Fall 2020, Second Term | Tuesdays, 5:00pm-10:00pm | Classroom: Zoom

PSPA 608: Public Service Performance II: Management & Data Analysis

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Course Description

> *Follows PSPA 607. Focus on public service performance and management, adding more skills-based practices of data analysis. Studies the basic theory, techniques, and practice of data collection and analysis so that information can be used to inform management decisions. Examination of generating research questions by identifying knowledge gaps in the organization. Data analysis methods include quantitative techniques (descriptive and inferential statistics, hypothesis testing) and qualitative techniques (focus groups, content analysis, observational data). Results are interpreted and presented.*
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> — NIU Graduate Catalog

This course is a graduate course in performance management, focusing on data utilization and analysis. It is designed to develop 1) analytic skills for use in public affairs, performance management, and collective decision making, 2) improve your performance management research design skills, 3) assess the validity and limits of information presented to you, and 4) have a thorough understanding of basic statistical methods.

This course will cover the tools and techniques of performance management research design and the basic statistical skills that are designed to give you an understanding of the appropriate uses and mis-uses of these tools and techniques. This course will also help you to become proficient in the use of the statistical software packages. As a policymaker in the public, nonprofit, or private sector, you will find these skills to be invaluable as you make recommendations, decisions, or attempts to persuade others.

Instructional Methods & Course Format

This course will be taught using various instructional methods, including but not limited to lecture, class discussion, guest speakers, individual presentation, exercise, group discussion, etc. We will spend out synchronous online sessions in class, which will include guests, a discussion on a certain topic, a discussion of the readings and resources for that week, and an application/exercise portion. I will determine end time for each in-person class based on that week's goals and online resources and activities.

Class time will start with a short recap of reading material and a Q&A session to clear up any confusion. We will then focus on activities, applications, and general discussion of the topics at hand. In addition to understanding the concepts, learning statistics requires a fair amount of drill and practice. To help with the practice, regular homework assignments and in-class exercises will be given. Note there is considerable redundancy in the way in which the material will be introduced – both online and in-class. It is expected that you will supplement classwork with the textbook, the software, fellow students, the professor, and the internet.

Tips How to Do Well in this Class

Based on past experiences, I make three suggestions:

1. Keep up with the class: Do the weekly assignments and try to do them well. Since the technical skills will be taught by online resources, it is your responsibility to keep up with the learning subject every week.
2. Allocate enough time for this class: Many students think that doing well in a stats class is more difficult than doing well in other PA classes because the material is less intuitive and more difficult to comprehend. Readings and homework for this course might take longer than what you are used to from other classes, so schedule enough time.
3. Make use of office hours: I hold office hours by appointment to increase your ability to schedule time to meet. Please do not hesitate to meet with me to discuss any issues you might be having. This course is often difficult for students and meeting with me can be a big help.

Textbooks & Software

Required

There is one required textbook for this course.

Elizabeth O'Sullivan, Gary R. Rassel, and Jocelyn DeVance Taliaferro. 2011. *Practical Research Methods for Nonprofit and Public Administrators*. 1e. Routledge.

Additional required readings, as detailed below, will be available either online through the library or on Blackboard.

Required Software & Equipment

- We will use Excel to generate descriptive statistics and graphics, estimate probabilities, calculate test statistics, and perform simple regression analysis.

- Students are required to access to 2010 Excel or equivalent.
- If available, please bring your laptop for class exercise. If not, please bring a flash drive to save your work from the computer in the lab.

Assignments

Class Participation	10%
After-class assignment ($4 \times 10\%$)	40%
Misleading Statistics	10%
Research Proposal Data Analysis Report and presentation	20%
Final Take-Home Exam	20%

Class Participation. Any student who misses more than TWO classes should drop the class. Excessive absences or late arrivals (or early dismissals) will result in final grade reduction. Students are expected to attend all the course meetings. In case of work-related duties or personal emergency, you should be consulted with the instructor via email ***before*** the class meeting. Be aware that absences (any reasons) will indirectly hurt you by preventing you from participating in class, thereby lowering your participation grade.

After-class assignments. At the end of the class, the weekly "data-based exercises" homework will be posted on Blackboard. While our class time is the introduction of the concepts and skills, this reflection and application assignment is designed to remind you what you have learned from the week's lesson. Application-oriented, data-based questions will be assigned. You will download the homework sheet and related data from the Blackboard.

