

POLS 5300 – SEMINAR IN QUANTITATIVE RESEARCH METHODS I

FALL 2021: Thursdays 6:00 pm- 8:50 pm
CCSB 1.0204

INSTRUCTOR: Dr. Rebecca A. Reid
PHONE: 915-747-7970
EMAIL: rareid@utep.edu
OFFICE: 307 Benedict Hall
OFFICE HOURS: Thursdays 3:30- 5:30, or by appointment
Virtual Zoom meetings by appointment

LAND ACKNOWLEDGMENT

We, the UTEP Department of Political Science, acknowledge that we are in the unceded territories of the Indigenous Peoples who, along with countless generations of ancestors, are the guardians and keepers of this land, both throughout history and in contemporary times: the Tigua, Mansos, Sumas, Ndé, the Piros, Mescalero Apache, Chiricahua Apache, Tarahumara, Yaqui, Jumano, Comanche, Kiowa, Rarámuri, Tohono O’odham, Yaqui, Kickapoo, Diné, Hopi, Zapotec, Mixtec, Aztec-Nahua-Mexica, Huichol, Tepehuan, Coahuilteco, Chichimeca, and the other Native communities who comprise our multinational region. As scholars and people who reside and work in these lands, we respect and honor the millennia-long history of Native peoples on this land and their ongoing presence today.

COURSE DESCRIPTION

This course further explores methods of quantitative analysis and hypothesis testing, including data management, various regression estimation methods, diagnostic techniques, and other topics. In this class, students will learn how to analyze a variety of quantitative data and are expected to complete an original, conference-worthy research paper. We will focus upon OLS regression, Gauss-Markov assumptions, and appropriate diagnostic tools. We will be working primarily with STATA, although students may use R upon personal preference.

UTEP EDGE

This course encompasses activities associated with UTEP EDGE, including (1) **problem-solving** and (2) **critical thinking** through class discussion, applied methodological homework, and research experience. This course enables and requires (3) **research and scholarly activity**, as well as (4) **creativity** in assignments that challenge students to think in innovative ways to produce original arguments and evaluate problems. (5) **Teamwork** is encouraged through homework assignments, where students aid each other to learn, execute, and apply class material. Finally (6) **communication** is emphasized through the completion of the original research paper, where conveying and explaining the theoretical arguments, methodologies, and quantitative results are crucial.

LEARNING OUTCOMES

Over the course of the semester students will have:

- An understanding of how to generate research questions and appropriate research designs, research techniques, data collection, measurement/operationalization, and data analysis
- Learned to execute appropriate, advanced statistical analysis (including using statistical software)
- Developed their ability to digest and critically/analytically evaluate political science and social science research
- Developed professional research writing capacity

REQUIRED READINGS

- Gujarati, Damodar N., and Dawn C. Porter. 2009. *Basic Econometrics*. McGraw-Hill. (any edition)

RECOMMENDED RESOURCES

- Acock, Alan C. 2016. *A Gentle Introduction to Stata*. Fifth Edition. Stata Press.
- Kellstedt, Paul M., and Guy D, Whitten. 2018. *The Fundamentals of Political Science Research*. Third edition. Cambridge University Press.
- Baglione, Lisa A. 2020. *Writing a Research Paper in Political Science*. 4th edition. CQ Press.

COURSE REQUIREMENTS AND GRADING

Evaluation in this course will be based on the following components:

Comprehension Questions	15%
Practice Questions	15%
Research Sections	10%
Exam	15%
Final Exam	20%
Final Research Paper	25%

The grading scale is as follows:

90-100	A
80-89	B
70-79	C
60-69	D
59 and below	F

Comprehension Questions

Comprehension Questions are a short series of questions that evaluate student comprehension of class material. These assignments thus allow the instructor to evaluate and remedy any confusion in a timely manner. Students are evaluated by the completion and quality of effort of the assignment. Incorrect answers are not penalized as these assignments are designed to assess understanding of the material. Answers should be in student's own words. If outside references or resources are used, then please cite these sources in the assignment. **Comprehension Question assignments are located on pages 24-27 in the syllabus.**

Practice Questions

Practice Questions are performance-based assessments that go beyond basic comprehension by asking students to apply their knowledge and skills to new scenarios. As such, these assignments evaluate student performance via application to real-world and simulated problems. These assignments can include essay or short answer questions, and may include statistical analysis questions. Students are evaluated by the completion and quality of effort of the assignment. Incorrect answers are not penalized as these assignments are designed to assess adequate application of course themes. If outside references or resources are used, then please cite these sources in the assignment. **Practice Question assignments are located on pages 28-33 in the syllabus.**

Exams

Exams are take-home exams that are **cumulative** and will cover material learned in the class lectures, assignments, discussion, and the assigned readings. **Students may use whatever resources they need to complete the assignments.** However, these sources must be cited and included in the references for each exam. Each exam must be typed and either emailed to me or handed in at the beginning of class. Plagiarized work and collusion will receive a failing grade (see Academic Dishonesty below). Each exam must be completed individually. These exams will include academic performance assessments via comprehension and application questions, and may or may not include questions similar to previous assignments (such as comprehension questions and practice questions).

As a general rule, make-up exams will NOT be offered; I reserve the right to determine whether a make-up exam is offered to individuals based upon their situation and timely request. I reserve the right to alter the questions for make-up exams.

The final exam is scheduled by the university, and in under no circumstances can the final be rescheduled for after its original date. Students with schedule conflicts should contact me to reschedule the final; in other words, the final exam may be taken prior to the scheduled date upon arrangement but cannot be rescheduled after the date.

Exam 1 is located on pages 34-35 in the syllabus.

Final Exam is located on pages 36-38 in the syllabus.

Research Paper

Due on the last day of class, students must submit an 10-20 page research paper of original design. Students should have a research question explicitly identified, why this question is important, a developed theory, hypotheses, data identification and sampling procedure, variable operationalization for all variables, appropriate methodology (i.e., OLS statistical analysis), results and diagnostics, and conclusion. References and in-text citations (APSA style) must be included. References are not counted towards the page limitations. (See pages 15-22 of syllabus for outline and the APSA style guide.) This paper will be evaluated on clarity and specification of the research question and theoretical argument, the synthesis of the literature review, the appropriateness of the research design and methods, the quality of the statistical analysis, the proper interpretation of results, the presence and quality of diagnostic analyses, and writing clarity (such as appropriate organization, sentence syntax, spelling, and grammar). I welcome the submission of drafts to me prior to the deadline for revisions and feedback.

