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Repo: https://github.com/mz547/Assignment01.git

Social science explores how society works. It studies how individuals and groups interact and what drives human behavior. Social science research, on the other hand, is the activity of gathering, analyzing, and interpreting information for a variety of purposes. Social science research consists of research subjects, research consumers, and the public. It gets compelling evidence drawn from the research subjects, is used by multiple consumers (e.g., lobbies, policymakers, and advocacies) as supporting evidence for their purposes, and changes the value and position of the general public by interpreting research results. In this sense, high-quality social science research is of great importance. Only credible, transparent, and replicated research could benefit society as a whole. The broad impacts and nature of social science research make it hard and complicated but also interesting. It is interesting since it can explore every relationship and behavior at the micro or macro levels using the proper methodology and tools. And it’s endless to explore the world and to expand our knowledge. Also, the process of designing research is appealing and rewarding. It is the process of constantly identifying deficiencies and correcting them, and with peers and experts revising them, I can always learn something new, especially in difference research fields.

My interest in social science research is closely related to its difficulty. After studying fundamental courses in statistics and econometrics, I would like to have a practical view of how to design and implement credible and transparent social science research in the real world. Even though the proper quantitative models would generate credible research results, the flexibility in data collection and analysis, for example, the sample size, the choice and measurement of the variables included in the model, and the choice of the maximum false-positive rate, could significantly affect the research results (Simmons, J. P, 2011). Since researchers are likely to make hundreds of decisions about data collection, preparation, and analysis (Huntington-Klein, 2021), it is important to know the hidden factors and practical solutions. Especially when we design the experiment ourselves, in the face of budget constraints, the trade-off between the ideal sample size and standard errors needs careful reviewing and deciding. Personally, I’m considering pursuing a Ph.D. degree and a career focusing on economic research. Learning more about the nature of social science research and its practical process and toolkits would benefit me greatly. Furthermore, after taking Intro into Data Science last semester, I found it powerful to use statistical software and GitHub analyzing data and exploring the underlying patterns. But I also found it difficult to pre-process (manipulate) the data before analyzing it. I hope to learn more in real-life data manipulation and programming.

As for my research experience, I have assisted in some quantitative and qualitative research, and am familiar with statistical software R and STATA. I conducted qualitative research in long-term care with SPSS during my undergraduate study and did qualitative coding for the research on sexual exploitation demand reduction with the qualitative code software Atlas.ti during my internship last semester. I have experience in coding with R and using GitHub in my previous courses (e.g., Intro to Data Science, Data Visualization, and three-semester quant classes). Currently, I am working on a capstone project that applies cutting-edge analytical tools to combat fraud, waste, and abuse (FWA) in Medicare. We intend to build a model which could use FWA to predict Health Equity in Medicare (and vice versa) and analyze what policy levers will be the most effective in addressing the disparities in outcomes.

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In terms of my learning goals for the course, in general, I will know the steps of conducting a successful field research study, from research design to data collection and analysis. At the end of the course, I could demonstrate and apply knowledge of data analysis and skills of collaborating using Git and GitHub, coding with Stata and R, and deploying survey data with SurveyCTO in real-life social science research. To be concrete, I plan to perform professionally this semester, including submitting all assignments on time and ensuring the quality of work. In the Final Project, I aim to take appropriate independent action, accept new tasks, expand my abilities professionally, and communicate clearly and accurately with other team members.