# Spring 2022, Data-motivated storytelling: Psych 464 and Psych 679 (cross listed)

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# Course Description

How can we best use data to tell (true) stories? Why is it important to consider storytelling as well as statistics to communicate the results of research? In this applied course, we learn about the value of storytelling with data and practice (over and over!) visualizing data to tell clear stories to a general (as opposed to academic) audience. Students in this class will create stories either about **health disparities** or about about the relationship between **social connections and health** using New Jersey data. To develop visualization skills, the class will focus on using basic concepts from human perception and memory to create simple, clear graphs. No advanced statistics or design skills are required (most visualizations can be created in Excel or Powerpoint); instead, we will combine basic elements of methods, quantitative and qualitative analysis, design, communications, sensation and perception to communicate clearly and effectively. Grades will be based on frequent low-stakes assessments, content quizzes, and a scaffolded final project. There are no exams. This course is crossas an undergraduate and a graduate course. Both sets of students will work from the same site, but assignments and rubrics may differ between the two groups.

## Learning Objectives

By the end of this course, students should be able to:

- Describe the ways that social connections predict health outcomes.
- Identify the elements of a data-driven narrative
- Implement data analyses to extract key features of data sets
- Apply knowledge about human perception to clearly visualize data (in graphs and text)
- Construct data-driven stories using data visualizations
- Tailor visualizations for different data types and messages.

 Apply knowledge about storytelling with data to effectively communicate research results to a general audience.

# Required Textbook(s)

storytelling with data, by cole knussbaumer knafflic (\*no capitalization!) and other content as provided in class.

## Course Philosophy

This central goal of this course is to get you to think creatively and thoughtfully about how we communicate psychological data to others. The course focuses primarily on the communications aspect (rather than complex statistical analysis). Using very basic visuals (like tables, bar charts, scatterplots, and line graphs) we focus on how to tell stories with data. Unlike many other academic data classes, the intended audience is the general public rather than the scholarly audience. I view you as my partners in the adventure of exploring these questions rather than as passive students absorbing knowledge I'm giving you. We will pool our different skills in data analysis and visualization and work together to create data-driven stories.

This course will require a lot of time, but it should not be difficult to get a good grade if you keep up with the work.

## **Format**

Due to the directive for remote classes during the first two weeks of the semester and the uncertainty surrounding in-person instruction after that, this class will take place in a **hybrid form**, with an asynchronous online component and a synchronous online (or in-person, depending on Rutgers guidance) portion. The synchronous online portion will be from 1:00-2:00 pm on Fridays (which is part of the regularly scheduled course time).

The class is designed with active learning in mind. This means that you will engage with content outside of class time, engage in discussions about content asynchronously, synchronous class time is used mostly for hands-on work and questions that arose as you completed assignments (rather than lecture). Each week you will (1) read (or watch or listen) to new content; (2) practice with that content (homework); (3) reflect on/synthesize that content through discussions with me and your classmates; (4) ask questions and work with others on that content (class). Each aspect has an element of of grading associated with it (see below).

Each week will follow the same schedule:

**Monday:** Course work for the week (content and assignments) is released online. (My goal is to have this released at least 2 weeks ahead of time).

Thursday (by end of day): homework\* due; reading guizzes due\*

**Friday** (by 1 pm): reflection\* due (Reflections can be completed in a few minutes. Some reflection assignments involve looking at work posted by others on a discussion board or Voice Thread). You should be able to easily complete the reflection between 12:30 and 1 pm (the normally scheduled class time).

Friday (1:00pm - 2:00): synchronous class (zoom or in person)

**Friday** (by midnight): class participation work due\* (this is designed to be completed \*in-class\*, but you have until the end of the day).

## Communication guidelines

I want you to succeed! Please don't hesitate to reach out to me throughout the semester with any questions or concerns you may have. It's a good thing to ask for help—it means you're paying attention and you know what you need.

