issues*, *38*(12), 1701-1729.

Oláh, L. S., Karlsson, L., & Sandström, G. (2023). Living-Apart-Together (LAT) in Contemporary Sweden:(How) Does It Relate to Vulnerability? *Journal of Family Issues*, *44*(1), 3-24

Tutorial 4: Lab assignment 3 Due: 2023-08-04 at 11:59pm

2023-08-07 (Monday)
Civic Holiday

2023-08-09 (Wednesday)
Guest speaker: Dr. Ran Hu, Post-Doctoral Fellow, University of British Columbia
Hu, R., Xue, J., Lin, K., Sun, I. Y., Wu, Y., & Wang, X. (2021). The patterns and influencing factors of help-seeking decisions among women survivors of intimate partner violence in China. *Journal of Family Violence*, *36*, 669-681.

Longitudinal models:

Required readings:
Chai, L., Schieman, S., & Bierman, A. (2021). Financial strain and psychological distress: Do strains in the work-family interface mediate the effects? *Society and Mental Health*, *11*(2), 168-182.

Chai, L., & Schieman, S. (2023). What happens at home does not stay at home: family-to-work conflict and the link between relationship strains and quality. *Journal of Family and Economic Issues*, *44*(1), 175-192.

Chai, L., & Schieman, S. (2022). Work-to-family conflict and children's problems with school, friends, and health: household economic conditions and couple relationship quality as contingencies. *Journal of Family Issues*, *43*(6), 1555-1578.

Tutorial 5: Questions about final research project

2023-08-14 (Monday)
Final research project Due: 2023-08-14 at 11:59pm