

Zachary A. Caddick, PhD

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## Education

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- 2022      **PhD, Cognitive Psychology**, *University of Pittsburgh*  
Advisor: Benjamin M. Rottman  
Dissertation: Learning, Choice Consistency, and Individual Differences in How People Think Elections Should be Decided  
<http://d-scholarship.pitt.edu/44049/>
- 2020      **MS, Cognitive Psychology**, *University of Pittsburgh*  
Advisor: Benjamin M. Rottman  
Thesis: Motivated Reasoning in a Causal Explore-Exploit Task  
<http://d-scholarship.pitt.edu/38346/>
- 2016      **MA, Experimental and Research Psychology**, *San José State University*  
Advisor: Gregory J. Feist  
Thesis: Evaluating Contradicting and Confirming Evidence: A Study on Beliefs and Motivated Reasoning  
[https://scholarworks.sjsu.edu/etd\\_theses/4748/](https://scholarworks.sjsu.edu/etd_theses/4748/)
- 2013      **BA, Psychology (Honors)**, *California State University, San Bernardino*  
Advisor: James C. Kaufman
- 2011      **AA, Social and Behavioral Sciences**, *Chaffey College*

## Research Interests

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reasoning, decision-making, learning, causality, cognitive biases & heuristics, dual-process theories, expertise, political psychology, human factors, sleep, spaceflight, meta-sciences, qualitative & quantitative analysis, science policy, program evaluation, systems thinking, technology ecosystems

## Research Experience

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- AAAS Science & Technology Policy Fellow** (2024, September – Present). National Science Foundation (NSF): Technology, Innovation, & Partnerships (TIP).
- Post-Doctoral Scholar** (2024, January – 2024, June). Sleep, Chronobiology, & Health Laboratory. Oregon Health & Science University.
- Graduate Student Researcher** (2017, August – 2022, December). Causal Learning & Decision Making Lab. University of Pittsburgh.
- Board of Directors, Student Body Representative** (2015, August – 2017, June). San José State University Research Foundation.
- Research/Project Associate** (2014, December – 2017, July). NASA Ames Research Center/San José State University Research Foundation.
- Research Associate** (2014, March – 2014, June). NASA Ames Research Center/San José State University Research Foundation.
- Graduate Student Researcher** (2013, August – 2016, December). Feist Lab. San José State University.
- Research Assistant** (2012, January – 2013, June). Kaufman Creativity Lab. California State University, San Bernardino.

## Teaching Experience

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## **Instructor**

**Teaching Fellow** (2022, June – 2022, August). Cognitive Psychology Lab, Instructor. University of Pittsburgh.

**Teaching Fellow** (2018, August – 2020, April). Cognitive Psychology Lab (two semesters) & Research Methodology Lab (three semesters), Instructor. University of Pittsburgh.

**Lecturer** (2017, January – 2017, May). Intermediate Statistics (one semester). San José State University.

## **Guest Lecturer**

**Guest Lecturer** (2021, October). "Linear Discriminant Analysis." Community for Advanced Methodological Learning (CAMEL), University of Pittsburgh.

**Guest Lecturer** (2021, September). "Navigating rough waters: The science of political reasoning and decision-making." University of Pittsburgh.

**Guest Lecturer** (2021, April). "Navigating rough waters: The science of political reasoning and decision-making." University of Pittsburgh.

**Guest Lecturer** (2018, February). "Sleep, Circadian Rhythm, and Performance." University of Pittsburgh.

**Guest Lecturer** (2017, September). "Sleep, Circadian Rhythm, and Performance." University of Pittsburgh.

**Guest Lecturer** (2017, May). "From Research Question to Study Development: A Case Study." San José State University.

**Guest Lecturer** (2014, October). "Memory." San José State University.

**Guest Lecturer** (2013, February). "The Psychology of Creativity." California State University, San Bernardino.

## **Teaching Assistant**

**Teaching Assistant** (2018, August – 2018, December). Research Methodology (one semester), University of Pittsburgh.

**Teaching Assistant** (2017, August – 2018, May). Introduction to Psychology. University of Pittsburgh.

**Teaching Assistant** (2014, February – 2014, December). Introduction to Psychology (two semesters) & Child Development (one semester). San José State University.