Research Sections

Research Sections are the sections that generate students' final research papers. These sections ensure the timely completion of the final paper and allow students to receive feedback on each section prior to their final submission of their research paper. These assignments are graded by the completion and quality of effort of the assignment. Because each section builds upon previous sections (i.e., Research Question, Theory, Hypotheses, Research Design, Data and Methods, Results, Diagnostics, Conclusions), I recommend that each section submitted is appended to previous sections. In other words, when the Data and Methods section is due, the entire document including Research Question, Theory, Hypotheses, Research Design, and Data and Methods (i.e., the whole paper thus far) is submitted. While I will only evaluate the Data and Methods section officially (for that section grade), submitting the entire document will ensure that I am aware of changes in previous sections that may impact the newly drafted section. In this manner, I can provide more effective, holistic feedback and monitor progress to diagnose any problems in a timely fashion.

- A. Research Question, Data Source: Each student must submit to typed, hard-copy research question that is falsifiable and testable using an appropriate dependent variable for OLS. The dependent variable must be continuous. Students should also include why this research question is important and thus worth examining. Students will revise this research question based upon the instructor feedback.

You must generate a research question that is appropriate for one of the datasets provided below. Each dataset can be downloaded onto your computer using Stata and each link includes the codebook explaining each variable. Use the codebook to identify possible dependent and independent variables for your research question. **The codebook is the .pdf file, and the Stata (.dta) file is the actual data that you will use for analysis.** If you want to use a data source that is not below, ensure that it is approved by the instructor. The below data are available to download from Blackboard as well as from the links below.

Quality of Governance

<https://qog.pol.gu.se/data/datadownloads/qogstandarddata>

Standard Time-Series Data and Codebook

- B. *Theory and Hypotheses*: This section explains their theory and causal mechanism linking their main independent variable(s) of interest with their dependent variable, along with possible covariates, interactive effects, and conditions. This discussion needs to be in as much detail as possible, considering how X affects Y, under what conditions, for whom, and what else impacts that effect or directly impacts Y. One should also consider how time impacts this relationship. How long does it take X to affect Y?

Theory also includes discussion of relevant literature (that is, existing peer-reviewed scholarship) to supplement your arguments. *This is not be a separate section*. Literature should be synthesized within your theory so as to assist your arguments by supplementing with explanations, evidence, and examples. Your theory determines and organizes the literature you cite. It is analogous to where your theory is the skeleton and the literature is the muscle, “fleshing out” your theory and how it fits within existing scholarship.

The UTEP library and website offers a rich trove of articles and books for you to find articles, as does Google Scholar (<https://scholar.google.com>). Go to UTEP’s library website and click on the Articles and Databases tab. That will take you to a screen of the alphabet, where you click the letter that represents the beginning letter for the journal you wish to access. I recommend JSTOR (<http://0-www.jstor.org.lib.utep.edu>) as the best starting places to find articles. While it does not have the most recent articles, it has articles from a variety of journals. To access it, you would go to the UTEP library website, click the Articles and Databases tab, click the ‘J’, scroll down to the “JSTOR” link and click it, then click the “JSTOR” link on the information page. That will take you to JSTOR, where you can use the search function to find articles by subject, title, and author.

You never need to pay for access to articles, so if you find an article that you don’t have access to, simply copy and paste the title into one of these websites. I would also recommend talking with library staff who can help you locate literature, the Writing Center, and other resources that are crucial in the research paper process. If there is an article that you want but cannot find, email me that information and I will try to locate it for you. **NEVER PAY FOR AN ARTICLE!**

- D. *Data and Methods Section*: This section identifies the data used. It identifies the sample (countries/elections and time frame) and unit of analysis. It then identifies the dependent variable and explains its operationalization (that is,

how it is measured, how it is coded, and brief descriptive statistics). The dependent variable for any OLS method must be continuous. The section then continues to operationalize all the independent variables and control variables (that is, how they are each measured, coded, and brief descriptive statistics for each). The section will then conclude with a statement that “Because the dependent variable of <insert concept/variable> is continuous, I use OLS estimation.” Then the section should have the OLS model equation written out for your specific model specification. (After this you will later add the Results section and Conclusion.)

SPECIAL ACCOMODATIONS

If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass. CASS’ Staff are the only individuals who can validate and if need be, authorize accommodations for students with disabilities.

ACADEMIC DISHONESTY

Absolutely no form of academic dishonesty will be tolerated. The University of Texas at El Paso prides itself on its standards of academic excellence. In all matters of intellectual pursuit, UTEP faculty and students must strive to achieve excellence based on the quality of work produced by the individual. In the classroom and in all other academic activities, students are expected to uphold the highest standards of academic integrity. Any form of scholastic dishonesty is an affront to the pursuit of knowledge and jeopardizes the quality of the degree awarded to all graduates of UTEP. It is imperative, therefore, that the members of this academic community understand the regulations pertaining to academic integrity and that all faculty insist on adherence to these standards.

Any student who commits an act of scholastic dishonesty is subject to discipline. *Scholastic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, and any act designed to give unfair advantage to a student or the attempt to commit such acts.* Proven violations of the detailed regulations, as printed in the Handbook of Operating Procedures (HOP) and available in the Office of the Dean of Students and the homepage of The Dean of Students at www.utep.edu/dos, may result in sanctions ranging from disciplinary probation, to failing a grade on the work in question, to a failing grade in the course, to suspension or dismissal, among others.

UNIVERSITY WRITING CENTER

The University Writing Center is a useful tool each of student should take advantage of in for all written/paper assignments. While not required, your paper will be improved following a consultation with the staff. The staff sees students through appointments or walk-ins, though appointments are preferred. For more information, go to: <http://uwc.utep.edu/index.php/hours-location>. For appropriate assignments, **I offer up to 10 points extra credit** if you consult the writing center. **In order to be eligible for this credit, you must show evidence of your consultation and evidence of the revisions suggested and those you made. You must also provide a reflection as to what you learned from the experience** (for instance, what types of errors do you systematically make and how can you correct them). Hence, credit will only be possible with adequate evidence and thoughtful reflection of the writing and revision process.

COUNSELING AND PSYCHOLOGICAL SERVICES

The center, located at 202 Union West, offers confidential counseling services in English or in Spanish. They also provide group and individual counseling for currently enrolled UTEP students. For more information, go to: <https://www.utep.edu/student-affairs/counsel/>.