#### **Email**

Please direct all general course questions to the "General Course Questions" discussion board in Canvas (available in the Course Essentials module). I ask you to do this (rather than email me) because often if you have a question, so will other students! It is much more efficient for me to answer the question on Canvas than over email. Check both the syllabus and the discussion board before asking a question. Personal questions regarding grades or individual assignments should not be addressed in Canvas; please email me these questions. Depending on when you send your email, you can expect a response:

- Monday-Friday: within 24 hours (if between the hours of 9am and 5pm, it will likely be sooner).
- Weekend emails: I'll respond within 48 hours. (I try very hard to keep the weekend for my family!)
- Emails received between 5pm and 9am will likely not be addressed until the morning.

If you do not receive a response from me within the above listed time frame, please send the email again. This is not bothering me. I do my best to respond, but I receive a lot of emails and occasionally one slips through the cracks.

#### Office hours

Office hours will be from 12-1 pm on Fridays and by appointment. I will usually need at least 48 hours notice to schedule an appointment outside of regular office hours. My office hours will be virtual only until Rutgers determines we can return to campus. After that, I will be in my office, and we can meet either in-

person or virtually. If you'd like to request an appointment, email me. Please include the reason why you'd like to meet in your email.

# What you can expect from me in this course

Before I talk about what you'll be doing in the course, I'd like to review what you can expect from me as your professor. Although I had very much hoped to have a "normal" in-class semester, we are still facing the uncertainties of COVID-19 and the campus response. As we work through this, you can expect me to:

- Communicate with the whole class using Announcements in Canvas 1-2 times a week to review progress and reminders. Please make sure your <u>Canvas Notifications</u> (<a href="https://community.canvaslms.com/docs/DOC-10624">https://community.canvaslms.com/docs/DOC-10624</a>) are set to alert you to new Announcements immediately.
- Provide personal feedback on your homework in a timely fashion (usually within a week of submitting) to help you improve or continue to do well in the course.
- Respond to all of your email communications with me based on the communication guidelines above.
- Encourage you and our class on our achievements. I'm very excited to learn with you in this course!
- Show flexibility with you as we adapt to changing circumstances.

# What I'm expecting from you in this course (big-picture)

Given the last minute change to virtual, I have been adapting quickly! I ask for your patience as we work through these hiccups together.

#### **Assessment**

There are a lot of assignments in this course, and you're expected to engage with the content frequently because engagement and application are how we learn best. As long as you are putting forth your best effort and keep up with the assignments, you should be able to succeed in this course.

| Activity type            | Percentage of grade |  |
|--------------------------|---------------------|--|
| Weekly Content Quizzes   | 10%                 |  |
| Homework                 | 40%                 |  |
| Weekly Reflections       | 10%                 |  |
| Class Participation Work | 10%                 |  |
| Final Project            | 30% (scaffolded)    |  |

## Late assignment guidelines

We are all managing different challenges of learning during this pandemic. For most of your low-stakes assessments, I will not accept late work, but you can drop your lowest score(s) (2 each for content quizzes, weekly reflections, and class participation and homework). \*Note, even if you drop a homework assignment, I \*strongly\* suggest you complete it, because most homework assignments will set you up for your final project. For your final projects, late projects will be docked 10% for each day late. The only exceptions will be if you reach out to me ahead of time to make arrangements.

## Assignment Descriptions and Expectations

## Content quizzes

The goal of the content quizzes is to ensure that you have carefully read (or watched or listened) to the appropriate content \*before\* the class meeting. You should be able to do well if you have completed the material. Rubrics will be posted. Multiple choice quizzes can be retaken as many times as desired. Content quizzes are due by the end of the day on Thursday, but I strongly recommend completing the readings before that time, since the readings will be helpful for doing the homework.

### Reflections

Reflections can serve two purposes. The first is to think critically and/or synthesize course material. The second is to simulate the sort of class connection and discussion that usually happens during an inperson class. Often you will respond to things that other students have posted. Reflection assignments are due by class time on Friday (1:00 pm). Reflection assignments take a variety of forms. Rubrics will be posted with assignments, but most will be full credit / half credit / no credit.