## **Other Teaching Experiences**

**Workshop Host** (2014, October). "Statistics in R." San José State University.

**Statistics Lab Instructor** (2014, September – 2015, May). San José State University.

**Guest Discussion Facilitator** (2013, March). Critical Thinking course. California State University, San Bernardino.

## **Publications**

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### **Peer-Reviewed Journal Articles**

Rottman, B.M. <sup>†</sup>, Caddick, Z.A. <sup>†</sup>, Nokes-Malach, T.J., Fraundorf, S.H. (2023). Cognitive perspectives on maintaining physicians' medical expertise: I. Reimagining Maintenance of Certification to Promote Lifelong Learning. *Cognitive Research: Principles and Implications*, 8(46). <https://doi.org/10.1186/s41235-023-00496-9>

Caddick, Z.A. <sup>†</sup>, Fraundorf, S.H. <sup>†</sup>, Rottman, B.M. <sup>†</sup>, Nokes-Malach, T.J. (2023). Cognitive perspectives on maintaining physicians' medical expertise: II. Acquiring, maintaining, and updating cognitive

skills. *Cognitive Research: Principles and Implications*, 8(47). <https://doi.org/10.1186/s41235-023-00497-8>

Fraundorf, S.H., **Caddick, Z.A.**, Nokes-Malach, T.J., Rottman, B.M. (in press). Cognitive perspectives on maintaining physicians' medical expertise: III. Strengths and weaknesses of self-assessment. *Cognitive Research: Principles and Implications*, 8(58). <https://doi.org/10.1186/s41235-023-00511-z>

Fraundorf, S.H., **Caddick, Z.A.**, Nokes-Malach, T.J., Rottman, B.M. (2023). Cognitive perspectives on maintaining physicians' medical expertise: IV. Best practices and open questions in using testing to enhance learning and retention. *Cognitive Research: Principles and Implications*, 8(53). <https://doi.org/10.1186/s41235-023-00508-8>

Nokes-Malach, T.J., Fraundorf, S.H., **Caddick, Z.A.**, Rottman, B.M. (2023). Cognitive perspectives on maintaining physicians' medical expertise: V. Using a motivational framework to understand the benefits and costs of testing. *Cognitive Research: Principles and Implications*, 8(64). <https://doi.org/10.1186/s41235-023-00518-6>

**Caddick, Z.A.**, Feist, G.J. (2021). When Beliefs and Evidence Collide: Psychological and Ideological Predictors of Motivated Reasoning about Climate Change, *Thinking & Reasoning*, 28(3), pp. 428-464. <https://doi.org/10.1080/13546783.2021.1994009>

**Caddick, Z.A.**, Rottman, B.M., (2021). Motivated Reasoning in an Explore-Exploit Task. *Cognitive Science*, 45(8), e13018. <https://onlinelibrary.wiley.com/doi/10.1111/cogs.13018>

**Caddick, Z.A.**, Gregory, K., Arsintescu, L., Flynn-Evans, E.E. (2018). A Review of the Environmental Parameters Necessary for an Optimal Sleep Environment. *Building and Environment*. 132, pp. 11-20. doi:10.1016/j.buildenv.2018.01.020  
<https://www.sciencedirect.com/science/article/pii/S0360132318300325>

### Conference Papers

**Caddick, Z.**, Rottman, B. (2019). Politically Motivated Causal Evaluations of Economic Performance. In A.K. Goel, C.M. Seifert, & C. Freksa (Eds.), *Proceedings of the 41st Annual Conference of the Cognitive Science Society*, pp. 182 - 188. Montreal, QB: Cognitive Science Society. [https://cognitivesciencesociety.org/wp-content/uploads/2019/07/cogsci19\\_proceedings-8July2019-compressed.pdf](https://cognitivesciencesociety.org/wp-content/uploads/2019/07/cogsci19_proceedings-8July2019-compressed.pdf)

Billman, D., Catrambone, R., Feldman, J., **Caddick, Z.**, Eurich, S., Leventhal, J., Martin, R., Sliwiska, K. (2018). Training for Generalization: The Role of Integrated Skills and Knowledge in Technology Domains. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. 61(1), pp. 1434-1438. <http://journals.sagepub.com/doi/10.1177/1541931218621326>