ADELANTE CHILD DEVELOPMENT CENTER

Child care is available for children of all students of the University. The Adelante Child Development Center is located at 314 W. Schuster and is managed and operated by Adelante Childcare, Inc. Children aged three months to 12 years are accepted, depending on space availability (Hourly, daily and weekly care are available and the Center offers a Summer Camp for school-age children). Age-appropriate early childhood developmental programs are offered in the curriculum. The Adelante Child Development Center is licensed by the Texas Department of Protective and Regulatory Services. Financial assistance is available for qualifying parents through Child Care Services. For more information, please call: **915-532-1114** or contact: studentaffairs.utep.edu/childcare. If, for any reason, you cannot find a care-taker for your child(ren), you are welcome to bring them to class.

COVID STUDENT RESPONSIBILITIES

You must STAY AT HOME and REPORT if you (a) have been diagnosed with COVID19, (b) are experiencing COVID-19 symptoms, or (c) have had recent contact with a person who has received a positive coronavirus test. Reports should be made at screening.utep.edu. If you know anyone who should report any of these three criteria, encourage them to report. If the individual cannot report, you can report on their behalf by sending an email to COVIDaction@utep.edu.

- Complete self-screening (screening.utep.edu) prior to every campus visit.
- Complete COVID-19 student training at [this site](#).
- Contact instructor if temporary accommodations due to COVID-19 are needed (i.e.,

- due to positive COVID-19 test, symptoms, or exposure).
- If unable to wear a face covering (e.g., medical reasons), the best course of action is to enroll in courses that are entirely online or to work with academic advisors, if necessary, to identify alternative courses. If this is not possible, request an accommodation from [Center for Accommodations and Support Services \(CASS\)](#) prior to coming to campus for in-person activities. Students who receive an accommodation to not wear a face covering must share this with the professor and work to minimize contact with others in the class.

Masks are encouraged but not required for class attendance. If you feel ill, please stay home and get tested. Accommodations will be made for student illnesses. Your health and well-being are my top priority.

- **Get vaccinated!** Your health is not a partisan issue. Vaccinations are safe and effective at protecting against serious health complications and reduce the likelihood of hospitalization and death.
 - Vaccines do not cause COVID.
 - Vaccines are safe and were developed and tested appropriately.
 - Vaccines do not alter your DNA or affect fertility.
 - Vaccines do not include microchips or tracking devices.
 - Vaccines do not include hard metals or toxic ingredients.
 - You can still get COVID if vaccinated, and you can still spread COVID variants if vaccinated.

If you have any questions or concerns, I am happy to address them and/or point you to appropriate resources.

GENERAL EXPECTATIONS

I expect all students to behave professionally in this class. You will be held responsible for all material covered in the textbooks, articles, videos, and the class discussions. If you miss a class, you are still responsible for the content of that day's information. I will not tolerate disruptive behavior, including (but not limited to) inappropriate computer use, reading newspapers, talking during lectures, using cell phones or pagers, and disrespecting classmates or the instructor. Additionally, I expect all students to attend class prepared and to show up on time. It is disrespectful to the instructor and the other students when individuals show up late or are not prepared to participate in the class discussion. I allow the use of laptops for class purposes only.

This class is designed to provide information and challenge students with new, and sometimes controversial, ideas and arguments. This class is designed to be a safe, open environment to express ideas, arguments, and opinions for learning purposes. However, **safe does not always mean comfortable**. This class does not give you knowledge—i.e., knowledge and understanding are not transfused to students by simply sitting in class. Learning is an interactive process, requiring engagement with the material. Assignments are designed to assist you in learning processes, which consist of understanding material, remembering material, and being able to clearly (and correctly) communicate that material.

Learning also entails developing your own insights, and applying them to better your own livelihood and authentic self.

As a general policy, I do not offer incompletes, and I will not change final grades for the course under any circumstances, unless an error occurred on my part.

CIVILITY AND RESPECT

Civility in the classroom and respect for the opinions of others is very important in an academic environment. It is likely you may not agree with everything which is said or discussed in the classroom, but courteous behavior and responses are expected. Our campus community reflects and is a part of a society comprising all races, genders, ethnicities, creeds, sexualities, and social circumstances. It is fundamental to our mission to create an unbiased community and to oppose vigorously any form of racism, religious intolerance, sexism, ageism, homophobia, heterosexism, and discrimination against those with disabling conditions. ALL identity groups (genders, sexualities, gender identities, races, ethnicities, colors, nationalities, creeds, religions, socioeconomic classes, etc.) must be discussed with respect.

COURSE SCHEDULE

The following is a list of topics to be covered at each class meeting, and the readings, which should be completed in order to fully participate in class that day. You are required to read the material prior to the class. Literature not included in the textbook but listed on syllabus are the responsibility of students to locate (online) and read. Academic articles can often be found via the UTEP library's website under the "Articles and Database" tab, where you can search repositories like JSTOR and Sage as well as individual journal titles. **Under no circumstance should you pay to access an article.** If you need help locating a specific article, email me and I will help you.

While I give specific days on which certain topics will be discussed, the calendar is subject to change. Any alterations to the course schedule will be clearly announced. As a general rule, the course will follow this order of topics, regardless of date changes, unless otherwise announced. *Readings due* and *Watch* are homework assignments due prior to class that day.

WEEK 1

August 26

Introduction

The Scientific Study of Politics

Watch: Ontology, Epistemology, and Theory

- <https://www.youtube.com/watch?v=c1wUXs0e-NU>

Alternative Epistemologies and Methods

Watch: Indigenous Epistemologies and Methodologies

- <https://www.youtube.com/watch?v=gSNpm9cYb2o>

Feminist Epistemologies and Methodologies

- <https://www.youtube.com/watch?v=y1Yj3sN8dPw&t=6s>
- More information (optional):
 - <https://www.youtube.com/watch?v=-ab71262po>

Critical Theory

- <https://www.youtube.com/watch?v=Xx9JM1gcc3E>
- https://www.youtube.com/watch?v=WHJ_3uesiDQ
- https://www.youtube.com/watch?v=svj_6w0EUz4

DUE Tuesday, August 31 by 7:00 pm

- **Comprehension Question #1**

WEEK 2 September 2

The Art of Theory Building

Watch: Features of Good Political Science Theories

- <https://www.youtube.com/watch?v=UuznjQJmtcc>

DUE Tuesday, September 7 by 7:00 pm

- **Comprehension Question #2**

Bratton, Kathleen A., and Kerry L. Haynie. 1999. "Agenda Setting and Legislative Success in State Legislatures: The Effects of Gender and Race," *The Journal of Politics* 61 (3): 658-679.