### Homework

Homework serves two purposes: (1) Practice the tools we are learning in class; (2) Scaffold your final projects. Many of your homework projects will be steps toward your final projects. Homework assignments take many forms, including Voice Threads, discussion boards, and private assignments. Often you will be asked to share your work for comment by other members of the class. My goal is to create an environment where we can all learn from each other. As we work through the semester, you will have the opportunity to work with a team on a final project, but you will always be graded on what

you submit. You should think of the team-based part as giving you the opportunity to improve and learn from others. For example, I might ask you to sketch a graph for homework and then meet with your team to discuss the sketches of the whole team. You may decide that your sketch is superior to your team-mates, and you may decide to revise your own sketch for the next homework. Alternatively, as a team, you may all decide to use one person's sketch -- in that case, the entire team may end up submitting the same revised graphic. This is also fine. I do ask that if your team decides to submit identical work, you mention that so I only have to grade it once.

When doing your homework, remember...

- Homework is a learning experience. Do what you can. Articulate your questions. If you can't answer a question, explain why. We will learn from each other.
- Sometimes homework will involve sketching ideas. Pay attention to the instructions, but often it is acceptable to turn in a hand- or digitally-sketched document. Unless otherwise noted, incomplete sentences, question marks, and arrows are acceptable.

Assessment: Homework grades

Rubrics will be posted. Sometimes homework will be graded like reflections (full / half / none). Other times there will be more specific grading criteria.

## Class participation:

Class is an active learning experience. Most class days I will ask you to complete some short assignment during class. This is designed to encourage your participation in what we are doing, and you should receive full credit for completing the assignment. You should be able to complete this assignment during class.

## Final Project

#### Purpose

The purpose of the final story project is to synthesize the information and formally practice the skills you have learned throughout the course. Throughout the course you will be creating "story elements", and the final project will be an opportunity to integrate these developing story elements.

#### **Format**

The final project will be scaffolded, meaning that you will have a number of smaller assignments that build you up to the final project. These pieces of scaffolding will be part of your regular homework assignments. Details about the final project will be posted shortly in a separate document. Note that graduate students and undergraduate students will have different expectations for the final project.

Assessment: Final Stories

A clear rubric will be posted for the final project before the 4th week of the semester. You will have the opportunity to receive an evaluation of a rough draft of your final project so you understand the revisions necessary for a successful final project.

# Academic Integrity

The consequences of scholastic dishonesty are very serious. You are responsible for reading and understanding our policy on academic integrity policy, available from the <a href="Rutgers Academic Integrity">Rutgers Academic Integrity</a> website (http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers). Academic integrity means, among other things, that all Rutgers students are required to:

- properly acknowledge and cite all use of the ideas, results, or words of others
- properly acknowledge all contributors to a given piece of work
- make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of unsanctioned materials or unsanctioned collaboration
- treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress

# Inclusivity

I am committed to diversity and inclusion in this course and want to include all perspectives. Please let me know if you perceive any bias in any form in this course. I'll be asking for your pronouns in the first module, and will ask all class members to respect the pronoun and name choices of each individual in this class. Rutgers does allow students to request a preferred name change on official university documents and systems, which can be submitted (http://socialjustice.rutgers.edu/trans-ru/on-campus-preferred-name-change/) at this link if you're interested. However, I understand that all students may not have the ability to have their preferred name displayed officially, and I will use the preferred name you submit informally in this course.

# Food/Housing Security

When students face challenges securing food and/or housing, making learning a priority can be difficult. If you're in this situation, please reach out to the <a href="Dean of Students">Dean of Students</a> 

(<a href="https://deanofstudents.camden.rutgers.edu/">https://deanofstudents.camden.rutgers.edu/</a>). If you feel comfortable, please also let me know, and I will do what I am able to connect you to appropriate resources offered by our campus—you are not alone in dealing with these issues.

## Students with Disabilities

Students who have a diagnosed disability on file with the Office of Disability Services (http://learn.camden.rutgers.edu/disability-services) are eligible for accommodations, as specified by the University. Please contact the Office of Disability Services at 856-225-6442 if you need to begin the process of receiving accommodations.

Students who do not have a letter of accommodation from the university will not be eligible to receive accommodations in this course.

# Preliminary Schedule (Subject to Revision)

Note that all the random initials below will make sense after Module 2!

