

BRENDAN CULLEN

I am a [NSF Graduate Research Fellow](#) in the Department of Psychology at the University of Oregon and a Data Science Educator at RStudio, PBC. My research takes a translational (neuro)science approach toward predictive modeling of health behavior. I enjoy teaching open source software (primarily R and R Markdown) to empower others to conduct and share reproducible data science.

EDUCATION

2019
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2017

- **MS, Psychology**
University of Oregon 📍 Eugene, OR
 - Thesis: Comparing cognitive and affective predictors of craving
 - My graduate research took a translational (neuro)science approach toward predictive modeling of self-regulation processes and health-risking behaviors.
 - As part of my graduate training, I completed a 5-course [Data Science Specialization in Educational Leadership](#) taught entirely in R, focused on reproducible analysis, data visualization, functional programming, and machine learning within a tidyverse framework.
- **BA, Neuroscience**
Middlebury College 📍 Middlebury, VT
 - Thesis: Neurophysiological correlates of self-referential activity in meditators and non-meditators

2015
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2011

CERTIFICATION

2020

- **RStudio Certified Instructor**
RStudio, PBC
 - I am an [RStudio Certified Instructor](#) in the [tidyverse](#) (see certificate).

HONORS & AWARDS

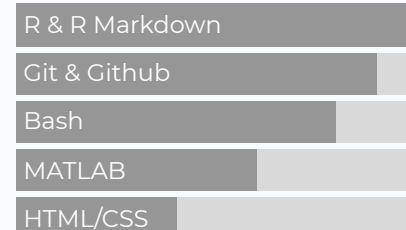
2023
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2018

- **NSF Graduate Research Fellowship** [\[more info\]](#)
National Science Foundation
- **Gregores Research Award** [\[more info\]](#)
Department of Psychology, University of Oregon
- **Graduate Education Committee Research Award**
Department of Psychology, University of Oregon
- **General University Scholarship** [\[more info\]](#)
University of Oregon
- **Pilot & Training Core Travel Award** [\[more info\]](#)
Center on Parenting and Opioids, University of Oregon

CONTACT

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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

- 2021 | 2018 ● National Science Foundation Graduate Research Fellow
Social and Affective Neuroscience Lab  University of Oregon
 - Co-designed interventions for large-scaled study comparing behavioral response and cognitive reappraisal interventions for devaluing unhealthy food.
 - Created and maintained 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
 - Led independent research projects exploring outcomes of a randomized controlled trial of Mindfulness-Based Cognitive Therapy 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

2021
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2020

- **Data Science Educator**
RStudio, PBC  Remote
 - Developed interactive educational materials related to using R for data science.

I believe that learning open-source data science tools can empower us to be better scientists and critical thinkers. I have served as a teaching assistant and lab instructor for both undergraduate and graduate-level statistics courses.

2020	<ul style="list-style-type: none"> Lab Instructor PSY 302: Statistical Methods in Psychology 📍 University of Oregon <ul style="list-style-type: none"> Taught online lab sections for introductory undergraduate statistics course (~200 students total) using the open-source statistical software jamovi. (Spring 2020)
2020	<ul style="list-style-type: none"> Lab Instructor PSY 612: Data Analysis II 📍 University of Oregon <ul style="list-style-type: none"> Designed and taught lab sections on Correlations, Univariate Regression and the General Linear Model, Regression with Categorical Predictors, Interactions, and Factorial ANOVA. (Winter 2020)
2019	<ul style="list-style-type: none"> Lab Instructor PSY 611: Data Analysis I 📍 University of Oregon <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Teaching Assistant PSYC 301: Physiological Psychology 📍 Middlebury College <ul style="list-style-type: none"> Assisted with lab and discussion sections, held exam review sessions, prepared experimental equipment, and conducted animal testing for student projects



WORKSHOPS TAUGHT

2020	<ul style="list-style-type: none"> R Markdown: Lesser-known tips and tricks Portland R User Group 📍 Remote <ul style="list-style-type: none"> A collection of “lesser known” tips and tricks in R Markdown, prepared for the Portland R User Group “aggregate” meetup.
2020	<ul style="list-style-type: none"> Using R more “wisely”: Column-wise & row-wise operations with dplyr R Ladies Algiers 📍 Remote <ul style="list-style-type: none"> Workshop for R-Ladies Algiers on column-wise and row-wise operations with dplyr for more efficient data wrangling and summarizing.
2020	<ul style="list-style-type: none"> UO Psych R Bootcamp Department of Psychology 📍 University of Oregon <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Introduction to Git and Github Psychology First Year Research Seminar 📍 University of Oregon <ul style="list-style-type: none"> 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

2021

📝 PEER-REVIEWED PUBLICATIONS

- **The contributions of focused attention and open monitoring in Mindfulness-Based Cognitive Therapy: a 3-armed randomized dismantling trial**

PloS One, 16(1), e0244838.

- Cullen, B., Eichel, K., Lindahl, J., Rahrig, H., Kini, N., Flahive, J. & Britton, W.B.

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)

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).

My peer-reviewed scientific publications are varied in topic, ranging from the neuroendocrinology of spatial memory to decomposing neurocognitive mechanisms of mindfulness practices. 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 to support human health and wellness.

📝 PRE-PRINTS & WORKS IN PROGRESS

2020

- **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.

- 2020
- **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.
- 2019
- **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)
- 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, San Francisco, CA and Education Science of Compassion Conference
 - Cullen, B., Stallworthy, I., Lesenskyj, A., Boles, L., Weinert-Stein, M., Percelay, 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

- 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.
- 2020
- **Introduction to Machine Learning with the Tidyverse**
rstudio::conf(2020)  San Francisco, CA
• Two-day workshop on machine learning with the tidyverse meta-package. 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