ELLYN BUTLER

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EDUCATION

Oberlin College & Conservatory, Oberlin, OH GPA: 3.96   August 2013 - May 2018
Bachelor of Arts in Psychology — Bachelor of Music in Flute Performance
Concentration in Statistical Modeling — Minor in Law & Society

WORK EXPERIENCE

University of Pennsylvania, Philadelphia, PA   June 2018 - present
Data Analyst — Brain Behavior Laboratory

- Principal Investigator: Ruben Gur, Ph.D.
- Statistics, Visualization and Communication ⇒ Translate research questions into testable hypotheses, utilize machine learning and Bayesian methods for prediction, communicate results to investigators using informative graphics, and write methods sections for manuscripts.
- Neuroimaging ⇒ Pre-process T1-weighted, diffusion, and functional images using a variety of software packages, and build a series of Flywheel gears to process longitudinal structural data.
- Psychometrics ⇒ Utilize factor analysis and item response theory to explore psychometric properties and score cognitive and clinical assessments, and assess the validity of various administration strategies for the Computerized Neurocognitive Battery.
- Management ⇒ Organize weekly meetings to discuss data and teach junior staff about data analysis.
- Manuscript Preparation ⇒ Write manuscripts on the social, biological and psychopathological sequelae of childhood physical and sexual abuse. In particular, examine relationships with internalizing symptoms, perfusion, parental knowledge of symptoms and abuse, and murder.

Momentum@Work, Austin, TX   December 2019 - January 2020
Consulting Statistician

- Collaborator: Allison Brenner, M.A.
- Responsibilities: Performed psychometric analyses and wrote summary of results to help determine efficacy of evaluation for potential Foreign Service members.

TECHNICAL SKILLS

Programming Languages	R, Python, Bash, LaTeX
Version Control	Github, Docker, Singularity, Flywheel
Neuroimaging Software	fMRIPrep, XCPEngine, NiLearn, ANTs, FSL, AFNI, Freesurfer

RELEVANT COURSEWORK

Mathematics, Statistics & Computer Science
Multivariable Calculus, Discrete Mathematics, Linear Algebra, Statistical Modeling, Probability, Mathematical Statistics, Introduction to Bayesian Data Analysis, Introduction to Computer Science

Neuroscience
Introduction to Neuroscience, Cognitive Neuroscience, Advanced Methods in Human Psychophysiology

Psychology
Public Health and Violence, Clinical and Counseling, Child Psychopathology and Treatment, Abnormal, Developmental, Social, Cultural, Seminar in Social Conflict, Advanced Methods in Psychometrics

MANUSCRIPTS: PEER REVIEWED

1. Morean, M.E. & **Butler, E.R.** (2019). The Medical Cannabis Expectancy Questionnaire: Adult medical marijuana users' expectancies associated with combustible, vaporized, and edible cannabis use for medical purposes. *Cannabis*, 2, 1-18. bit.ly/2NTGLYX

2. Morean, M.E., L'Insalata, A., **Butler, E.R.**, & McKee, A. (2018). Age at drinking onset, age at first intoxication, and delay to first intoxication: Assessing the concurrent validity of measures of drinking initiation with alcohol use and related problems. *Addictive behaviors*, *79*, 195-200. bit.ly/30wIhoE

3. Morean, M. E., **Butler, E. R.**, Bold, K. W., Kong, G., Camenga, D. R., Cavallo, D. A., ... & Krishnan-Sarin, S. (2018). Preferring more e-cigarette flavors is associated with e-cigarette use frequency among adolescents but not adults. *PloS one*, *13*(1), e0189015. bit.ly/2NyJBST

MANUSCRIPTS: UNDER REVIEW

1. **Butler, E.R.**, Moore, T.M., Calkins, M.E., Ruparel, K., Gur, R.C., & Gur, R.E. (under review). Do we understand our daughters' depression and anxiety? A bifactor modeling approach.

2. Moore, T.M., **Butler, E.R.**, Scott, J.C., Gur, R.E., & Gur, R.C. (under review). When CAT is not an option: Complementary methods of test abbreviation for neurocognitive batteries.

3. Gur, R.C., **Butler, E.R.**, Moore, T.M., Rosen, A.F.G., Ruparel, K., Satterthwaite, T.D., Roalf, D.R., Gennatas, E.D., Bilker, W.B., Shinohara, R.T., Port, A., Elliott, M.A., Verma, R., Davatzikos, C., Wolf, D.H., Detre, J.A., & Gur, R.E. (revising). Structural and functional brain parameters related to cognitive performance across development: Replication and extension of the frontoparietal integration theory in a single sample.