**Caddick, Z.A.**, Gregory, K, and Flynn-Evans, E.E. (2016). Sleep Environment Recommendations for Future Spaceflight Vehicles. *Advances in Human Aspects of Transportation*. 484, pp. 923-933. [http://link.springer.com/chapter/10.1007%2F978-3-319-41682-3\\_76](http://link.springer.com/chapter/10.1007%2F978-3-319-41682-3_76)

### Thesis/Dissertation

**Caddick, Z.A.** (2023). Learning, Choice Consistency, and Individual Differences in How People Think Elections Should be Decided (Dissertation), University of Pittsburgh, Pennsylvania. <http://d-scholarship.pitt.edu/38346/>

**Caddick, Z.A.** (2020). Motivated Reasoning in a Causal Explore-Exploit Task (Master's Thesis), University of Pittsburgh, Pennsylvania. <http://d-scholarship.pitt.edu/38346>

**Caddick, Z.A.** (2016). Evaluating Contradicting and Confirming Evidence: A Study on Beliefs and Motivated Reasoning (Master's Thesis), San Jose State University, California. doi:[10.31979/etd.8kt9-vbf7](https://doi.org/10.31979/etd.8kt9-vbf7)

## Technical Manuscripts

- Hobbs, A., Gregory, K., Park, B., Pradhan, S., **Caddick, Z.**, Bathurst, N., Flynn-Evans, E. (2018). San Francisco Bar Pilot Fatigue Study. NASA/TM-2018-219934.  
[https://human-factors.arc.nasa.gov/publications/NASA\\_TM\\_2018\\_219934.pdf](https://human-factors.arc.nasa.gov/publications/NASA_TM_2018_219934.pdf)
- Flynn-Evans, E.E., **Caddick, Z.A.**, Gregory, K. (2016). Sleep Environment Recommendations for Future Spaceflight Vehicles. NASA/TM-2016-219282.  
<https://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20170001764.pdf>

<sup>†</sup> Denotes shared first authorship.

## Presentations

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### Conference Presentations

- Feist, G., **Caddick, Z.**, Barchard, K., Reyes, L., Chancellor-Freeland, C. (2024, April). The Psychology of Climate Change. *Western Psychological Association*, San Francisco, California. Symposium.
- McCoy, Z., Shafer, B., **Caddick, Z.**, Emens, J., McHill, A. (2024, April). The Influence of Circadian Time-Restricted Eating on Mood. *Pacific Northwest Sleep and Circadian Network Meeting*. Portland, Oregon. Poster presentation.
- Greenwald, J., Shafer, B., **Caddick, Z.**, Emens, J., McHill, A. (2024, April). Impact of Acute Circadian Misalignment and Realignment on the Positive and Negative Affect Schedule. *Pacific Northwest Sleep and Circadian Network Meeting*. Portland, Oregon. Poster presentation.
- Caddick, Z.**, Rottman, B. (2021, November). Views about the Fairness of Voting Systems: Plurality, Ranked-Choice, and Cardinal Voting. *Psychonomic Society's 62nd Annual Meeting*. Oral presentation.
- Caddick, Z.**, Rottman, B. (2019, July). Politically Motivated Causal Evaluations of Economic Performance. *The 41st Annual Meeting of the Cognitive Science Society*. Montreal, Canada. Oral presentation.
- Caddick, Z.**, Rottman, B. (2019, July). Motivated Reasoning in Causally Ambiguous Explore-Exploit Situations. *The 41st Annual Meeting of the Cognitive Science Society*. Montreal, Canada. Poster presentation.
- Billman, D., Catrambone, R., **Caddick, Z.**, Pradhan, S., Leventhal, J., Sliwinska, K., Eurich, S., Martin, R. (2018, October). Training for Generalization: The Role of Integrated Skills and Knowledge in Technology Domains. *Human Factors and Ergonomics Society 2018 International Annual Meeting*. Philadelphia, Pennsylvania. Poster Presentation.
- Wong, L., **Caddick, Z.**, Kuriyagawa, Y., Flynn-Evans, E. (2017, June). The Effects of Primary Light Sources on Worker Performance and Alertness. *SLEEP 2017*. Boston, Massachusetts. Poster presentation.
- Real, V., **Caddick, Z.**, Flynn-Evans, E. (2017, May). Factors Influencing Astronaut Sleep Duration During Spaceflight. *Aerospace Medicine and Human Performance's 88th Annual Scientific Meeting*. Denver, Colorado. Oral Presentation.
- Billman, D., Schreckenghost, D., **Caddick, Z.** (2016, August). Transfer at the Level of Human-Computer System: Problem Solving using Procedure-Automation Software. *38th Annual Cognitive Science Society Meeting*, Philadelphia, Pennsylvania. Poster presentation.
- Caddick, Z.A.**, Gregory, K., Flynn-Evans, E.E. (2016, July). Sleep Environment Recommendations for Future Spaceflight Vehicles. *7th International Conference on Applied Human Factors and Ergonomics*, Orlando, Florida. Oral & Poster presentation.