WEEK 3 September 9

Finding a Research Question

Watch: Research Puzzles

- <https://www.youtube.com/watch?v=gvD9zsrGG48>

DUE Tuesday, September 14 by 7:00 pm

- **Comprehension Question #3**
- **Practice Questions #1**

WEEK 4 September 16

Evaluating Causal Relationships

Reading due: Introduction, Chapter 1

Watch: Credible Causal Mechanisms and Reverse Causality

- <https://www.youtube.com/watch?v=hODCuYHo1g>
- <https://www.youtube.com/watch?v=6thTgGVNW1w>

DUE Tuesday, September 21 by 7:00 pm

- **Research Question and Data Source**

WEEK 5
September 23

Theory and Literature Review

Watch: Developing a Theory

- <https://www.youtube.com/watch?v=4y1BAqOnhMM>

Features of Good Hypotheses

- <https://www.youtube.com/watch?v=H5SH5FHoHxA&t=1s>

Research Design

Watch: Validity and Reliability

- <https://www.youtube.com/watch?v=99aJYrmhTHk&t=148s>
- <https://www.youtube.com/watch?v=qKT2JOMrfRY>
- <https://www.youtube.com/watch?v=qTbuYOxnji8>

DUE Tuesday, September 28 by 7:00 pm

- **Practice Questions #2**

WEEK 6
September 30

Measuring Concepts of Interest

Watch: Variables and Operationalization

- https://www.youtube.com/watch?v=ScqK-_Xufyw

Levels of Measurement

- <https://www.youtube.com/watch?v=7CFnCbP4lxQ>

DUE Tuesday, October 5 by 7:00 pm

- **Practice Questions #3**

WEEK 7
October 7

Getting to Know Your Data

Introduction to Stata

Watch: Unit of Analysis

- https://www.youtube.com/watch?v=ujurNc_ZPVU&t=3s

DUE Tuesday, October 12 by 7:00 pm

- **Practice Questions #4**

WEEK 8
October 14

Descriptive Statistics

Watch: Descriptive Statistics and Correlation Coefficient

- <https://www.youtube.com/watch?v=QoQbR4lVLrs>
- <https://www.youtube.com/watch?v=LH-F4oveJmo>

DUE Tuesday, October 19 by 7:00 pm

- *Theory and Hypotheses*

WEEK 9
October 21

Probability and Statistical Inference

Watch: Hypothesis Testing

- <https://www.youtube.com/watch?v=mUKqltFRiU0>
- https://www.youtube.com/watch?v=93n-Au_FOKI&t=3s
- <https://www.youtube.com/watch?v=BWxUCt9Ppno&t=475s>

Type I and II errors

- https://www.youtube.com/watch?v=93n-Au_FOKI&t=311s

Sampling

- <https://www.youtube.com/watch?v=d1FxFWfQZS0&t=3s>
- <https://www.youtube.com/watch?v=tJkrCY9QYWc>

Normal Distributions, Central Limit Theorem

- <https://www.youtube.com/watch?v=rzFX5NWoip0>
- <https://www.youtube.com/watch?v=YAlJCEDH2uY>

Confident Intervals, Standard Error, P-value

- <https://www.youtube.com/watch?v=BWxUCt9Ppno&t=47s>
- <https://www.youtube.com/watch?v=z3ule2gFwkA>
- <https://www.youtube.com/watch?v=ukcFrzt6cHk>

DUE Tuesday, October 26 by 7:00 pm

- *Exam #1*

WEEK 10
October 28

OLS Regression

Reading due: Chapters 2-4

Watch: Bivariate Regression and Linear Regression

- <https://www.youtube.com/watch?v=CmpNOgHG-Ng&t=309s>
 - <https://www.youtube.com/watch?v=PaFPbb66DxQ>
- Dummy Variables and Interaction Variables
- <https://www.youtube.com/watch?v=fTfMdcQJz4s>

- <https://www.youtube.com/watch?v=UVny7a8AoA4>

DUE Tuesday, November 2 by 7:00 pm

- **Practice Questions #5**

WEEK 11
November 4

OLS and Interpretation of Results

Reading due: Chapters 5-9

Watch: Interpreting Regression Tables and R-squared

- <https://www.youtube.com/watch?v=EfZsfHG8FU&t=233s>
- <https://www.youtube.com/watch?v=rzNTNdzAebl>

DUE Tuesday, November 9 by 7:00 pm

- **Data and Methods Section**

WEEK 12
November 11

OLS Assumptions and Diagnostics

Reading due: Chapters 10-13

Watch: Assumptions of Linear Regression

- <https://www.youtube.com/watch?v=hVe2F9krrWk>

DUE Tuesday, November 16 by 7:00 pm

- **Comprehension Questions #4**
- **Practice Questions #6**

WEEK 13
November 18

Bringing Your Paper Together and Troubleshooting

November 25th

Thanksgiving- No Class

WEEK 14
December 2

Research Paper Due

Exam Review

Exam DUE December 9, by 7:00 pm

Research Paper Grading Rubric

	Below Expectations	Acceptable	Exceeds expectations	Score
Research Question	Author did not develop a suitable research question. Research question is either undeveloped and/or not clearly stated. 0 points	Author developed a suitable research question. Research question is fairly well developed and articulated. 3 points	Author developed an interesting and unique research question that is appropriate for a research paper. Research question is well developed and clearly articulated. 5 points	____/5
Theoretical Argument	Paper lacks a clear theoretical argument and/or lacks clearly stated hypothesis 0 points	Paper has fairly well-developed theoretical argument and to some extent has clearly stated hypothesis 8 points	Paper has a clear, well-organized, well-specified theoretical argument and has clearly stated hypothesis 15points	____/15
Literature rcited	Paper lacks a review of the literature and/or the literature reviewed is not clearly related to research question 0 points	Paper has fairly well-developed literature review on relevant research 3 points	Review of literature clearly synthesizes existing research within the theoretical framework 5 points	____/5
Data	Data is insufficient or incorrect for research question and/or absent 0 points	Data includes minor errors in cleaning, citation, completeness, or appropriateness and/or is not clearly described prior to analysis 3 points	Data is complete, appropriate, cited, and cleaned for analysis and clearly described prior to analysis 5 points	____/5
Research Design and Methods	Research design and methodology is not appropriate to evaluate research question and data and/or design is not correctly executed 0 points	Research design and methodology is somewhat appropriate for research question and data and/or design is fairly well-executed 8 points	Research design and methodology is clearly appropriate and well-justified for the research question and data and design is well-executed and replicable 15 points	____/15

