COMM 6701
WORKING WITH COMMUNICATION DATA

School of Communication
Spring 2026
Tuesdays & Thursdays: 9:35-10:55am
Derby Hall 3116

Instructor: Dr. Joyce Wang, Professor
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Office hours: Tuesdays & Thursdays 11:00am-12:00pm; or by appointment

Course Description

This class is intended to provide a bridge from your in-depth course work in statistics and research methods to the process of data analysis for your own research. At times, this course will intentionally overlap with content covered in other courses. This course is focused on building a careful, thoughtful process of approaching research. Through this course, you will build on your existing data analytic and research skills to ensure that you have a solid foundation as you begin to work independently on data. At its best, this course will serve as a foundation of these skills for your graduate and subsequent professional career.

Course Learning Goals and Outcomes

(1) To learn to **prepare data sets** for analysis, including basics of **secondary data analysis** (data that others have collected).
(2) To develop **good professional practice** with respect to documenting data, recoding, and statistical analyses, to support working with your advisor and other collaborators, and to ensure that you can retrieve and re-analyze data in the process of revision long after the data was originally analyzed.
(3) To apply the principles learned in your research methods courses for **operationalizing constructs**.
(4) To practice **writing up the results** of such efforts clearly, concisely, and professionally.
(5) To increase facility in **working with software** (e.g., SPSS) for statistical analysis.
(6) If time permits, we will also have an initial experience of working with other more advanced methods and data, such as psychophysiological data, longitudinal data, multilevel data, and unstructured data (text as data, social media data, and so on).

Mode of Delivery

This course is set to be in person for this semester. We will only use the online Zoom format for the homework assignment demonstrations and when necessary (e.g., inclement weather, medical reasons, health concerns). We will have lectures in the classroom. We will use Carmen to organize the course lectures, assignments, readings, research projects, and other materials. Each student should install SPSS on her/his own computer for all the in-class exercises, assignments, and research projects.

Science is a social activity. The format of this course will be largely social. There will be an emphasis on working with, soliciting feedback from, and providing feedback to your peers.

Required Course Materials

(1) Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (7th Ed). London, UK: Open University Press. *(available on our Carmen site)*
(2) Additional readings will be accessible from the course Carmen.

Assignments and Grading

Class participation (10%)
Each class will be focused on a discussion of the readings and working through various examples. The instructor will provide a basic overview of the material; students will make comments or ask questions about the material. The class participation grade will be an assessment of your contribution to the class. Each week of Weeks 2-11, which cover the five major data methods in the class, will account for 1%.

Homework assignments (30%)
There are five assignments during Weeks 2-11. In about each two weeks starting from Week 2, you will be assigned an exercise through which you will have the opportunity to practice the data methods and techniques we have gone over in readings and in class. These will be done as individual or group projects. For group work, I invite anonymous feedback from everyone about group member(s). However, note that members of the class may come with various levels of skills and preparation. As such, if you have strong skills in one area, please look at the group work as not only an opportunity to practice for yourself, but also as an opportunity to practice teaching others the skills you have. Conversely, if you feel that a concept or method is difficult or doesn't make sense, it is incumbent upon you to ask for assistance and extra explanation from the instructor, your peers, or both.

Homework Demonstration (20%)
In addition, each student will volunteer at least twice during the semester (10% of the final grade per demonstration) to walk the class through an assignment and explain their approach. On each assignment due date, the class will be hold over Zoom, and 2–3 students will present, highlighting how different analytical choices can emerge from the same dataset and general method. The demonstration schedule will be set during the first week of the semester. Demonstrations that surface errors, caveats, uncertainties, or challenges are highly valued as meaningful learning opportunities for the entire class, including me, even when solutions are not fully correct.

A research project (40%)
During the final week of the semester, you will complete a final project. You have two options.

Option A. You will work throughout the semester on a project of your own research interest. This can be a preliminary study for your thesis or a research project, a secondary data analysis, your own analysis on a data obtained from collaboration, etc. For this option, you are expected to use skills learned in and outside of the classroom, and I will be happy to provide input and refer you to relevant resources. If you choose this option, you should discuss your plan with me from the beginning of the semester.

Option B. You will complete an individual research project in the final week using a data set provided by me. This research project serves the function of a final exam. The project will be a version of part of the Methods and Results portions of a research article (APA style) that describes the measurement and application of the data to a research question. You will need to identify and create at least two measures of some psychosocial variable, plus at least one variable to use as a criterion variable. The measurement of

variables studied should be explained using examples from the items used to create the variable, any information regarding the properties of the variables (particularly if non-normal), any transformations conducted, descriptions of the dimensionality (mostly due to any factor analysis conducted), means and standard deviations of the variables, Cronbach's alpha calculations, and so on. You should provide a table showing the items used and their factor loadings on each dimension. You should also provide some further analysis describing the results of a regression analysis in which your measure is used as an independent variable for at least one outcome variable. Conclude the research project with at least one paragraph of discussion about the measure you created, the strength of weakness of the measurement, and a note about how measurement of this construct could be improved. Clarity of explanation and the appropriate use of the techniques from the class are priorities. This assignment is to be completed independently.

