

BRENDAN CULLEN

I am a PhD student and [NSF Graduate Research Fellow](#) in the Department of Psychology at the University of Oregon. My research focuses on predicting real-world health behaviors and health outcomes in an effort to advance a precision medicine framework for behavioral health. As an aspiring data scientist, my goal is to develop open-source statistical software to support health and wellness.

EDUCATION

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|-------------------|--|---|
| 2022
I
2017 | <ul style="list-style-type: none">● PhD Student, Psychology
University of Oregon<ul style="list-style-type: none">• My research takes a translational (neuro)science approach toward predictive modeling of self-regulation processes and health-risking behaviors within a precision medicine framework. | 📍 Eugene, OR |
| 2019
I
2017 | <ul style="list-style-type: none">● MS, Psychology
University of Oregon<ul style="list-style-type: none">• Thesis: Comparing cognitive and affective predictors of craving | 📍 Eugene, OR |
| 2015
I
2011 | <ul style="list-style-type: none">● BA, Neuroscience
Middlebury College<ul style="list-style-type: none">• Thesis: Neurophysiological correlates of self-referential activity in meditators and non-meditators | 📍 Middlebury, VT |

CERTIFICATION

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| 2020 | <ul style="list-style-type: none">● RStudio Certified Instructor
RStudio, PBC<ul style="list-style-type: none">• I am an RStudio Certified Instructor in the tidyverse (see certificate). |
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HONORS & AWARDS

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|-------------------|---|
| 2023
I
2018 | <ul style="list-style-type: none">● NSF Graduate Research Fellowship [more info]
National Science Foundation |
| 2020 | <ul style="list-style-type: none">● Gregores Research Award [more info]
Department of Psychology, University of Oregon |
| 2020 | <ul style="list-style-type: none">● Graduate Education Committee Research Award
Department of Psychology, University of Oregon |
| 2020 | <ul style="list-style-type: none">● General University Scholarship [more info]
University of Oregon |
| 2020 | <ul style="list-style-type: none">● Pilot & Training Core Travel Award [more info]
Center on Parenting and Opioids, University of Oregon |

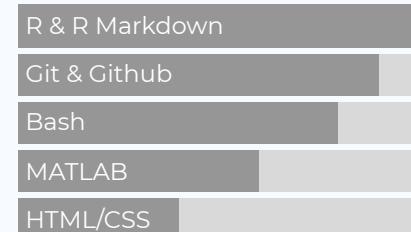
CONTACT

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- 🐦 [_bcullen](#)
- 👤 [brendanhcullen](#)
- linkedin [linkedin.com/in/bcull](#)
- 📞 [901-826-9547](#)

DATA SCIENCE SPECIALIZATION

As part of my doctoral training, I am currently pursuing a 5-course [Data Science Specialization](#) taught entirely in R, focused on reproducible analysis, data visualization, functional programming, and machine learning within a tidyverse framework.

PROGRAMMING SKILLS



- 2020 ● Graduate School “Special Opps” Travel & Research Award [\[more info\]](#)
University of Oregon
- 2019 ● Graduate Education Committee Travel Award
Department of Psychology, University of Oregon
- 2017 ● Graduate School Recruitment Award [\[more info\]](#)
University of Oregon
- 2017 ● Mind and Life Summer Research Institute Fellow [\[more info\]](#)
Mind and Life Institute
- 2016 ● International Symposium for Contemplative Studies Scholarship [\[more info\]](#)
Mind and Life Institute
- 2015 ● BA in Neuroscience with Highest Honors, Summa Cum Laude
Middlebury College
- 2015 ● Elected to Phi Beta Kappa [\[more info\]](#)
Middlebury College
- 2015 | 2011 ● Dean’s Honor List (8 semesters)
Middlebury College
- 2015 ● Rosalin Lieberman-Reiss Memorial Award
Department of Psychology, Middlebury College
- 2015 ● Mind and Life Summer Research Institute Fellow [\[more info\]](#)
Mind and Life Institute
- 2014 ● International Symposium for Contemplative Studies Scholarship [\[more info\]](#)
Mind and Life Institute
- 2014 ● Academic Conference Travel Fund Award
Middlebury College
- 2014 ● Senior Research Project Supplement
Middlebury College
- 2014 ● Bicentennial Fund for Research Partnerships in the Sciences Fellowship
Middlebury College
- 2013 ● Fred M. Roddy Research Fellowship in Biomedical Science
Middlebury College