Misleading Statistics. Students are required to find **one** example of misleading/erroneous statistics in the Newspapers, media coverage, political advertisement, or performance reports. For the assignment, please include:

- The erroneous/misleading statistics and the source and the date (e.g., internet link is required)
- Why the statistics is incorrect
- What is the real evidence base for this item (if there is any)

Research Proposal Data Analysis Report and presentation. Using the research proposal developed in 607 class and specified throughout 608 class, the purpose of this assignment is to give you a hands-on experience to run the data analysis and generate the performance report. Using the Naperville Citizen Satisfaction dataset, you will actually do the data analysis. Beginning with your research questions, you will utilize a variety of statistical analyses to answer your research questions. Note that this final is time consuming, so it will be a better idea to start working on it as we proceed each data analysis. Though there will be some time in class to work on this final using the Naperville data, it will also require additional work outside of the course.

Final Take-Home Exam. There is a fully data-based take-home final exam. It is designed to evaluate students' ability to manage data set, complete descriptive and inferential analyses, and interpret statistical results. The test will be uploaded on Blackboard on Tuesday, December 1 at 10pm. Completed exams are due by Friday, December 11 11:59pm.

Learning Outcomes

In order to become effective public leaders, students must develop a solid foundation in technical, analytical, ethical, diversity, accountability, and leadership skills. In addition, students receive greater depth in a specialty area training of their choice: local government management, public management and leadership, fiscal administration, or nonprofit management.

To this end the Department of Public Administration uses a competencies based curriculum which establishes specific skills and abilities acquired by the students as they complete the required courses. A portfolio of completed work is displayed by the graduate as evidence of proficiencies in distinct categories of public service. Each course contributes to the competencies based curriculum by focusing on student learning related to some subset of these competencies. Expected mastery of skills in each competency is defined by a hierarchy related to the level of student learning associated with that competency.

Foundation Knowledge. This level refers to students' ability to understand and remember specific information and ideas. Foundational knowledge provides the basic understanding that is necessary for other kinds of learning. We expect that students will be at the foundational level early in their development as they are learning on the job and taking introductory courses. For example, students might be able to define cost efficiency or citizen engagement but they have not yet applied those concepts.

Application. Beyond foundational, students also learn how to engage in some kind of action; doing something. This is where they start to see their foundational knowledge as useful because they can apply what they are learning. At the application stage, students are still taking a lot of direction on what to do, when, and how. This could be something creative or practical such as writing a memo, creating a budget or learning how to manage more complex projects (but not managing it themselves yet). The student can use the concept of cost efficiency or citizen engagement and correctly apply it to an issue or situation that is the object of the memo.

Integration. At this stage, students have specialized knowledge (foundational) and are able to apply that knowledge(application) but they also see and understand the connection between ideas, people or classes and work. This act of making new connections raises their intellectual capacity to the highest stage of learning. Integration also means they are able to successfully manage whole projects and make critical decisions about its design, working independently (under guidance). At this stage, students should be able to bring information from a variety of sources (examples: theory, demographic data, opinions of elected officials, new research etc.) and integrate that information into their work. A student could integrate the concepts of cost efficiency and citizen engagement to address a complex problem or issue and propose creative solutions to a dilemma. Students don't see themselves as separate from what is happening around them, but see themselves as connected to everyone and everything. It is expected that most students will not reach the integration stage until they are near completion of the program and beyond.

This course (PSPA 608) is designed to address the following program competencies:

Competency	Course lectures & demonstrations	Data-based exercise	Misleading statistics	Performance report	Presentation	Take-home exam	Class Data analysis activities	Guest Speaker session
Integrate current and preferred management practices of statistical analysis and performance measurement to improve organizations	F	A		A	A	F	F/A	
Evaluate public service issues in terms of effectiveness, efficiency, equity and economy by utilizing data analysis and making inferences and analyze outputs for decision making purposes	F	A				F	A	
Communicate effectively both orally (public speaking) and in writing (analytical and persuasive) for a public service organization and in the public policy process by conducting appropriate statistical analyses, clearly communicating results, and generating performance report	F/A	A	A/I	A	A	F		
Understand and listen critically to diverse perspectives to address public service issues by analyzing different perspectives from the community needs assessments		A		A				I
Identify strategies for improving democratic accountability in governance, including improved transparency and civic participation, by focusing on open data system and analyzing citizen satisfaction surveys		A		A				I

F = foundation; A = application; I = integration

Course Policies

Communications

Course announcements will be made via email so it is imperative that you check your e-mail daily. “I didn’t get the email” is never a valid excuse. The most effect method of communicating with me is using email; however, you are also encouraged to schedule a meeting at my office or a phone call.

Late Assignments

Allowing some students to turn in assignments late is not fair to students who completed the task in the assigned period of time. For each assignment, work turn in within three days late will be penalized 10 point (out of 100). Work turned in within one week late will be penalized 20 points. Work will not be accepted more than one week late. Work due at the end of the semester will not be accepted late due to the grading deadline.