Statistical Analysis	Author fails to include appropriate statistical analysis and/or analysis is incorrectly executed or incomplete 0 points	Statistical analysis is fairly well-executed with minor mistakes and/or omissions 8 points	Statistical analysis is well-executed, complete, and clearly explained/justified, and replicable 15 points	____/15
Graphs and Tables	Paper lacks appropriate figures and tables and/or they are unclear, not labeled, or incomplete 0 points	Figures and tables are mostly clear and complete, with minor errors or omissions 5 points	Figures and tables are professional, clear, labeled, complete, and appropriate depictions of data and results 10 points	____/10
Interpretation of Results	Author fails to include results and/or fails to correctly interpret results 0 points	Interpretation of results include minor errors or omissions and/or are unclear 5 points	Author correctly and clearly interprets all relevant results in an organized, consistent manner 10 points	____/10
Diagnostic Tests and Limitations	Author fails to include diagnostic tests and/or such diagnostic tests are incorrect or inappropriate and/or fails to discuss the limitations of the paper 0 points	Author includes some diagnostic tests with few errors or omissions and/or provides only superficial discussion of the limitations of the paper 3 points	Author includes all necessary, correctly executed diagnostic tests and presents the results of each and offers insightful and complete discussion of limitations of the paper 5 points	____/5
References	Author fails to include appropriate references 0 points	Author includes some references but is incomplete or inappropriate 3 points	Author includes complete, formatted references 5 points	____/5
Writing Clarity	Paper lacks organization and clarity and/or includes several spelling and grammatical mistakes and typos 0 points	Paper is somewhat organized and/or includes some minor spelling and grammatical mistakes or typos 5 points	Paper is well-organized and clearly written and lack spelling and grammatical errors and typos 10 points	____/10

Research Paper Outline

<Title page>

I. Introduction

- a. Discusses your research question, why this question is important, and any background information that is necessary to understand the question; will be relatively short section, usually 1-2 paragraphs long

II. Theory

- a. Explicitly explains how your independent variable affects your dependent variable; includes the story of how the causal mechanism works between your variables, under what conditions, for whom, etc;
- b. Uses previous research (often referred as literature reviews) to help develop your arguments. Previous literature is used to supplement (NOT replace) your arguments to show how your theory fits within existing knowledge and offers examples and evidence to bolster your claims. You need to explain and justify everything—nothing speaks for itself.
- c. Ends with hypothesis (or multiple hypotheses) that are single sentence summaries of what you expect to see in the actual data/results. The hypothesis is the predicted observation based upon your theory.
 - i. The hypothesis tells me what you should see in the real world if your theory is true. Your theory tells me why this outcome should be predicted and how these causal mechanisms work in detail.
- d. **This is the bulk of your paper! (Roughly half of your paper)** So this will be the longest section, and you want to have a developed theory where I can see each step of how your independent variable affects your dependent variable. Like a recipe, your theory needs to take me step by step. This is the section that is most important for your grade since it reflects your understanding of material and your thinking like a scientist.

III. Data and Methods

- a. Identifies data source and the geographic and temporal limits of data (eg. United States presidential elections from 1960-2016 or cross-country analysis from 1980-2008)
- b. Discuss the operationalization of your dependent variable (i.e. tie our concept to your variable in the data and how coded, any descriptive statistics)
 - i. What is the variables
 - ii. How is this variable most appropriate for this project
 - iii. How is the variable coded
 - iv. Where does this data come from
- c. Discuss the operationalizations for each of your independent variables and controls—usually **one paragraph** each, including each of the aspects above
 - v. Include descriptive statistics for each variable
 1. Eg: What type of variable is each of your variables (continuous, categorical, binary, etc.)? Identify the minimum and maximum for each variable. How many

observations does each variable have? What is the appropriate descriptive statistics for each variable and provide these values for each variable:

- a. Mean, mode, or median
 - b. Variance or standard deviation
- d. Identify what type of analysis you are running and justify it (i.e. why is that specification the most appropriate)
- vi. Everyone will be running OLS models but the model specification will differ
 - vii. Include the equation for your specific model

IV. Results

- a. Includes tables and figures (graphs) of your results, along with substantive interpretations of the results as text and in the form of predicted probabilities or marginal effects for all statistically significant variables
- b. Identify the extent to which your hypotheses are supported or not
- c. Include diagnostic tests at the end of the section, and discuss these results and their implications on your results

V. Conclusions

- a. Summarize the substantive meaning of this project's results and place within larger context
- b. Identify the limitations of the project
- c. Where should research go from here

<References>

- a. APSA style, alphabetized

APSA Style Guide

For full style manual see <https://connect.apsanet.org/stylemanual/wp-content/uploads/sites/43/2018/11/Style-Manual-for-Political-Science-2018.pdf>

In-text Citations

These are parenthetical portions, usually at the end of sentences, that provide the immediate source of the information used in the sentence. Citations are required for direct quotations, paraphrasing, and facts or opinions not generally known or easily checked. The citations refer the reader to the full source information in the reference list at the end of the manuscript, and are therefore an essential aspect of a manuscript.

APSA employ the *author-date* style preferred by many in the physical, natural, and social sciences. For example: (Smith 2002) or (Smith 2002, 148). See more examples below.

Each parenthetical citation **must** have a matching source that appears in the reference list at the end of the manuscript, including the citations found in endnotes and in the source notes of tables and figures.

Template: (author last name(s) <space> publication year)
(author last name(s) <space> publication year, page number)

Examples: (Arena 2014) (Durant n.d.) *where n.d. means “no date”

Page numbers must be included for quotes, and should be included to point to specific data sets, ideas, or to avoid ambiguity. The numbers should point to a specifically contextual page or range of pages. The page numbers can be cited as either inclusive or nonconsecutive page numbers.

(Jentleson 2015, 12–14) (Fraser 2017, 227)

With two or three authors, cite all names each time. Use *and*, not an ampersand (&).

(Dodd and Oppenheimer 1977) (Roberts, Smith, and Haptonstahl 2016)

When four or more authors are cited, *et al.* should follow the first author’s last name, even in the first reference, unless the author is in multiple references where the *et al.* would not be the same, in which case use the first and second author’s last names before *et al.* (and so on) or a shortened title in quotes preceded by a comma.

(Angel et al. 1986)

When multiple sources are cited together, they are included in the same parentheses, but separated by semicolons. They should be alphabetized.

(Hochschild 2015; Jentleson 2015)

(Hauck 2000; Hauck and Vogelsong 2005; Hauck, Smith, and Vogelsong 2010; Jordan et al. 1999, 56–58; Walthall 2012)

Citations of multiple sources by the same author, but published in different years, can omit the name with the second source and beyond.

(Barbarosa 1973; 1978) (Barbarosa 1973, 18; 1978, 32)

If two or more sources are published by the same author in the same year, add lowercase letters to the publication year. To determine how to label the sources with the letters, alphabetize them by title.