Final Grades

This course uses a percentage-based grading system, where > 90% = A, 81-90% = B, 71-80% = C, 61-70% = D, < 61% = E, and +/- determinations are based on proximity of your % to the cutoffs.

Late Assignments

Unless otherwise notified, assignments are due *by the beginning of the class on the due day*. An assignment will not be accepted more than 24 hours after the due date. The only exceptions to these rules are extraordinary and unforeseen personal circumstances that are convincingly documented no later than 24 hours after the due date**.**

Attendance

Although attendance will not be formally taken, you are expected to attend every class, arrive on time, and participate in class activities. Not attending class normally is a poor decision, as some of the examined material will be presented only during lectures, and many of the SPSS techniques to be discussed are not documented anywhere except in class. Each class will have class activities and participation, including understanding data structure, practicing analytic and computational techniques on your own computer, and making sense of the analysis results. Students' hands-on participation in the activities is not graded, but it is an essential part of the learning.

Academic Misconduct

It is extremely important for every individual to preserve academic integrity. All students at Ohio State University are bound by the Code of Student Conduct. Violations of this code in this class, especially pertaining to 3335-23-04 Section A on Academic Misconduct, will be prosecuted through the procedures the university has set up to deal with violations of the Code. Any violations of the Student Code will be referred to the Committee on Academic Misconduct. *Not following the rules of the course as outlined in this syllabus is considered a violation of the code of student conduct.* Make sure that you are familiar with the Code of Student Conduct, and familiarize yourself with "Ten Suggestions for Preserving Academic Integrity" available online at https://oaa.osu.edu/academic-integrity-and-misconduct/student-misconduct

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Diversity

The School of Communication at The Ohio State University embraces and maintains an environment that respects diverse traditions, heritages, experiences, and people. Our commitment to diversity moves beyond mere tolerance to recognizing, understanding, and welcoming the contributions of diverse groups and the value group members possess as individuals. In our School, the faculty, students, and staff are dedicated to building a tradition of diversity with principles of equal opportunity, personal respect, and the intellectual interests of those who comprise diverse cultures.

Title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at http://titleix.osu.edu or by contacting the Interim Ohio State Title IX Coordinator, Molly Peirano, at titleix@osu.edu

Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

Online reporting form at equity.osu.edu,
Call 614-247-5838 or TTY 614-688-8605,
Or Email equity@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.

The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

Students with Special Needs

The university strives to make all learning experiences as accessible as possible. Students seeking to request COVID-related accommodations may do so through the university's request process, managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Please Take Care of Yourself (Mental Health Statement)

As a student (with multiple other social roles), you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you are or someone you know is suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614-292-5766.

If you are thinking of harming yourself or need a safe, non-judgmental place to talk, or if you are worried about someone else and need advice about what to do, 24-hour emergency help is also available through the Suicide Prevention Hotline (Columbus: 614-221-5445 / National: 800-273-8255); or text (4hope to 741741); or at suicidepreventionlifeline.org

Mathematics Anxiety

Often one of the student's greatest barriers to mastering material in data or statistics courses is fear of mathematics. Many students lock up with anxiety when they are asked to do any computation, and this anxiety typically interferes with the ultimate goal of conceptual understanding. I hope you will not let this happen to you. In this class, most of the computations will be done by computer, although during lectures, some basic computations are inevitable. And yes, you will be shown formulas and expect to understand them. However, you need not understand the mathematics of the formula so much as you need to understand how they are conceptually used. To be sure, you need to be comfortable with basic mathematical operations. You have chosen to study the scientific discipline of communication (or other disciplines with empirical, quantitative research). You will have to think analytically and quantitatively throughout your days as a graduate student and scholar. *You will be challenged in this course, but everyone can do well.* The best thing that you can do to enhance your likelihood of success is discarding all the baggage that you may be bringing with you into the course—fear, anxiety, or a belief that you are no good with numbers.

Course Schedule

Note: Depending on the class progress, scheduling, due dates, and details of activities and exercises subject to modification.

- The topic content is determined based on prior class surveys and informal email surveys of faculty and graduate students.
- The course takes a "hands-on" approach. We will develop familiarity with various data sets.
- Because of the differences in preparation and comfort with data analysis and software between individuals and classes, the schedule below is tentative, and we will have to flex as necessary. It is your responsibility to be aware of changes announced in class and posted on Carmen and/or communicated via email. I will also adjust readings and content based on my understanding of your background, interests, skills, and needs.
- *When it says, "a sample of publication," it refers to 2-3 relevant and typically most recent communication journal publications based on the current students' background and research interests.* Examine a selection of publications employing the week's method. Your task involves a *cursory* review of the sample of publications to grasp the fundamental concepts of how the method is applied in communication research and documented in communication journals.

Week 1 | January 13, 15: An Overview

Content: An overview of the course, the data analysis process, SPSS, and explore individuals' research interests and projects.
Activities: Get familiar with SPSS, check data distributions, reverse variables using recode and compute, practice labeling, run simple linear models, and document syntax/code.
Readings:
1. SPSS Survival Manual, Chapters 1-5. **Note: Each week, please skim the Survival Manual so you have a sense of what is in there and know where to look when you need to. Even for experienced SPSS users, you will find a few features and tricks you did not know.*
2. Van den Broeck et al. (2005) on data cleaning.