Module 1: Jan 18-Jan 21: Course overview and introductions

Module 2: Jan 24 - Jan 28: Introduction to Storytelling

Module 3: Jan 31 - Feb 4th: Intro to data set and content questions (social connections)

Module 4: Feb 7 - Feb 11: KWDIS #1 (Story elements / Intro to quant viz)

Module 5: Feb 14 - Feb 18: KWDIS #2 (More on quant viz)

Module 6: Feb 21 - Feb 25: KWYWTS: (developing stories)

Module 7: Feb 28 - March 4: KWDIS #3 (Intro to qualitative)

Module 8: March 6 - March 11: KWYWTS #2 (qualitative + quantitative)

NO CLASS WEEK OF March 13 - SPRING BREAK

Module 9: March 21 - March 25: KWYANTH #1 (storyboarding)

Module 10: March 28 - April 1: KWANTH #2 (drafting final visualizations)

Module 11: April 4 - April 8: KWDIS/KWYWTS/KWYANTH: how viz choice guides stories (work on rough drafts)

Module 12: April 11 - April 15: Analyzing other stories (attend CURCA); work on rough drafts

Storytelling

Module 13: April 18 - April 22: TBD

Module 14: April 25 - April 29: Wrap-up and reflections

## Course Summary:

| Date             | Details | Due        |
|------------------|---------|------------|
| Fri Jan 21. 2022 |         | 1pm to 2pm |

| Date             | <b>Details</b> Due   |
|------------------|--|
|                  | (https://rutgers.instructure.com/calendar?<br>event_id=677412&include_contexts=course_174783)                                    |
|                  | Module 1: Class participation (https://rutgers.instructure.com/courses/174783/assignments/1896839)                               |
|                  | © Content "quiz" #1 due by 11:59pm (https://rutgers.instructure.com/courses/174783/assignments/1862290)                          |
| TI               | HW#1: Introduce Yourself  (https://rutgers.instructure.com/courses/174783/assignments/1849663)                                   |
| Thu Jan 27, 2022 | Module 2: Content "quiz"  (https://rutgers.instructure.com/courses/174783/assignments/1898413)                                   |
|                  | Module 2: Homework  (https://rutgers.instructure.com/courses/174783/assignments/1897920)   |
|                  | 2022SP: Data-Motivated  Storytelling (https://rutgers.instructure.com/calendar? event_id=677413&include_contexts=course_174783)  |
| Fri Jan 28, 2022 | Module 1: Reflection  (https://rutgers.instructure.com/courses/174783/assignments/1864295)                                       |
|                  | Module 2: Reflection due by 1pm (https://rutgers.instructure.com/courses/174783/assignments/1898511)                             |
|                  | Module 2: Class participation  (https://rutgers.instructure.com/courses/174783/assignments/1905049)                              |
| Thu Feb 3, 2022  | Module 3: Content Quiz on storytelling due by 11:59pm (https://rutgers.instructure.com/courses/174783/assignments/1903286)       |
|                  | Module 3: Data Story Voice  Thread Homework due by 11:59pm  (https://rutgers.instructure.com/courses/174783/assignments/1905921) |
| Fri Feb 4, 2022  | <u>2022SP: Data-Motivated</u> 1pm to 2pm<br><u>Storytelling</u>  |

| Date              | Details   | Due      |
|-------------------|---|----------|
|                   | (https://rutgers.instructure.com/calendar?  |          |
|                   | event_id=677414&include_contexts=course_174783)   |          |
|                   | Module 3: Reflection due (https://rutgers.instructure.com/courses/174783/assignments/1905951)                                   | e by 1pm |
|                   | Module 3: Class participation  (https://rutgers.instructure.com/courses/174783/assignments/1908650)                             | 11:59pm  |
| Thu Feb 10, 2022  | Module 4 Content: Descriptive  Statistics due by  (https://rutgers.instructure.com/courses/174783/assignments/1908031)          | 11:59pm  |
| THU 1 GB 10, 2022 | Module 4 HW: KWYDIS  (https://rutgers.instructure.com/courses/174783/assignments/1908037)                                       | 11:59pm  |
|                   | 2022SP: Data-Motivated  Storytelling (https://rutgers.instructure.com/calendar? event_id=677415&include_contexts=course_174783) | n to 2pm |
| Fri Feb 11, 2022  | Module 4 Reflection:  Explanatory Questions due (https://rutgers.instructure.com/courses/174783/assignments/1907946)            | e by 1pm |
|                   | Module 4: Class participation  (https://rutgers.instructure.com/courses/174783/assignments/1916671)                             | 11:59pm  |
|                   | <b>Module 5 Content: Analyze</b>  | 11:59pm  |
| Thu Feb 17, 2022  | Module 5 HW: Create     Visualization   | 11:59pm  |
| Fri Feb 18, 2022  | 2022SP: Data-Motivated  Storytelling (https://rutgers.instructure.com/calendar? event_id=677416&include_contexts=course_174783) | n to 2pm |
|                   | Module 5 Reflection: Add to     Library of Story Elements   | e by 1pm |