- Feist, G.J., **Caddick, Z.A.** (2016, April). Why Do People Reject Evidence When it Contradicts Prior Beliefs? *Western Psychological Association*, Long Beach, California. Oral presentation.
- Feist, G.J., **Caddick, Z.A.** (2015, November). Psychological Predictors of Motivated Reasoning on Climate Change. *Society for Social Studies of Science (4S)*, Denver, Colorado. Panel presentation.
- Caddick, Z.A.**, Kaufman, J.C. (2013, April). The Role of Circadian Rhythm in Social Creativity. *Western Psychological Association*, Reno, Nevada. Poster presentation.

### Invited Talks

- Caddick, Z.** Rottman, B. (2019, November). Motivated Reasoning in Political Causal Learning. *Causality in Cognition Lab Meeting*. Stanford University, California. Invited talk.
- Caddick, Z.** Rottman, B. (2019, October). Motivated Reasoning in Political Causal Learning. *NYU ConCat*. New York University, New York. Invited talk.

### Other Research Presentations

- Nebril, D., **Caddick, Z.**, Rottman, B. (2021, July). Investigating Voters' Comprehension and Preference for Different Voting Systems. *Learning Research and Development Center (LRDC) Summer Undergraduate Internship Program Poster Session*, Poster Presentation.
- Caddick, Z.** (2020, September). An Examination of the Foundational Science Behind Continuing Board Certification: A Literature Review. *University of Pittsburgh Cognitive Brown Bag*. Pittsburgh, Pennsylvania. Oral Presentation.
- Caddick, Z.** (2020, February). Motivated Reasoning in a Causal Explore-Exploit Task. *University of Pittsburgh Cognitive Brown Bag*. Pittsburgh, Pennsylvania. Oral Presentation.
- Caddick, Z.** (2019, February). Politically Motivated Causal Evaluations of Economic Performance. *University of Pittsburgh Cognitive Brown Bag*. Pittsburgh, Pennsylvania. Oral Presentation.
- Caddick, Z.** (2018, March). Motivated Reasoning in Causally Ambiguous Environments. *University of Pittsburgh Cognitive Brown Bag*. Pittsburgh, Pennsylvania. Oral Presentation.
- Leventhal, J., Pradhan, S., **Caddick, Z.**, Milam, T., Klerman, E., St. Hilaire, M., Hilditch, C., Beckett, S., Schreckenghost, D., Billman, D. (2017, August). The Development and Scoring of a Multitasking Activity for Assessing the Impact of Planning Software Use. *NASA Ames Research Center Summer Internship Poster Session*. Mountain View, California. Poster presentation.
- Billman, D., **Caddick, Z.**, Catrambone, R., Feldman, J., Martin, R., Schreckenghost, D. (2017, January). Training for Generalizable Skills & Knowledge: Principles, Procedures, and their Integration. *NASA Human Research Program Investigators' Workshop; 23-26 Jan. 2017*, Galveston, Texas. Poster presentation.
- Caddick, Z.A.**, Gregory, K., Flynn-Evans, E.E. (2016, November). Sleep Environment Recommendations for Future Spaceflight Vehicles. *NASA Human Systems Integration Division Brown Bag*, Mountain View, California. Oral presentation.
- Flynn-Evans, E.E., **Caddick, Z.A.** (2016, February). Sleep Environment Recommendations for Future Spaceflight Vehicles. *NASA Human Research Program Investigators' Workshop; 8-11 Feb. 2016*, Galveston, Texas. Oral presentation.