(Frankly 1957a, 1957b)

A parenthetical citation to a statute or court case should include the name of the case (in italics except for v.) or statute and the year.

(*Baker v. Carr* 1962)

References

The References section is the same as a Works Cited or Bibliography section at the end of the manuscript.

All references should be alphabetized by author last name. Single-authored sources precede multi-authored sources beginning with the same last name. Multi-authored sources with the same name (first and last) of the first author should continue to be alphabetized by the second author's first name. When a source cannot be alphabetized by the author's name, alphabetize it by (in descending order): year (oldest to newest), editor's name, title, or descriptive phrase. When alphabetizing by article title, an initial article is ignored. Undated or forthcoming books follow all dated works.

All sources included in in-text citations should also appear in the References.

Each part of a reference is separated by a period, except when otherwise indicated. Each part begins with a capital letter unless it is a lowercase part of an author's, editor's, or translator's name. The general format is:

author last name, author first name. year of publication. "Title of article or chapter." *Book or Journal Title* Volume (issue number): page number range.

If the source was published by an organization, association, or corporation and does not carry an author's name, the organization is listed as the author, even if it is also the publisher.

When no author is associated with a source, but an editor(s) or translator(s) is, those names take the place of the author's name. The abbreviations *ed.* or *eds.*, or *trans.* follows the name(s), preceded by a comma.

If the source does not have an author, editor, translator, organization, association, or corporation that sponsored it, the title should be used in place of the name.

When the year of publication cannot be located, *n.d.* must take its place. When the publication is forthcoming (that is, not yet published), the term *forthcoming* takes the place of the year.

Examples

Journal examples

Aldrich, John H. 1980. "A Dynamic Model of Presidential Nomination Campaigns." *American Political Science Review* 74 (3): 651–69.

Chambers, Simone. 2018. "Against Democracy. By Jason Brennan." Review of *Against Democracy*, Jason Brennan. *Perspectives on Politics* 16 (2): 503–5. doi: 10.1017/S153759271800066X.

Prufer, Olaf. 1964. "The Hopewell Cult." *Scientific American*, December 13–15.

Book Chapter examples

Halchin, L. Elaine. 2001. "And This Parent Went to Market: Education as Public Versus Private Good." In *School Choice in the Real World*, eds. Robert Maranto, Scott Milliman, Frederick Hess and April Gresham, 39–57. Boulder, CO: Westview.

Halchin, L. Elaine. 2001. "And This Parent Went to Market: Education as Public Versus Private Good." Chap. 1 in *School Choice in the Real World*, eds. Robert Maranto, Scott Milliman, Frederick Hess and April Gresham. Boulder, CO: Westview.

Hall, Peter Dobkin. 2006. "A Historical Overview of Philanthropy, Voluntary Associations, and Nonprofit Organizations in the United States, 1600–2000." In *The Nonprofit Sector: A Research Handbook*, 2nd edition, eds. W. W. Powell and R. Steinberg, 32–65. New Haven, CT: Yale University Press.

Hermann, Margaret G. 1984. "Personality and Foreign Policy Decision Making: A Study of Fifty-Three Heads of Government." In *Foreign Policy Decision Making*, eds. Donald A. Sylvan and Steve Chan, 133–52. New York: Praeger.

Book examples

Davidson, Roger H., Walter J. Oleszek, Frances E. Lee, and Eric Schickler. 2016. *Congress and Its Members*, 14th edition. Washington, DC: CQ Press.

Website/Blog/Social Media example

Sides, John. 2008. "Who Will Win the Nominations?" *The Monkey Cage* [blog], January 3. http://themonkeycage.org/2008/01/who_will_win_the_nominations/.

Dissertation or thesis example

Munger, Frank J. 1955. "Two-Party Politics in the State of Indiana." PhD diss. [or Master's thesis.] Harvard University.

Conference paper (unpublished) example

Mefford, Dwain, and Brian Ripley. 1987. "The Cognitive Foundation of Regime Theory." Paper presented at the Annual Meeting of the American Political Science Association, Chicago.

How to Read and Evaluate Research

- 1) What is the research question?
- 2) What is the theoretical argument and/or thesis?
- 3) What is the dependent variable?
- 4) What are the main independent variables?
- 5) Do the variables match the theory? Are they appropriate? Do they measure what the authors claim?
- 6) What data is utilized and is it appropriate?
- 7) Did the authors include all relevant variables and exclude irrelevant variables? Are there confounding variables? Are there omitted variables?
- 8) What method of analysis was employed? Qualitative or quantitative? Is this method appropriate for the research question?
- 9) What are the results? How strong are these results?
- 10) What are the limitations of the theory, methods, and results?
- 11) How generalizable are the results?
- 12) How persuasive is the article? Why?

Comprehension Questions #1: The Scientific Study of Politics

Directions: Answer each question IN YOUR OWN WORDS.

- a) Explain the relationship between an independent variable and a dependent variable.
- b) Define and explain epistemology.
- c) What are the requirements for causal inference?
- d) What is a spurious relationship?
- e) What are the differences between scientific (Western positivism/empiricism), feminist, indigenous, and critical theory epistemologies and methods? Can they complement each other, why or why not?

Comprehension Questions #2: The Art of Theory Building

Directions: Answer each question IN YOUR OWN WORDS. For the article Bratton and Haynie (1999) identify each of the following:

1. What is the research question?
2. Why is this research question important, according to the authors?
3. What is the theoretical argument(s)?
4. What are the hypotheses?
5. What are the operationalizations for each variable?
6. What is the methodology to test the theory?
7. What are the results?
8. What do these results mean for the original research question, policy, justice? (i.e., what are the implications?)

Comprehension Questions #3: Finding a Research Question

Directions: Answer each question IN YOUR OWN WORDS.

1. What is a unit of analysis?
2. What is a confounding variable? Why is it problematic?
3. Explain the problem of endogeneity.
4. Define omitted variable bias.

Feedback Section (Optional but Appreciated):

- a) How are you doing thus far? (Are you alive, are you well/okay?)
- b) What concepts or items are you having difficulty with?
- c) How can I better assist you to clarify your concerns?
- d) Would you like to set up a phone or virtual meeting?

Comprehension Questions #4: OLS

- 1) In as much detail as possible, explain what is an OLS model.
- 2) Under what conditions is an OLS model appropriate to use? Why?
- 3) What assumptions are required in order to use an OLS model?
- 4) If those assumptions are violated, what are your alternatives? (Identify the assumptions and each alternative and explain why that alternative fixes the violations.)

