

Emily K. Sanders

[LinkedIn](#), [GitHub](#): emilyksanders

Data Scientist

Data scientist who excels at thorough data analysis, research methods, and creative problem-solving. Leveraging a Masters of Science in social psychology and extensive training in data science, I am eager to use my skills to solve real-world problems and improve lives. I am passionate about social justice and seeking roles that have a genuine societal impact for good.

Skills

Programming & Visualization: Python (pandas, sklearn, matplotlib, seaborn, numpy, requests), Jupyter, Git, SQL, R, RStudio, SPSS

Productivity: Qualtrics, Microsoft Office (Word, Excel, PowerPoint, Outlook), G-Suite, ChatGPT, Box, SMS outreach tools, Canva

Research: Data collection, data management, survey design, experimental design, literature reviews, meta-analysis, technical writing

Statistics & Models: Linear regression, logistic regression, correlation, ANOVA, ARIMA, neural nets, significance tests (e.g., t-tests)

Teamwork: Communication, can-do attitude, strong problem solver, persistent, good under pressure, conscientious, attention to detail

Data Science Projects

[Pride and Joy](#) | Inferential model: Linear regression | June 2024

- Tools: Python (esp. pandas, sklearn, matplotlib, seaborn, numpy, statsmodels, os, datetime), Jupyter notebooks, RStudio for Python
- Modeled psychological distress in publicly-available data from 1518 LGBTQ+ people, seeking deleterious or protective factors
- Addressed challenges related to sample size, overfitting, missing data and null values, and an aging dataset
- Identified poverty, stress, and queerphobia as drivers of distress, but social support and positive identity formation as protective

[It Takes a Village](#) | Predictive models: Linear regression, Random forest regression | May 2024

- Tools: Python (esp. pandas, sklearn, matplotlib, seaborn), Jupyter notebooks, RStudio for Python
- Collaborated to investigate how various social conditions predict high school dropout rates at the county level in California
- Addressed significant obstacles related to sample size (initially $n=58$, then fewer), missing data, and non-normal distributions
- Interpreted current results where possible (recommended to curtail e-cigarette availability), and made suggestions for future work

[Explain Like I'm \(Not\) a Scientist](#) | Classification models: KNN, Naïve Bayes | May 2024

- Tools: Python (esp. pandas, sklearn, requests, nltk, string, matplotlib, seaborn), Jupyter notebooks, RStudio for Python, Reddit API
- Scraped Reddit posts from r/ELI5 and r/AskPhysics, as exemplars of scientific communication for laypeople versus for experts
- Used natural language processing to analyze the posts and gridsearched to optimize classification models sorting them by source
- Created a high accuracy ($>84\%$), low variance (<0.0006) model, indicating that these subreddits may be useful for more research

[Real Estate: It's Ame-azing!](#) | Predictive model: Linear regression | April 2024

- Tools: Python (pandas, sklearn, numpy, matplotlib, seaborn, scipy), Jupyter notebooks, RStudio for Python
- Developed a reproducible data ingestion, preparation and manipulation process for a dataset of 2051 home sales in Ames, Iowa
- Designed and evaluated several linear models to predict home prices based on nearly 80 attributes
- Adopted a LASSO regression model ($R^2=0.92$) that predicted prices within \$22,696, a $>\$55,000$ improvement from baseline

Experience

Data Science Fellow | General Assembly | Remote | 2024

- Successfully completed a 12 week, full-time immersive program of 400+ hours of professional training
- Built, evaluated, and optimized exploratory data analysis, descriptive statistics, data visualization, modeling, and machine learning
- Developed and presented open-ended projects, individually and on teams, to explore and refine various issues, methods, and skills

Sales Associate | Byrne Dairy & Deli | Lafayette, NY | 2021-2024

- Demonstrated leadership and consistent performance in a fast-paced environment and managed competing, simultaneous demands
- Ordered ice cream stock; improved cost effectiveness via corrective actions, a new error-proofing system, and new procedures
- Earned frequent positive customer feedback for my professionalism, courtesy, attentiveness, conscientiousness, and competency
- Maintained competency certifications in compliance with all laws and company policies

Organizer | Service Employees International Union Local 200United | Syracuse, NY | 2018-2020

- Recruited higher ed workers to join unions via in-person visits, phone- and text-banking, and a digital organizing program I created
- Hosted weekly Zoom calls with members across the state to encourage inter-school connections
- Became proficient in relevant databases and other online tools, including Canva, G Suite, Hootsuite, WordPress, and mass texting
- Managed Facebook ads, including analytics, compliance, and budget, to earn 160+ group joiners, ~2000 page likes, and ~50 leads
- Served as a subject matter expert during the abrupt transition to remote work at the outset of the pandemic

Bargaining Team Member | Graduate Employees Organization (AFT-IFT 6300) | Champaign, IL | 2016-2018

- Collaborated on the design, distribution, and analysis of a survey to determine members' needs from a contract
- Researched and drafted contract language for GEO's comprehensive proposal and subsequent packages
- Strategized to create mutually beneficial resolutions to problems and an implementation plan
- Bargained directly with the administration, including as lead negotiator, resulting in a successful, member-ratified contract

