

# 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

- |                   |  |   |
|-------------------|--|---|
| 2022<br>I<br>2017 | <ul style="list-style-type: none"><li>● <b>PhD Student, Psychology</b><br/>University of Oregon<ul style="list-style-type: none"><li>• My research takes a translational (neuro)science approach toward predictive modeling of self-regulation processes and health-risking behaviors within a precision medicine framework.</li></ul></li></ul> | <span style="color: #808080;">📍</span> Eugene, OR     |
| 2019<br>I<br>2017 | <ul style="list-style-type: none"><li>● <b>MS, Psychology</b><br/>University of Oregon<ul style="list-style-type: none"><li>• Thesis: Comparing cognitive and affective predictors of craving</li></ul></li></ul>  | <span style="color: #808080;">📍</span> Eugene, OR     |
| 2015<br>I<br>2011 | <ul style="list-style-type: none"><li>● <b>BA, Neuroscience</b><br/>Middlebury College<ul style="list-style-type: none"><li>• Thesis: Neurophysiological correlates of self-referential activity in meditators and non-meditators</li></ul></li></ul>  | <span style="color: #808080;">📍</span> Middlebury, VT |

## CERTIFICATION

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

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

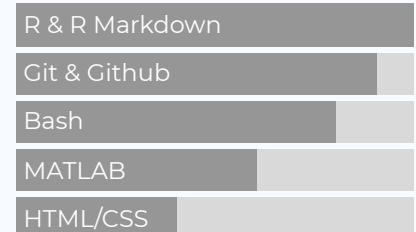
## CONTACT

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- 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)

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"> <li> <b>Lab Instructor</b>  <a href="#">PSY 612: Data Analysis II</a> </li> </ul>	<span>📍</span> University of Oregon
	<ul style="list-style-type: none"> <li>• Designed and taught lab sections on <a href="#">Correlations, Univariate Regression and the General Linear Model, Regression with Categorical Predictors, Interactions, and Factorial ANOVA.</a> (Winter 2020)</li> </ul>	
2019	<ul style="list-style-type: none"> <li> <b>Lab Instructor</b>  <a href="#">PSY 611: Data Analysis I</a> </li> </ul>	<span>📍</span> University of Oregon
	<ul style="list-style-type: none"> <li>• Designed and taught lab sections on <a href="#">R Basics and Descriptive Statistics, Matrix Algebra, Data Transformation with dplyr, Pre-registration, and Paired samples t-tests.</a> (Fall 2019)</li> </ul>	
2015	<ul style="list-style-type: none"> <li> <b>Teaching Assistant</b>  <a href="#">PSYC 301: Physiological Psychology</a> </li> </ul>	<span>📍</span> Middlebury College
	<ul style="list-style-type: none"> <li>• Assisted with lab and discussion sections, held exam review sessions, prepared experimental equipment, and conducted animal testing for student projects</li> </ul>	

## 💻 WORKSHOPS TAUGHT

2020	<ul style="list-style-type: none"> <li> <b>R Markdown: Lesser-known tips and tricks</b>            Portland R User Group         </li> </ul>	<span>📍</span> Remote
	<ul style="list-style-type: none"> <li>• A collection of “lesser known” tips and tricks in R Markdown, prepared for the Portland R User Group “aggregate” meetup.</li> </ul>	
2020	<ul style="list-style-type: none"> <li> <b>Using R more “wisely”: Column-wise &amp; row-wise operations with dplyr</b>            R Ladies Algiers         </li> </ul>	<span>📍</span> Remote
	<ul style="list-style-type: none"> <li>• Workshop for <a href="#">R-Ladies Algiers</a> on column-wise and row-wise operations with dplyr for more efficient data wrangling and summarizing.</li> </ul>	
2020	<ul style="list-style-type: none"> <li> <b>UO Psych R Bootcamp</b>            Department of Psychology         </li> </ul>	<span>📍</span> University of Oregon
	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	
2020	<ul style="list-style-type: none"> <li> <b>Introduction to Git and Github</b>            Psychology First Year Research Seminar         </li> </ul>	<span>📍</span> University of Oregon
	<ul style="list-style-type: none"> <li>• Introductory workshop for ~20 first-year psychology PhD and Master’s students on basics of using Git and Github for version control</li> </ul>	
2019	<ul style="list-style-type: none"> <li> <b>Intermediate Git and Github</b>            UO Data Science Club         </li> </ul>	<span>📍</span> University of Oregon
	<ul style="list-style-type: none"> <li>• 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</li> </ul>	

## PEER-REVIEWED PUBLICATIONS

2021

- **The contributions of focused attention and open monitoring in Mindfulness-Based Cognitive Therapy: a 3-arm 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-arm 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 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.

## 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 and Education Science of Compassion Conference  San Francisco, CA  
• **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

- 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	<ul style="list-style-type: none"><li>● <b>Dismantling effects of focused attention and open monitoring techniques in Mindfulness-Based Cognitive Therapy for affective disturbances</b> Annual Meeting and Expo of the American Public Health Association<ul style="list-style-type: none"><li>• Chang, B., Cullen, B., Kini, N., Rahrig, H., &amp; Britton, W.</li></ul></li></ul>	 Atlanta, GA
2016	<ul style="list-style-type: none"><li>● <b>Movement, embodiment and interoception in the context of contemplative practices (Panel)</b> International Symposium for Contemplative Studies<ul style="list-style-type: none"><li>• 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., &amp; Paulus, M.</li></ul></li></ul>	 San Diego, CA
2016	<ul style="list-style-type: none"><li>● <b>Effects of focused attention and open monitoring meditation on sustained attention</b> International Symposium for Contemplative Studies<ul style="list-style-type: none"><li>• Eichel, K., Cullen, B., &amp; Britton, W.</li></ul></li></ul>	 San Diego, CA

 ADDITIONAL TRAINING

- **RStudio Instructor Training**  
RStudio, PBC  
• 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 the `tidymodels` meta-package. Topics covered included prediction, classification, sampling & resampling, ensembling, workflows, recipes, cross-validation and model tuning.

## SERVICE & LEADERSHIP

2020	<ul style="list-style-type: none"><li>● <b>Co-organizer</b> <a href="#">Cascadia R Conf 2020</a> • Updated website, designed new hex sticker, secured additional sponsors</li></ul>	 Eugene, OR
2018	<ul style="list-style-type: none"><li>● <b>Co-organizer</b> <a href="#">Eugene Brainhack</a> • Co-organized a two-day Brainhack event hosted at the University of Oregon for collaborative software development projects related to computational neuroscience and psychology</li></ul>	 Eugene, OR

- 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