Practice Questions #1: Finding Research Questions

1. Brainstorm and write down 10 possible research questions
2. Select your top 3 research questions. For each of these three questions, evaluate:
 - a) Are the concepts well-defined? Do I need to be more specific with my concepts by breaking down big questions into smaller questions?
 - b) Is my question causal? Am I asking a descriptive question, or am I identifying a causal mechanism? Can I revise it to make it causal?
 - c) Is the answer to this question and concepts observable and measurable?
 - d) What kind of data would I need to evaluate this research question?

Practice Questions #2: Theory and Literature Review

Directions: Answer each question IN YOUR OWN WORDS.

1. What are the three conditions under which one can make a causal claim?
2. A student asks you for assistance in understanding theories and hypotheses. Explain the relationship between a theory and hypotheses (as well as defining each term).
3. Explain the concept of falsifiability.
4. What is the difference between a theory and literature review? What role does the literature review serve in the development and communication of the theory?

Practice Questions #3: Measuring Concepts of Interest

Directions: Answer each question IN YOUR OWN WORDS.

1. Explain the relationship between validity and reliability. (Be sure to define each term as well in your answer.)
2. A fellow student asks you about multicollinearity. Explain what it is and why it is a problem in statistical analysis. How can the student check for potential multicollinearity problems in their data?
3. A researcher is presenting their research proposal seeking to examine the effects of study time on student success. The researcher selected every 5th student who entered the UTEP Business building to survey, asking each student how many hours they study each week and their overall GPA. Provide feedback to this researcher to identify potential problems that could reduce the validity of this research design. Be thorough and specific in your answers (in term of identifying potential problems and why they are problematic).
4. Define variance.
5. Explain the difference between measures of central tendency and measures of spread.
6. In some conditions, the mean may be problematic or misleading. Explain why and under what conditions this may occur.
7. Define unbiasedness.

Practice Questions #4: Getting to Know Your Data

1. In the QoG codebook (pdf file), please identify the variable **al_ethnic**.
 1. What does this variable represent and what does it measure?
 2. What is the sample of data (as in, for what countries and year does this variable exist or have values)?
 3. What is the original source for this variable?
 4. How do you cite the QoG dataset?

2. For the following research questions, identify the best variables to measure each concept. Explain your answer by providing information about the variable and how the variable links to the concept. Are there other alternative variables that might be equally useful? (*Hint: Remember to check the variable sample, that is, the countries and timeframe this variable exists. For example, some variables only exist for EU countries or only exist for limited time frames*).
 1. Does immigration improve the economic development of the host country?
 1. Immigration = _____
 2. Economic development = _____

 2. Does reduced homicide rates improve trust in government?
 1. Homicide rates = _____
 2. Trust in government = _____

 3. Does increased government expenditure on health improve life expectancy?
 1. Government expenditure on health = _____
 2. Life expectancy = _____

 4. Does increased government expenditure on education reduce inequality?
 1. Government expenditure on education = _____
 2. Inequality = _____

 5. Does increased political competition in authoritarian regimes worsen human rights abuses?
 1. Political competition = _____
 2. Regime type = _____
 3. Human rights = _____

Practice Questions #5: Descriptive Statistics in STATA

The assignment response should include the answers to each question, all graphs and statistics. You are welcome to work in groups, but each assignment must reflect your own work.

1. Identify your research question, and list your model's dependent and independent variables. Identify your unit of analysis (for each observation). (Eg. country-year or individual vote).
2. Make sure you have cleaned your data (recoded missing values, corrected any errors, altered scales, etc.) Explain what and how you cleaned your data.
3. What type of variable is each of your variables (continuous, categorical, binary, etc.)? Identify the minimum and maximum for each variable. How many observations does each variable have? What is the appropriate descriptive statistics for each variable and provide these values for each variable:
 - a. Mean
 - b. Mode
 - c. Median
 - d. Variance
 - e. Standard deviation
4. Provide a key identifying each variable's name, value, and meaning. (You will need the codebook for this).
 - a. Eg. Continuous variable: *relig_scale* = religiosity; as *relig_scale* increases, that means that religiosity become more intense
 - b. Eg. Binary variable: *gender* = gender/sex; 0 refers to men, 1 means women
 - c. Eg. Categorical variable: *age_all* = age 5 categories for age: 15-30, 31-45, 46-55, 56-65, 66-80;
 - d. Eg. Categorical Ordinal variable: *party_id* = party identification; 7 categories for party identification: (0-6), 0 = extreme liberal, 6= extreme conservative, 3= independent/moderate
5. Graph your dependent variable. What does it tell you (skewedness, variance, outliers, etc.)? Ensure proper labeling of axes, etc.
6. Graph your main independent variable(s) of interest. What does it tell you? Ensure proper labeling of axes, etc.

Practice Questions #6: Correlations in STATA

The assignment response should include the answers to each question, all graphs and statistics. You are welcome to work in groups, but each assignment must reflect your own work.

1. Type your research question.
2. List your model's dependent and independent variables.
3. What are the correlations between independent variables? Include each combination of independent variables as well as controls.
4. What are the correlations between each of your independent variables and dependent variable?
5. What is the correlation coefficient between your main independent variable of interest and your dependent variable? What does the coefficient tell you about their relationship?
6. Graph your main independent variable on your dependent variable. What does this figure tell you about their relationship? What does it fail to tell you?

POLS 5300 – Take Home Exam I

This is an open-book, open-notes exam. Please cite all sources you use, and include a references section. Plagiarized material will receive a zero. I am looking for in-depth, detailed answers that reflect engagement and understanding of the material. You are welcome to use examples and illustrations to assist in your explanations (but remember that examples and pictures do not “speak for themselves”.)

Comprehension Section

1. What are the three conditions that must be satisfied in order to make a causal inference (i.e., to be able to state that X causes Y)?
2. Identify the 3 measures of central tendency. Which measure is best for continuous variables, ordinal variables, or nominal variables? Which are best for normal distributions or skewed distributions? Explain why (for each).
3. For what kind(s) of dependent variables is OLS regression appropriate?
4. Define and explain correlation. How is it measured, and what role(s) does it play in causal inference (i.e., making causal arguments)?
5. Explain selection bias and why it is problematic for research.
6. Why are measures of spread important as descriptive statistics for research? Name the four measures of spread.
7. In as much specificity as possible, explain the relationship(s) between internal and external validity, and between validity and reliability.
8. Explain omitted variable bias, including how it is defined, why it is problematic, and how one can determine if a research project suffers from it. How is omitted variable bias related to confounding variables?
9. What is the purpose of statistics and statistical analysis?
10. What is a normal distribution, and why is it important for research?