Weeks 2-3 | January 20, 22, 27, 29: Working with Secondary Data

Content: Work with archival data and other secondary data, and practice creating and assessing measures.
Activities: Practice searching for secondary data for your own research interests; work with sample secondary data sets.
Readings: A sample of publications using various types of secondary data.

Weeks 4-5 | February 3, 5, 10, 12: Factor Analysis

Content: Factor analysis; identifying dimensions; assessing reliability
Activities: You will have a set of data items to factor analyze.
Readings:
1. SPSS Survival Manual, Chapters 6-9, 15.
2. Fabrigar et al. (1999) on factor analysis.
3. A sample of publications using factor analysis.

Weeks 6-7 | February 17, 19, 24, 26: Creating and Assessing Indices

Content: Creating and assessing indices; univariate analysis of indices; data transformations and checking data distributions; confirmatory factor analysis (if time permits).
Activities: You will have a sample data to practice creating and assessing indices.
Readings:
1. SPSS Survival Manual, Chapter 8.
2. Crano & Brewer (2023) on rating scale construction.
3. A sample of publications on indices and measurements.

Weeks 8-9 | March 3, 5, 10, 12: Coding Communication Content
(March 16-20, enjoy your spring break!)

Content: What can be coded; developing a code book; Conducting training and assessing intercoder reliability; Assessing validity; automated coding procedures and new trends.
Activities: You will practice coding and conduct intercoder reliability.
Readings:
1. Crano & Brewer (2023) on content analysis.
2. Slater (2014) on content analysis.
3. Hayes & Krippendorff (2007) on coding reliability.
4. A sample of publications using content analysis.

Weeks 10-11 | March 24, 26, 31; April 2: Assessing Validity

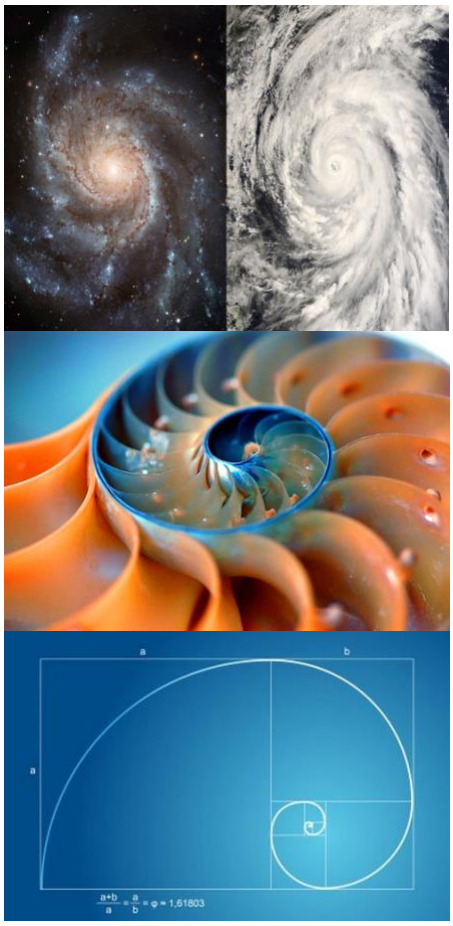
Content: Types of validity; establishing validity; tradeoffs between reliability and validity.
Activities: You will practice assessing validity using a sample data.
Readings:
1. Crano & Brewer (2023) on reliability and validity.
2. Kerlinger & Lee (2000) on validity.
3. A sample of publications on checking validity.

Weeks 12-13 | April 7, 9, 14, 16: More Advanced Topics

Content: Depending on class progress and interests, we will cover an introduction to one or two advanced topics, which may include moderation and mediation analysis, multilevel analysis, time-series analysis, large-scale text analysis, psychophysiological methods and analysis, modeling to understand dynamics in communication, response time modeling, and the use of AI in research.
Activities: We will engage in light, hands-on exercises for the advanced topics, while also dedicating time to the continued development of your final projects.
Readings:
Tutorials and methodological resources for the advanced topics.

Week 14 | April 21, 23; & Last day of class, April 27: Final Research Projects

Content and activities:
April 21: Presentation and demonstration of final project preliminary drafts and data (background, method, and planned analysis), followed by peer review and structured feedback
April 23: Individual work sessions focused on completing final projects
April 27: Final full project presentations
Readings:
Additional, project-specific references and readings will be shared individually to support and strengthen your final projects.



Philosophy is written in this grand book—the universe—which stands continuously open to our gaze. But the book cannot be understood unless one first learns to comprehend the language and interpret the characters in which it is written. It is written in the language of mathematics, and its characters are triangles, circles, and other geometrical figures, without which it is humanly impossible to understand a single word of it…

— Galileo Galilei (1564-1642)

Even if there is only one possible unified theory, it is just a set of rules and equations.

— Stephen Hawking (1942-2018)

Be the change you want to see in the world.

— Mahatma Gandhi (1869-1948)