PROFESSIONAL RESEARCH EXPERIENCE

- 2018 | 2017 ● Graduate Employee
Social and Affective Neuroscience Lab  University of Oregon
 - Selected self-report measures and co-designed interventions for NCI-funded RCT comparing behavioral response and cognitive reappraisal interventions for devaluing unhealthy food
 - Created automated workflow for daily backup of fMRI data via a high performance computing cluster

2017
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2015

- **Research Assistant**
Clinical and Affective Neuroscience Lab  Brown University
 - Cleaned and scored 20+ self-report measures from a 3-armed RCT comparing focused awareness meditation, open-monitoring meditation, and Mindfulness-Based Cognitive Therapy on clinical efficacy for depression
 - Led a project investigating the effects of meditation training on EEG and behavioral measures of self-referential processing

2017
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2015

- **Research Assistant**
Embodied Neuroscience Lab  Brown University
 - Collected EEG data for pilot RCT testing a neuromuscular-immune model of chronic fatigue in female cancer survivors
 - Designed custom software in MATLAB to implement novel EEG/EMG paradigm for measuring neural correlates of tactile acuity and precision grip strength

2016

- **Recruitment Specialist**
Women's Medicine Collaborative,
Miriam Hospital  Providence, RI
 - Developed strategies to recruit specialized patient populations for randomized controlled trials, including female cancer survivors and patients with asthma

2015
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2014

- **Research Assistant**
Social Psychology of Meditation Lab  Middlebury College
 - Led a study on relationship between mindfulness, hormones, empathy, and prosocial behavior
 - Recruited and interviewed participants, administered surveys and cognitive tests, and analyzed salivary cortisol and testosterone assays

2014
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2013

- **Research Assistant**
Behavioral Neuroendocrinology Lab  Middlebury College
 - Collected animal behavior data on the dose-dependent effects of testosterone replacement on spatial memory
 - Performed behavioral testing, prepared brain samples, collected microscopy data and assisted with manuscript preparation

TEACHING EXPERIENCE (COURSES)

2020

- **Lab Instructor**
PSY 302: Statistical Methods in Psychology  University of Oregon
 - Taught online lab sections for introductory undergraduate statistics course (~200 students total) using the open-source statistical software [jamovi](#). (Spring 2020)

2020

- **Lab Instructor**
PSY 612: Data Analysis II  University of Oregon
 - Designed and taught lab sections on [Correlations](#), [Univariate Regression](#) and the [General Linear Model](#), [Regression with Categorical Predictors](#), [Interactions](#), and [Factorial ANOVA](#). (Winter 2020)

I believe that learning open-source data science tools can empower us to be better scientists and critical thinkers. During my third year of graduate school, I served as a teaching assistant and lab instructor for both undergraduate and graduate-level statistics courses, for which I spent a significant amount of time creating educational resources about analyzing data in R and [jamovi](#).

- 2019
- **Lab Instructor**
[PSY 611: Data Analysis I](#) 📍 University of Oregon
 - Designed and taught lab sections on [R Basics and Descriptive Statistics](#), [Matrix Algebra](#), [Data Transformation with dplyr](#), [Pre-registration](#), and [Paired samples t-tests](#). (Fall 2019)
- 2015
- **Teaching Assistant**
[PSYC 301: Physiological Psychology](#) 📍 Middlebury College
 - Assisted with lab and discussion sections, held exam review sessions, prepared experimental equipment, and conducted animal testing for student projects

💻 WORKSHOPS TAUGHT

- 2020
- **UO Psych R Bootcamp**
Department of Psychology 📍 University of Oregon
 - 3-day introductory bootcamp covering basics of R, R Markdown and transforming and visualizing data with the tidyverse. ~45 attendees including current and incoming grad students, undergrads, research staff and tenure-track faculty.
- 2020
- **Introduction to Git and Github**
Psychology First Year Research Seminar 📍 University of Oregon
 - Introductory workshop for ~20 first-year psychology PhD and Master's students on basics of using Git and Github for version control
- 2019
- **Intermediate Git and Github**
UO Data Science Club 📍 University of Oregon
 - Intermediate Git/Github workshop for University of Oregon's Data Science Club, including discussion of merge conflicts, branching, pull requests, and best practices for collaborative Github projects

☰ PEER-REVIEWED PUBLICATIONS

- 2018
- **Dismantling Mindfulness-Based Cognitive Therapy: Creation and validation of 8-week Focused Attention and Open Monitoring interventions within a 3-armed randomized controlled trial**
Behaviour and Research Therapy, 101, 92-107.
 - Britton, W.B., Davis, J., Loucks, E.B., Peterson, B., Cullen, B., Reuter, L., Rando, A., Rahrig, H., Lipsky, J. & Lindahl, J. (2018).
- 2018
- **Comparing embodiment experiences in expert meditators and non-meditators**
Consciousness and Cognition, 65, 325-333.
 - Xu, A., Cullen, B., Penner, C., Zimmerman, C., Kerr, C.E., & Schmalzl, L. (2018)

My peer-reviewed scientific publications are varied in topic, ranging from the neuroendocrinology of spatial memory to decomposing neurocognitive mechanisms of mindfulness practices with respect to clinical depression outcomes. In general, I am interested in studying how the plasticity of the brain can be leveraged to better understand and guide adaptive changes in behavior.