### Skills & Abilities

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*Technical Skills:* R, Python, JavaScript, SPSS, Web Development (Google App Engine, Google Analytics, Google Chrome extensions, HTML/CSS), Adobe Photoshop, Microsoft Office Suite, G Suite, Reference Managers (Mendeley, Zotero, EndNote).

*Research Skills:* research design & methodology, quantitative analysis (regression, mixed effects models, ANOVA, SEM, EFA/CFA, discriminant analysis, non-parametric tests) & qualitative analysis (developing coding systems, inter-rater reliability procedures), running participants, measure/task creation, psychometrics, survey design.

*Other Skills:* teaching, written & oral communication

## Awards & Honors

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| 2021 – 2022 | Andrew W. Mellon Predoctoral Fellow, academic year 2021-2022 (\$24,456).   |
| 2020        | Elizabeth Baranger Excellence in Teaching Award, University of Pittsburgh<br>Dietrich School of Arts & Sciences Graduate Student Organization (\$250). |
| 2012 – 2013 | California State University, San Bernardino Psychology Honors Program.   |

## Service

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**Discussion Panelist** (2021, November). “PhD Career Pathways.” San José State University’s Research & Experimental Psychology M.A. program.

**Discussion Panelist** (2021, November). “Help! I have questions about graduate school! Roundtable Discussion.” Psychology Committee on Equity, Inclusion, and Community: Psychology Partnership for Undergraduate and Graduate Students (PUGS), University of Pittsburgh.

**Workshop Co-Host** (2021, June). “Graduate Application Workshop.” Learning Research and Development Center, University of Pittsburgh.

**Discussion Panelist** (2021, April). “Pathways to graduate school roundtable discussion.” Psychology Committee on Equity, Inclusion, and Community: Psychology Partnership for Undergraduate and Graduate Students (PUGS), University of Pittsburgh.

**Conference Paper Reviewer** (2021, March). The 43rd Annual Meeting of the Cognitive Science Society (CogSci 2021).

**Discussion Panelist** (2020, November). “PhD Career Pathways.” San José State University’s Research & Experimental Psychology M.A. program.

**Graduate Student Committee Member** (2020, August – 2022, December), Committee on Diversity, Inclusion, and Equity (CODIE). Learning Research & Development Center (LRDC), University of Pittsburgh.

**Graduate Student Committee Member** (2020, August – 2022, December), Psychology Committee on Equity, Inclusion, and Community (PEIC) and the sub-committee Psychology Partnership for Undergraduate and Graduate Students (PUGS), University of Pittsburgh.

**Subject-Matter Expert Consultant** (2019, February). Engineering Design Challenge. University of Pittsburgh.

**Cognitive Psychology Brown Bag Coordinator** (2018, August – 2019, May), University of Pittsburgh.

**Statistical Consulting** (2018, February). Undergraduate Psychology Honors students, University of Pittsburgh.

**Ad-hoc journal reviewer** (2016, October). *Color Research & Application*.

**Student Body Representative** (2015, August – 2017, July). San José State University Research Foundation: Board of Directors.

## Mentorship

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Jackson Weiler (2022). Dissertation research assistant.  
Thomas Saba (2022). Dissertation research assistant.  
Danielle Nebril (2021). Dissertation research assistant; LRDC Summer Undergraduate Internship Program 2021; 2021 Summer reading group. University of Pittsburgh.  
Claire Pamerleau (2021). 2021 Summer reading group. University of Pittsburgh.  
Evan Lopez (2021). LRDC Summer Undergraduate Internship Program 2021. University of Pittsburgh.

## **Society Memberships**

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2024 – Present	American Association for the Advancement of Science
2022 – Present	American Psychological Association
2021 – Present	Psychonomic Society
2019 – Present	Cognitive Science Society
2018 – Present	Association for Psychological Science
2012 – Present	Psi Chi: International Honor Society in Psychology