| Date             | Details Due   |
|------------------|---|
|                  | (https://rutgers.instructure.com/courses/174783/assignments/1917428)  |
|                  | Module 5 Class participation  (https://rutgers.instructure.com/courses/174783/assignments/1923443)  |
| Thu Feb 24, 2022 | Module 6 HW: apply storytelling processes due by 11:59pn (https://rutgers.instructure.com/courses/174783/assignments/1923164)               |
|                  | Module 6: Content (fairy tale)  (https://rutgers.instructure.com/courses/174783/assignments/1923162)  |
|                  | 2022SP: Data-Motivated  Storytelling (https://rutgers.instructure.com/calendar? event_id=677417&include_contexts=course_174783)             |
| Fri Feb 25, 2022 | Module 6: Reflection due by 1pr (https://rutgers.instructure.com/courses/174783/assignments/1923441)  |
|                  | Module 6: Class participation (https://rutgers.instructure.com/courses/174783/assignments/1930228)  |
| Thu Mar 3, 2022  | Module 7: Content (reading questions)  (https://rutgers.instructure.com/courses/174783/assignments/1929555)                                 |
|                  | Module 7: HW (B/M/E Outline)  (https://rutgers.instructure.com/courses/174783/assignments/1929556)  |
| Fri Mar 4, 2022  | 2022SP: Data-Motivated  Storytelling (https://rutgers.instructure.com/calendar? event_id=677418&include_contexts=course_174783)             |
|                  | Module 7: Reflection (https://rutgers.instructure.com/courses/174783/assignments/1929557)   |
|                  | Module 7: Attend zoom (do not need to turn in anything) due by 11:59pr (https://rutgers.instructure.com/courses/174783/assignments/1940782) |

| Date             | <b>Details Due</b>  |
|------------------|---|
|                  | Module 8 Content due by 11:59pm (https://rutgers.instructure.com/courses/174783/assignments/1933689)                              |
| Thu Mar 10, 2022 | Module 8 Homework  (https://rutgers.instructure.com/courses/174783/assignments/1933687)   |
| Fri Mar 11, 2022 | 2022SP: Data-Motivated  Storytelling (https://rutgers.instructure.com/calendar? event_id=677419&include_contexts=course_174783)   |
|                  | Module 8 Reflection (https://rutgers.instructure.com/courses/174783/assignments/1933690)  |
| Fri Mar 18, 2022 | 2022SP: Data-Motivated  Storytelling  (https://rutgers.instructure.com/calendar?  event_id=677420&include_contexts=course_174783) |
| Thu Mor 24, 2022 | Module 9: Content (https://rutgers.instructure.com/courses/174783/assignments/1939056)  |
| Thu Mar 24, 2022 | Module 9: HW  (https://rutgers.instructure.com/courses/174783/assignments/1939057)  |
| Fri Mar 25, 2022 | 2022SP: Data-Motivated  Storytelling (https://rutgers.instructure.com/calendar? event_id=677421&include_contexts=course_174783)   |
|                  | Module 9: Reflection  (https://rutgers.instructure.com/courses/174783/assignments/1939058)  |
| Thu Mar 24, 0000 | Module 10 Content: Critique  Visualization due by 11:59pm  (https://rutgers.instructure.com/courses/174783/assignments/1948727)   |
| Thu Mar 31, 2022 | Module 10 Homework: Data and Viz #2 due by 11:59pm (https://rutgers.instructure.com/courses/174783/assignments/1948723)           |
| Fri Apr 1, 2022  | 2022SP: Data-Motivated 1pm to 2pm Storytelling  |

