

# Advanced Methods in Cognitive Psychology: Text as Data

PSYC 303 - Fall 2021

## Course Overview

In this course, students will develop research projects that involve the collection and analysis of unstructured textual data. Some examples of unstructured textual data include responses to free writing questions on surveys, blog and social media posts, newspaper and magazine articles, and expressive writing (e.g., journaling). Traditionally, unstructured text has been viewed as too unwieldy and imprecise for scientific research, leading psychologists to favor the use of targeted questions that have clear response categories or scales when measuring constructs. For example, a common way of measuring *extraversion* is to ask someone to indicate the extent to which they see themselves as “extraverted, enthusiastic” on a 7-point scale that ranges from “Disagree strongly” to “Agree strongly.” There are clear advantages to this approach, but it can also be limiting. In recent years, methodological advances have made it easier to use unstructured text as data, and recent work using these methods has revealed a number of fascinating insights into human psychology. We will focus on one particular tool, the Linguistic Inquiry and Word Count software program (LIWC, “Luke”; Pennebaker et al., 2015).

## Logistics

Instructor	Prof. Paul Thibodeau (Seve 205; pthibode@oberlin.edu)
When & Where	Tuesdays from 1-2:50 in Seve 128 (required class meeting) Thursdays from 1-2 in TBA (optional meeting time for learning R)
Office hours	Wednesdays from 1-2 or by appt (Seve 205 or Zoom); <a href="#">calendar link</a>
Text	Required: Pennebaker, J.W. (2013). <i>The Secret Life of Pronouns: What Our Words Say about Us</i> . New York: Bloomsbury Publishing.
Software	R and R Studio (see <a href="#">here</a> ). Of note, no prior experience with R is expected or required for this course. R and R studio are free and can be used to access a free version of the LIWC software. Students can opt out of learning R if they choose and purchase licenses for the <a href="#">LIWC software</a> and <a href="#">SPSS</a> instead.
Blackboard	Additional course materials will be posted on Blackboard (Bb), and students will submit assignments on Blackboard.

# Learning Goals

Learning goals for this course are informed by American Psychological Association's (APA) guidelines for the undergraduate psychology major, as shown in the table below.

<b>APA Goal</b>	<b>Corresponding Course Goal</b>
1. Knowledge base	Learn key concepts and theories related to the analysis of text and applications of text analysis for, e.g., business and health.
2. Scientific inquiry & critical thinking	Develop the ability to interpret, design, and conduct basic psychological research, especially as it relates to the use of unstructured text as data and the LIWC software program.
3. Ethical & social responsibility	Apply ethical standards to evaluate psychological science and practice.
4. Communication	Develop effective writing and presentation skills.
5. Professional Development	Refine project-management skills and enhance teamwork capacity.

# Teaching Philosophy

As a teacher, I believe the following principles and have designed the course with them in mind.

- Belonging is essential to learning. People are better able to take risks, discuss difficult issues, and consider alternative viewpoints when they feel seen, safe, and respected. This means paying particular attention to issues of diversity, equity and inclusion so that all students feel they belong.
- Pedagogical choices should be student-centered and based on evidence. The use of inclusive, evidence-based teaching practices will maximize learning outcomes for all students.
- All students have the ability to learn and improve. Skill at a task comes from practice and feedback. Improvement is always possible. This is known as a growth mindset.