- 2018
- **Dose-dependent effects of testosterone on spatial memory in adult male rats**
Psychoneuroendocrinology, 89, 120-130.
 - Wagner, B., Braddick, V. Batson, C., **Cullen, B.**, Miller, E. & Spritzer, M. (2018).

PRE-PRINTS & WORKS IN PROGRESS

- 2020
- **The contributions of focused attention and open monitoring in Mindfulness-Based Cognitive Therapy: a 3-armed randomized dismantling trial**
Under review
 - **Cullen, B.**, Eichel, K., Lindahl, J., Rahrig, H., Kini, N., Flahive, J. & Britton, W.B.
 - **Neural correlates of emotion reactivity and emotion regulation in women with borderline personality disorder: A replication of the literature with novel extensions**
In prep
 - Lewis, J., **Cullen, B.**, Giuliani, N., & Zalewski, M.
 - **The teacher matters: Instructor related effects of a pilot mindfulness intervention RCT in a school setting**
Under review
 - Canby, N., Lipsky, J., **Cullen, B.**, Eichel, K., & Britton, W.B.
 - **Comparing cognitive and affective predictors of craving**
Pre-print
 - **Cullen, B.**, DeStasio, K., Cosme, D., & Berkman, E.T.

SELECTED POSTER PRESENTATIONS

- 2019
- **Cognitive versus affective predictors of craving**
Society for Personality and Social Psychology  Portland, OR
 - **Cullen, B.**, DeStasio, K., Cosme, D., & Berkman, E.T. (2019)
 - **Personalized stop-signal training to improve inhibitory control among adults who experienced early adversity**
Society for Personality and Social Psychology  Portland, OR
 - DeStasio, K., **Cullen, B.**, Shaffer, K., & Berkman, E.T. (2019)
- 2018
- **A pilot randomized control trial investigating brain-body mechanisms of Qigong meditative movement practice for cancer-related fatigue**
Society for Neuroscience Annual Meeting  San Diego, CA
 - Zimmerman, C., Penner, C., Temereanca, S., Daniels, D., **Cullen, B.**, Jones, S., & Kerr, C.

- 2017 ● **Teacher effects in a school-based mindfulness intervention**
Mind and Life Summer Research Institute  Garrison, NY
• Cullen, B., Canby, N., & Britton, W. B.
- 2017 ● **Sustained Attention in Focused Attention versus Open Monitoring Meditation: Behavioral and Neurophysiological Changes**
29th Association for Psychological Science Annual Convention  Boston, MA
• Eichel, K., Essien, G., Cullen, B., Rogers, A. & Britton, W.B.
- 2017 ● **Dose-dependent effects of testosterone on spatial memory in young and adult male rats**
International Meeting for Steroids and the Nervous System  Turin, Italy
• Spritzer, M.D., Batson, C.G., Braddick, V.C., Chyr, C.U., Cullen, B., Goins, E.C., Jaeger, E.C.B., Miller, L.E., Super, C., & Wagner, B.A.
- 2016 ● **An open-source system for EEG neurofeedback and transcranial current stimulation control: Applications for meditation research**
International Symposium for Contemplative Studies,  San Diego, CA
Society for Neuroscience Annual Meeting
• Cullen, B., Santoyo, J., Black, C., McFarlane-Blake, C. & Kerr, C.
- 2016 ● **A Neurofeedback Informed Meditation Technique (NIMT) for modulating posterior cingulate cortex activity: Proof-of concept for a novel mental-training paradigm with clinical applications**
International Symposium for Contemplative Studies,  San Diego, CA
Society for Neuroscience Annual Meeting
• Santoyo, J., Cullen, B., & Kerr, C.
- 2016 ● **The role of social relationships in contemplative development**
Mind and Life Summer Research Institute  Garrison, NY
• Canby, N., Margolis, C., Cullen, B., Rahrig, H., Alejandra-Lara, A., Noorani, M., Lindahl, J. & Britton, W.
- 2016 ● **The impact of social relationship factors on clinical outcomes in Mindfulness-Based Interventions**
Brown University Mind Brain Research Day  Providence, RI
Brown University Public Health Research Day
• Cullen, B., Rahrig, H., Dumais, T., Canby, N., Lindahl, J., & Britton, W.
- 2015 ● **Neurophysiological correlates of self-referential activity in meditators and non-meditators**
Mind and Life Summer Research Institute  Garrison, NY
• Cullen, B., Bruns, M., Paritsky, A., McGuirk, E., Ogle, T., Kimble, M., & Cronise, K.