Application Section

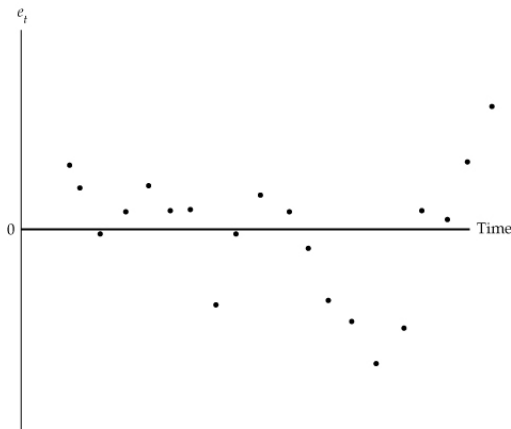
1. A research worker plans to evaluate college students' reactions to a new policy on campus parking. He locates himself near the library, where he interviews every fourth student entering. He eventually secures data from 100 interviews and publishes his findings as the "Reactions of college students to a new policy on campus parking." What may be wrong with this approach? (10 points)
2. What are the most common problems in political science or social science research? Explain and defend your answer. What are the implications for these flaws? (10 points)
3. Generate a theory and hypotheses for the following research question: How does government spending in secondary education affect women's economic rights? (10 points)
4. A student approaches you about wanting to research the role(s) of racial, ethnic, and gender identities on individual partisanship (i.e. political ideology, or levels of conservatism/liberalism) in the United States. The student is unsure of whether to use a qualitative or quantitative approach. What do you recommend and why? What are the tradeoffs between these approaches, and what would your recommended research design look like? (20 points)
5. A local non-profit is planning to survey El Paso residents to measure resident's support for building a new sports arena. They ask you to serve as a research consultant to develop a research design to accurately measure resident support. What research design would you suggest, including any relevant survey questions, sampling procedures, use of descriptive or inferential statistics (and covariates). Discuss in detail. (20 points)
6. A national television station shows that their polls of voters in their audience reveal a 45% and 47% voter support rate for Trump and Biden, respectively. How do you interpret these results? What are the limitations of these results and/or polling approach? (10 points)

POLS 5300 – Final Exam

This is an open-book, open-notes exam. Please cite all sources you use, and include a references section. Define and explain in your own words rather than copying from sources. Plagiarized material will receive a zero.

1. The sample regression model is used to make inferences about an unobserved population with the following regression function (estimated through OLS):
$$Y_i = b_0 + b_1 X_i + e_i \quad \text{where } i = 1, 2, \dots, n$$
 - a. Explain what each variable in the equation represents. What is the population parameter(s) that we want to make statistical inferences about?
 - b. What assumptions about the population regression function are required to ensure that the sample statistic is best unbiased linear estimator (BLUE)? Explain what each assumption means and how to detect for violations.
2. Identify and explain the 3 measures of central tendency. Under what conditions do you use each measure and why?
3. A researcher determines the probability of a particular result to be 0.031, which means s/he should (accept or reject) the null hypothesis.
4. A regression coefficient of .26 has a p -value of 0.080. The research should (accept or reject) the null hypothesis.
5. For what kind(s) of dependent variables is OLS regression appropriate?
6. An $R^2 = 0.312$ means what?
7. A value of $r = 0.89$ means what?
8. A research worker plans to evaluate high school students' reactions to a new policy on closed campus stations. He locates himself near the library, where he interviews every fourth student who visits the dean. He eventually secures data from 100 interviews and publishes his findings as the "Reactions of high school students to a new policy for a closed campus." What may be wrong with this approach?
9. What are the three conditions that must satisfied in order to make a causal inference (i.e., to be able to state that X causes Y)?
10. Suppose a researcher wants to check that the OLS assumption on functional form is not violated. What advice would you suggest to check this assumption?
11. A researcher is concerned about heteroskedasticity, but he doesn't know what it really is or if it is a problem in his data. What is heteroskedasticity, and how can he find out if his data has it?

12. Define and explain the meaning of alpha values (α).
13. Name the four measures of spread.
14. Suppose a researcher shows you the following graph for her research paper, but she is unsure what the graph means. What do you tell the researcher?



15. A researcher is doing a comparative study on democratization and foreign aid, but he is concerned about including the United States in his analysis because it might be an outlier. How can he find out if the U.S. is an outlier? What are the problems associated with including the U.S. if it is an outlier?
16. A researcher is concerned about multicollinearity in her project. How can she find out if collinearity is a problem?
17. Consider the following regression model:

$$Y_i = \beta_1 + \beta_2 X_{2i} + \beta_3 X_{3i} + u_i$$

Where Y_i = amount of rent (in dollars) per month for apartment dwellers

X_2 = annual family income (in thousands of dollars)

X_3 = community type (0 if urban renters; 1 if suburban renters)

The expectation is that families with high incomes would tend to rent more expensive apartments than families with low incomes, and that suburban housing would tend to be more expensive than urban (city) apartments.

A researcher collected survey data and discovered the following results from OLS:

$$Y_i = 300 + 100 X_{2i} + 150 X_{3i} + u_i$$

Provide a substantive interpretation of all the coefficients (assume statistical significance for every one).

FOR QUESTIONS 18-21, REFER TO THE BELOW STATA RESULTS, AND ASSUME THAT THERE ARE NO ISSUES WITH THE SAMPLING PROCEDURE.

```
. regress cholesterol time_tv
```

Source	SS	df	MS			
Model	5.04902329	1	5.04902329	Number of obs =	100	
Residual	28.3220135	98	.289000137	F(1, 98) =	17.47	
Total	33.3710367	99	.337081179	Prob > F =	0.0001	
				R-squared =	0.1513	
				Adj R-squared =	0.1426	
				Root MSE =	.53759	

cholesterol	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
time_tv	.0440691	.0105434	4.18	0.000	.0231461	.0649921
_cons	-2.134777	1.813099	-1.18	0.242	-5.732812	1.463259

CHOLESTEROL = CONTINUOUS VARIABLE FOR MEASURING CHOLESTEROL (IN GRAMS PER LITER)

TIME_TV = CONTINUOUS MEASURE OF HOW MANY HOURS A DAY ARE SPENT WATCHING TV

18. Provide a theoretical argument and hypothesis describing a relationship between time spent watching TV and cholesterol levels.
19. Is time spent watching TV statistically significant?
20. Substantively interpret the coefficient for time spent watching TV.
21. The researcher runs an ovtest and finds that its Prob > F = 0.000. What does this mean? What do you think might be the problem?