Short-Term Organizing Intern | American Federation of Teachers (AFT) | Chicago, IL | 2017

- Organized graduate workers at the University of Chicago to sign cards and make a plan to vote yes for their union
- Recognized for creating and implementing a phone-banking strategy for making detailed vote plans and confirming votes
- Utilized and updated the database of member information

Researcher | UIUC Department of Psychology | Social PIG Lab | PI: Chadly Stern, PhD. | 2016-2017

Disgust as a Driver of Homophobia

- Developed a series of studies to explore the role of disgust in homophobic attitudes and behaviors
- Created an IAT regarding gay men and disease, and collected sufficient participant data to meet a priori statistical power standards

Researcher | UIUC Department of Psychology | Social Action Lab | PI: Dolores Albarracín, PhD. | 2015-2017

Meta-analysis of the effects of behavioral and nonbehavioral primes on behavior

- Meta-analyzed published and unpublished studies to assess priming methods that correlate with effect sizes of behavioral outcomes
- Cleaned, merged, deduplicated, completed, and analyzed a large, inherited data set using R, especially the *metafor* package
- Supervised a team; instructed team members to implement my solutions for complex data hygiene and management problems
- Estimated an overall effect size, drew inferences about publication bias, and assessed moderators from 682 eligible effect sizes

Community Norms, Online Communications, and HIV Risk

- Designed a two-phase study using natural language processing to predict HIV risk from Tweets, while mitigating ethical concerns
- Created Phase 1 to anonymously link intentions and behaviors, and Phase 2 to collect identifiable Twitter data with intentions only

Graduate Teaching Assistant | UIUC Department of Psychology | Champaign, IL | 2015-2017

- Taught 2 sections per semester of 3 undergraduate psychology courses over 2 years (i.e., 3 syllabi; 8 sections in 4 semesters)
- Prepared and delivered lectures, implemented educational activities, and designed, administered, and graded assignments
- Instructed students on social psychology concepts, statistical methods and tools (e.g., SPSS, R), citation styles, and writing skills
- Advised student research: hypothesis creation, literature review, methods, data collection, data analysis, and drawing inferences
- Maintained confidentiality and grade data security in compliance with FERPA

Cat Adoption Counselor | Danbury Animal Welfare Society | Bethel, CT | 2015

- Mastered shelter software and created and maintained a spreadsheet of cat info, improving the efficiency of cat adoptions

Executive Board Member | Allies: The LGBTQ Alliance of McDaniel College | Westminster, MD | 2011-2014

- Led projects including an It Gets Better video, a voter information drive, and two charity drag shows benefiting the Trevor Project
- Contributed to drafting the annual budget and monitoring spending, including seeking sponsorship partners

Capstone Student | McDaniel College Department of Psychology | PI: Holly McCartney Chalk, PhD. | 2012-2014

Predictors of Psychological Outcomes in Nonheterosexual Individuals

- Planned and executed a survey study on mental health drivers among queer people, especially minority stress and positive identity
- Designed the data collection survey, implemented snowball sampling, and applied and analyzed several tests of significance
- Identified different drivers for gay/lesbian than for bisexual/pansexual people, supporting some prior results and challenging others

Lab Assistant | McDaniel College Department of Psychology | Pigeon Lab | PI: Margaret McDevitt, PhD. | 2012

Pigeons' Preference for Information

- Designed a behavioral study on information use in decisions and instructed students on lab protocols, including pigeon care

Selected Publications and Presentations

Sanders, E. K., & Chalk, H. M. (2016). Predictors of psychological outcomes in nonheterosexual individuals. *Psi Chi Journal of Psychological Research*, 21(2), 100-110. <https://doi.org/10.24839/2164-8204.jn21.2.100>

Dai, W., Yang, T., White, B. X., Palmer, R., **Sanders, E. K.**, McDonald, J. A., Leung, M., & Albarracín, D. (2023). Priming behavior: A meta-analysis of the effects of behavioral and nonbehavioral primes on overt behavioral outcomes. *Psychological Bulletin*, 149(1-2), 67-98. <https://doi.org/10.1037/bul0000374>

Sanders, E. K., Palmer, R., Dai, W., Textor, C., Weingarten, E., Hepler, J. ... & Albarracín, D. (May 2017). Is the straightest path always best? A meta-analytic investigation of directly and indirectly linked priming objects and behavioral outcomes. Poster presented at the meeting of the Association for Psychological Science, Boston.

Education

Certificate of Completion | **Data Science Immersive** | General Assembly | Remote | Graduated: 2024

- **Projects:** Pride and Joy, It Takes a Village, Explain Like I'm (Not) a Scientist, Real Estate: It's Ame-azing!

Masters of Science | **Psychology** | University of Illinois at Urbana-Champaign | Champaign, IL | Graduated: 2017

- **Specialization:** Social Psychology

Bachelor of Arts | **Psychology** | McDaniel College | Westminster, MD | Graduated: 2014

- **Minors:** Women's Studies, American Sign Language and Deaf Culture
- **Honors:** Magna Cum Laude, Phi Beta Kappa, College Scholar, Honors in Psychology, Psi Chi, Alpha Lambda Delta, Dean's List