Lauren's Promise

I will listen and believe you if someone is threatening you. Lauren McCluskey, a 21-year-old honors student athlete, was murdered on October 22, 2018 by a man she briefly dated on the University of Utah campus. We must all take action to ensure that this never happens again.

If you are in immediate danger, call 911.

If you are experiencing sexual assault, domestic violence, or stalking, please report it to me and I will connect you to resources or call NIU's Counseling and Consultation Services (815-753-1206).

Any form of sexual harassment or violence will not be excused or tolerated at Northern. NIU has instituted procedures to respond to violations of these laws and standards, programs aimed at the prevention of such conduct, and intervention on behalf of the victims. NIU Police officers will treat victims of sexual assault, domestic violence, and stalking with respect and dignity. Advocates on campus and in the community can help with victims' physical and emotional health, reporting options, and academic concerns.

Accessibility

If you need an accommodation for this class, please contact the Disability Resource Center as soon as possible. The DRC coordinates accommodations for students with disabilities. It is located on the 4th floor of the Health Services Building, and can be reached at 815-753-1303 or drc@niu.edu.

Also, please contact me privately as soon as possible so we can discuss your accommodations. Please note that you will not be required to disclose your disability, only your accommodations. The sooner you let me know your needs, the sooner I can assist you in achieving your learning goals in this course.

Academic Integrity

Good academic work must be based on honesty. The attempt of any student to present as his or her own work that which he or she has not produced is regarded by the faculty and administration as a serious offense. Students are considered to have cheated, for example, if they copy the work of another or use unauthorized notes or other aids during an examination or turn in as their own a paper or an assignment written, in whole or in part, by someone else. Students are guilty of plagiarism, intentional or not, if they copy material from books, magazines, or other sources without identifying and acknowledging those sources or if they paraphrase ideas from such sources without acknowledging them. Students guilty of, or assisting others in, either cheating or plagiarism on an assignment, quiz, or examination may receive a grade of F for the course involved and may be suspended or dismissed from the university.

A faculty member has original jurisdiction over any instances of academic misconduct that occur in a course which the faculty member is teaching. The student shall be given the opportunity to resolve the matter in meetings with the faculty member and the department chair. If the facts of the incident are not disputed by the student, the faculty member may elect to resolve the matter at that level by levying a sanction no greater than an F for that course. The faculty member shall notify the student in writing whenever such action is taken, and Student Conduct shall receive a

copy of the Academic Misconduct Incident Report indicating final disposition of the case, which will be placed in the student's judicial file. In all matters where the charge of academic misconduct is disputed by the student or if the faculty member feels a sanction greater than an F in the course is appropriate (such as repeated offenses or flagrant violations), the faculty member shall refer the matter to Student Conduct, making use of the Academic Misconduct Incident Report. Additional sanctions greater than an F in a course can be levied only through the system of due process established and overseen by Student Conduct or through the university's research misconduct procedures noted below. Suspension or dismissal from the university for academic misconduct will result in a notation of that action on the transcript of a graduate-level student.

The university has adopted additional policies and procedures for dealing with research misconduct among its students, faculty, and staff. The guidelines, entitled Research Integrity at Northern Illinois University, are available in department offices, in the office of the dean of the Graduate School, and online at www.niu.edu/provost/policies/appm/I2.shtml, and pertain to the intentional commission of any of the following acts: falsification of data, improper assignment of authorship, claiming another person's work as one's own, unprofessional manipulation of experiments or of research procedures, misappropriation of research funds.

If a graduate student fails to maintain the standards of academic or professional integrity expected in his or her discipline or program, the student's admission to the program may be terminated on recommendation of the student's major department. A statement on students' rights to the products of research is available in department offices, in the office of the dean of the Graduate School, and online at www.niu.edu/provost/policies/appm/I11.shtml.

Grade Scale

Score (%)	Letter Grade	GPA Point Value	Value	Description
94-100	A	4.00	Outstanding	Work is complete, original, insightful and of a level and quality that exceeds expectations for a graduate level of study. In-depth understanding of course issues and a high level of analytical skills. No grammar and citation errors. Referencing is done in APA style. References are extensive and of high quality.
90-93	A-	3.67		
87-89	B+	3.33		
83-86	B	3.00	Very satisfactory	Work is complete, of a level that slightly exceeds expectations for this level. Solid understanding of course issues and excellent analysis. Very few grammar and citation errors. Citations are consistent with APA style format and are drawn from a broad range of current sources.
80-82	B-	2.67		
77-79	C+	2.33		
73-78	C	2.00	Satisfactory	Work is mainly complete, and/or a level that partially meets expectations or standards for an undergraduate course. Important grammar and spelling errors. Problems with citation format.
70-72	C-	1.67		
60-69	D	1.00	Marginally satisfactory	Assignments not turned in or turned in significantly late. Lack of understanding of central course concepts.
0-59	F	0.00	Unsatisfactory	Assignments not turned in or turned in significantly late. Very poor performance on exams/tests. Lack of effort or lack of understanding of central course concepts.