# Grading

<p><b>Participation</b></p> <ul style="list-style-type: none"> <li>- Attendance and engagement in weekly class meetings.</li> <li>- As an incentive to learn R, students who attend Thursday sessions will receive extra credit towards this component of their grade (which will function as a 1/3 letter grade bump to their final grade).</li> </ul>	25%
<p><b>Initial Assignments</b></p> <ul style="list-style-type: none"> <li>- Article summary (week 2)</li> <li>- Ethics training (week 2)</li> <li>- Article presentation (week 3)</li> <li>- Analysis and results of dataset 1 (weeks 4-5)</li> </ul>	15%
<p><b>Project Part 1: Observational study</b></p> <ul style="list-style-type: none"> <li>- Written project proposal (week 6)</li> <li>- Written methods (week 7)</li> <li>- IRB proposal (week 7)</li> <li>- Written preregistration (week 8)</li> <li>- Presentation of project proposal (week 8)</li> <li>- Data collection and analysis (week 9)</li> <li>- Presentation of preliminary results (week 9)</li> <li>- Written results &amp; discussion (week 10)</li> </ul>	30%
<p><b>Project Part 2: Experimental study</b></p> <ul style="list-style-type: none"> <li>- Written preregistration (week 11)</li> <li>- Survey for experiment (week 11)</li> <li>- Data collection for experiment (week 12)</li> <li>- Presentation of preliminary results (week 13)</li> <li>- Final project write-up (finals week)</li> </ul>	30%

## Late Policy

Students are encouraged to complete work on time. The course moves quickly and builds on itself, so assignments can pile up and feel overwhelming when deadlines are missed. That said, late work will be accepted, and students will be provided accommodation if they have to miss class or get sick, for example. Without a documented reason for submitting late work, there will be a 10% penalty.

Of note, the final project write-up is due during the final exam time scheduled by the registrar's office, and I do not have the power to grant an extension beyond this date. However, students may request an educational or emergency incomplete if they choose from the Academic Advising Resource Center (AARC; see [here](#)).

# Schedule

Date	Reading due	Project component due (Tues)	Learning R (Opt. Thurs)
W1 - 10/5			<a href="#">Getting started in R</a> Discover_01: key concepts
W2 - 10/12	<i>SLoP</i> 1-2 Kwon et al. (2018)	<b>Write:</b> Summarize article <b>Complete:</b> <a href="#">Ethics training</a>	Discover_02: summarizing data
W3 - 10/19	<i>SLoP</i> 3-4 Empirical article	<b>Present:</b> Empirical article	Discover_03: confidence intervals
W4 - 10/26	<i>SLoP</i> 5-6 LIWC validation	<b>Analyze:</b> Dataset 1	Text in R: Quanteda & LIWClike
W5 - 11/2	<i>SLoP</i> 7-8	<b>Write:</b> Results of analysis of dataset 1	Discover_05: visualization
W6 - 11/9	<i>SLoP</i> 9-10	<b>Write:</b> Project proposal	Discover_06: bias
W7 - 11/16	Nosek et al. (2018)	<b>Write:</b> Methods section & IRB <b>Submit:</b> IRB	Discover_07: associations
11/22	THANKSGIVING BREAK		
W8 - 11/30	Gernsbacher (2018)	<b>Write:</b> Preregistration <b>Present:</b> Project proposal	Discover_08: glm
W9 - 12/7		<b>Collect &amp; analyze:</b> Data for observational study <b>Present:</b> Preliminary results	Discover_09: Comparing means
W10 - 12/14	Freeling et al (2019)	<b>Write:</b> Results & discussion of observational study	Discover_10: moderation & mediation
W11 - 12/21		<b>Write:</b> Preregistration <b>Build:</b> Survey for experiment	WINTER BREAK
12/28	WINTER BREAK		
W12 - 1/4		<b>Collect &amp; analyze:</b> Data for experiment	
W 13 - 1/11		<b>Present:</b> Results of experiment	
Final		<b>Write:</b> Final project paper (due Thursday, January 20 11am)	

## COVID-19 Safety

Please be sensitive to your colleagues on campus. We will follow CDC and College guidelines and policies with respect to, e.g., wearing masks in class and meeting in person versus online. If you have any questions or concerns related to these policies, please let me know.

## Honor Code

Follow the Oberlin Honor Code in this course. Details about how the honor code will apply on specific assignments will be provided with the assignments.

## Educational Accommodations

Let me know ASAP if you have an educational accommodation or if you anticipate missing a significant number of classes.