- 2015
- **Neurophysiological correlates of self-referential activity in meditators and non-meditators**
Advances in Meditation Research  New York, NY
 - Cullen, B., Bruns, M., Paritsky, A., McGuirk, E., Ogle, T., Kimble, M., & Cronise, K.
- 2014
- **Do expert meditators differ from novice and non-meditators in emotion identification, physiological competitive reactions, or prosocial responses?**
Center for Compassion and Altruism Research and Education Science of Compassion Conference  San Francisco, CA
 - Cullen, B., Stallworthy, I., Lesenskyj, A., Boles, L., Weinert-Stein, M., Perceval, R., Kahn, H.; McGuirk, E., Sellers, J., & Cronise, K.
- 2014
- **Effects of testosterone dose on spatial memory in adult male rats**
Society for Neuroscience Annual Meeting  Washington, D.C.
 - Cullen, B., Spritzer, M., Batson, C., Spillane, S., & Wagner, B.

TALKS

- 2020
- **Predicting diabetes status from personality using machine learning**
useR! 2020 (canceled)  St. Louis, MO
 - Cullen, B., Weston, S., & Condon, D.
- 2018
- **Effects of focused attention and open monitoring meditation on error-related processing: Behavioral and neurophysiological changes**
International Conference of the European Society for Cognitive and Affective Neuroscience  Leiden, Netherlands
 - Eichel, K., Cullen, B., & Britton, W.
- 2017
- **Dismantling effects of focused attention and open monitoring techniques in Mindfulness-Based Cognitive Therapy for affective disturbances**
Annual Meeting and Expo of the American Public Health Association  Atlanta, GA
 - Chang, B., Cullen, B., Kini, N., Rahrig, H., & Britton, W.
- 2016
- **Movement, embodiment and interoception in the context of contemplative practices (Panel)**
International Symposium for Contemplative Studies  San Diego, CA
 - Schmalzl, L., Powers, C., Yetz, N., Groessl, EJ., Saron, C., Kerr, C., Zimmerman, C., **Cullen, B.**, Clark, D., Mostofsky, SH., Feinstein, J., Khalsa, S., Simmons, K., & Paulus, M.

2016

- Effects of focused attention and open monitoring meditation on sustained attention
International Symposium for Contemplative Studies  San Diego, CA
 - Eichel, K., Cullen, B., & Britton, W.



ADDITIONAL TRAINING

2020

- [RStudio Instructor Training](#)
RStudio, PBC  Remote
 - Two-day intensive training on applying modern evidence-based teaching practices to teach data science using R and RStudio's products.
- [Introduction to Machine Learning with the Tidyverse](#)
rstudio::conf(2020)  San Francisco, CA
 - Two-day workshop on machine learning with tidymodels taught by Alison Hill. Topics covered included prediction, classification, sampling & resampling, ensembling, workflows, recipes, cross-validation and model tuning.



SERVICE & LEADERSHIP

2020

- **Co-organizer**
[Cascadia R Conf 2020](#)  Eugene, OR
 - Updated website, designed new hex sticker, secured additional sponsors

2018

- **Co-organizer**
[Eugene Brainhack](#)  Eugene, OR
 - Co-organized a two-day Brainhack event hosted at the University of Oregon for collaborative software development projects related to computational neuroscience and psychology

2018

- **Science communication ambassador**
[The People's Science](#)  Eugene, OR
 - Trained to be a coach to assist people with communicating their scientific work to the general public

2018

- **Lab Tour Guide**
Intel Science Fair  Eugene, OR
 - Gave a presentation for middle- and high-school students as part of a science outreach event during the regional Intel Science Fair in Eugene
 - Gave students a tour of the Social and Affective Neuroscience Lab and hosted a Q&A session about scientific careers

2016

● **Co-organizer**

Mindfulness, Healing and Empathy in Healthcare Speaker Series,
Warren Alpert Medical School at Brown University

 Providence, RI

- Coordinated with guest speakers for a 6-part lecture series for Brown University medical students and community members
- Created a website to advertise the public talks and to provide community members with information about mindfulness resources