| Date             | Details Due   |
|------------------|---|
|                  | (https://rutgers.instructure.com/calendar?  |
|                  | event_id=677422&include_contexts=course_174783)   |
|                  | Module 10 Attendance due by 11:59pm (https://rutgers.instructure.com/courses/174783/assignments/1955981)                        |
| Thu Apr 7, 2022  | Module 11: Content  (https://rutgers.instructure.com/courses/174783/assignments/1954592)  |
|                  | 2022SP: Data-Motivated  Storytelling (https://rutgers.instructure.com/calendar? event_id=677423&include_contexts=course_174783) |
| Fri Apr 8, 2022  | Module 10 Reflection: Story framing due by 11:59pm (https://rutgers.instructure.com/courses/174783/assignments/1948722)         |
|                  | Module 11 Class Attendance  (https://rutgers.instructure.com/courses/174783/assignments/1965719)                                |
| Sun Apr 10, 2022 | Module 11: Homework  (https://rutgers.instructure.com/courses/174783/assignments/1954593)                                       |
| Fri Apr 15, 2022 | 2022SP: Data-Motivated  Storytelling (https://rutgers.instructure.com/calendar? event_id=677424&include_contexts=course_174783) |
|                  | Module 12 Class participation  (https://rutgers.instructure.com/courses/174783/assignments/1959728)                             |
| 0 . 4 . 47 0000  | Module 12 Content  due by 11:59pm  (https://rutgers.instructure.com/courses/174783/assignments/1959729)                         |
| Sun Apr 17, 2022 | Module 12 Homework  (https://rutgers.instructure.com/courses/174783/assignments/1959724)  |
|                  | Module 12 Reflection  (https://rutgers.instructure.com/courses/174783/assignments/1959725)                                      |
| Thu Arm 04, 0000 | E No. 1 1 40 Co. 14 14 50   |

| Date             | Details Due  |
|------------------|--|
|                  | (https://rutgers.instructure.com/courses/174783/assignments/1967241)   |
| Fri Apr 22, 2022 | 2022SP: Data-Motivated  Storytelling (https://rutgers.instructure.com/calendar? event_id=677425&include_contexts=course_174783)                                  |
| Sun Apr 24, 2022 | Module 13 HW: Peer review due by 11:59pm (https://rutgers.instructure.com/courses/174783/assignments/1967110)  |
|                  | Module 13 Participation: Peer evaluation due by 11:59pm (https://rutgers.instructure.com/courses/174783/assignments/1967113)                                     |
|                  | Module 13 Reflection: Questions and improvement due by 11:59pm (https://rutgers.instructure.com/courses/174783/assignments/1967111)                              |
| Thu Apr 28, 2022 | Module 14: Content  (https://rutgers.instructure.com/courses/174783/assignments/1973692)   |
|                  | Module 14: Homework  (https://rutgers.instructure.com/courses/174783/assignments/1973869)  |
| Fri Apr 29, 2022 | 2022SP: Data-Motivated  Storytelling (https://rutgers.instructure.com/calendar? event_id=677426&include_contexts=course_174783)                                  |
|                  | Module 14 Class participation  (https://rutgers.instructure.com/courses/174783/assignments/1973955)  |
|                  | Module 14: Reflection (complete surveys) due by 11:59pm (https://rutgers.instructure.com/courses/174783/assignments/1973699)                                     |
| Fri May 6, 2022  | Sp22, Data-Motivated Storytelling (crosslist) Final project Zoom link (https://rutgers.instructure.com/calendar? event_id=765982&include_contexts=course_174783) |
|                  |  |

| Date | Details Due   |
|------|---|
|      | (https://rutgers.instructure.com/courses/174783/assignments/1973958)  |
|      | Final project: Story Framing  (https://rutgers.instructure.com/courses/174783/assignments/1974138)                          |
|      | Module 14: Reflection (did you complete the surveys?)  (https://rutgers.instructure.com/courses/174783/assignments/1973695) |