Course Outline

Week 01, 10/20: What to Measure? How to Measure? How to Effectively Describe Statistics in Both Graphical and Numerical Form?

Topic: If you collect and enter your own data, most of the actual time you spend on the project will not be analyzing the data; it will be getting it ready to analyze. In this week, we will cover topics about preparing data for analysis; cleaning the data, understanding the level of measurement, and creating variables. We will also review the basic descriptive statistics such as mean and standard deviation used to summarize the distribution of a variable.

Readings:

- "Analyzing performance measures," Chapter 5, *Practical Research Methods for Nonprofit and Public Administrators*
- Broman, Karl W., and Kara H. Woo. 2018. "Data Organization in Spreadsheets." *The American Statistician* 72 (1): 2–10.

Before-class assignment:

- Complete the DataSF Intro to Excel course (navigate to the "See course materials" link on the right and begin the class using the powerpoint presentation. – Due: 10/20 5:30pm

After-class assignment:

- Weekly Data-based Exercise Homework #1 - Due: 10/27 5:30pm

Week 02, 10/27: How to Describe the Relationships between Two or More Variables

Topic: This week provides an opportunity to create, interpret, and analyze **contingency** tables as well as to generate **pivot** tables. In addition, using various figures and visualization techniques, students will learn how to effectively present their data analysis results.

Readings:

- "Analyzing Survey Data: Describing Relationships Among Variables," Chapter 8 (p.129-131), *Practical Research Methods for Nonprofit and Public Administrators*

After-class assignment:

- Weekly Data-based Exercise Homework #2 - Due: 11/03 5:30pm

Week 03, 11/03: Understand the Process of Generalizing from a Random Sample to the Population from which it is drawn

Topic: This week covers the foundations of inferential statistics that allow inferences to be made about characteristics of the population from which the data were drawn. The topic covers essential statistical concepts, such as hypothesis testing, statistical significance, confidence intervals, test assumptions, etc. In particular, this session focuses on statistics and graphs for two categorical variables (chi-square).

Readings:

- "Generalizing from Survey Findings: Applying Inferential Statistics," Chapter 9, *Practical Research Methods for Nonprofit and Public Administrators*
- "Hypothesis testing with Chi-square," Chapter 11, *Essential Statistics for Public Managers and Policy Analysts*

After-class assignment:

- Weekly Data-based Exercise Homework #3 - Due: 11/10 5:30pm

Week 04, 11/10: Performance Dashboard in Governments

Topic: The use of performance dashboard in governments.

Readings:

- "Analyzing Survey Data: Describing Relationships Among Variables," Chapter 9 , *Practical Research Methods for Nonprofit and Public Administrators*

After-class assignment:

- Weekly Data-based Exercise Homework #4 - Due: 11/17 5:30pm

Week 05, 11/17: How to Test the Difference between Two Groups

Topic: This session discusses the t-test that is frequently used to analyze relationships between one continuous and one dichotomous variable.

Readings:

- "Testing the difference between two groups," Chapter 13, *Applied Statistics for Public and Nonprofit Administration*

After-class assignment:

- Weekly Data-based Exercise Homework #5 - Due: 11/24 5:30pm

Week 06, 11/24: Analysis of Variance (ANOVA) and Simple Regression

Topic: This class examines ANOVA, which is useful when the independent variable is nominal and has three or more categories, and the analysis of relationships between two continuous variables using Pearson's correlation coefficient and simple regression.

Readings:

- "Analysis of Variance (ANOVA)," Chapter 13, *Essential Statistics for Public Managers and Policy Analysts*

After-class assignment:

- Weekly Data-based Exercise Homework #6 - Due: 12/01 5:30pm

Week 07, 12/01: Communicating Findings

Topic: This class will revisit important concepts of performance management and data analysis. Moreover, managers and researchers know that unless research findings are reported effectively nothing happens. In our meeting, we will discuss about clear, focused presentations tailored to the needs of a particular audience.

Readings:

- "Communicating Findings," Chapter 14, *Practical Research Methods for Nonprofit and Public Administrators*

Week 08, 12/08: Transforming and Delivering Your Ideas

Topic: The final meeting will also feature student presentations of projects along with review feedback.