MANUSCRIPTS: IN PREPARATION

1. **Butler, E.R.**, Chen, A., Ramadan, R., Ruparel, K., Moore, T.M., Zhang, F., Shou, H., Gur, R.C., & Shinohara, R.T. (in preparation). Statistical pitfalls in brain age analyses.

2. **Butler, E.R.**, ... (in preparation). Internalizing symptoms in adolescent assault victims not explained by key neurobiological, contextual and social factors.

CONFERENCE POSTER PRESENTATIONS

1. **Butler, E.R.**, Chen, A., Ramadan, R., Ruparel, K., Moore, T.M., Zhang, F., Shou, H., Gur, R.C., & Shinohara, R.T. (June 2020). Statistical pitfalls in brain age analyses. Poster to be presented at the annual meeting of the Organization for Human Brain Mapping.

2. Morean, M.E., **Butler, E.R.**, Bold, K., Kong, G., Camenga, D., Cavallo, D., Simon, P. & Krishnan-Sarin, S. (March 2017). Preference for more e-cigarette flavors is associated with e-cigarette use frequency among youths but not adults. Poster presented at the 23rd annual meeting of the Society for Research on Nicotine and Tobacco.

3. Morean, M.E., **Butler, E.R.**, Bold, K., Kong, G., Camenga, D., Cavallo, D., Simon, P. & Krishnan-Sarin, S. (November 2016). Preference for more e-cigarette flavors is associated with e-cigarette use frequency among youths but not adults. Poster presented at the annual Tobacco Regulatory Science Conference.

PROFESSIONAL SERVICE

1. Ad hoc reviewer for *Substance Use and Misuse*   November 2017

HONORS AND AWARDS

1. Nominated member of Phi Beta Kappa   April 2018

2. Nominated member of Sigma Xi, The Scientific Research Society   March 2018

3. Nominated member of PI Kappa Lambda, The National Music Honor Society   February 2018

UNDERGRADUATE RESEARCH EXPERIENCE

Temple University, Philadephia, PA   June 2017 - August 2017
Research Assistant — Ellman Lab

- Principle Investigator: Lauren Ellman, Ph.D
- Responsibilities: Worked on a project to document associations between childhood trauma, social support and psychosis symptoms.

Children's Hospital of Philadelphia, Philadelphia, PA   June 2016 - August 2016
REU Intern — Center for Injury Research and Prevention

- Principle Investigator: Joel Fein, M.D., M.P.H.
- Responsibilities: Conducted research with Dr. Nancy Kassam-Adams on parent-child PTSD symptom agreement and severity. Shadowed Violence Intervention Program case managers and reviewed surveillance data to identify incidents of assaults on school property. Wrote a blog post on the mental health needs of children with incarcerated parents: https://bit.ly/3bkgU5V.

Oberlin College, Oberlin, OH   October 2015 - May 2018
Research Assistant — E-Cigarette, Marijuana and Alcohol Use

- Principle Investigator: Meghan Morean, Ph.D.
- Responsibilities: Designed surveys for experience with and expectations of substance use; performed psychometric and statistical analyses for publication; and assisted in manuscript preparation.

University of Denver, Denver, CO   May 2015 - July 2015
Research Assistant — The Relationship Lab

- Principle Investigator: Wyndol Furman, Ph.D.
- Responsibilities: Conducted background research, ran analyses, and edited articles for publication on adolescent romantic relationships.

University of Chicago, Chicago, IL   May 2014 - August 2014
Research Assistant — Child Neurosuite

- Principle Investigator: Jean Decety, Ph.D.
- Responsibilities: Recruited and applied electroencephalographics caps to infants, and maintained their focus during tasks evaluating pro-social behavior.

Oberlin College, Oberlin, OH   January 2014 - December 2014
Research Assistant — Continuity of Close Relationships Project

- Principle Investigator: Nancy Darling, Ph.D.
- Responsibilities: Micro- and macro-coded videos of adolescent and adult couples engaging in conflict resolution and social support tasks. This included marking and coding specific utterances, and evaluating couples on dimensions such as anxiety, affection and cohesion.

RESEARCH TALKS

1. **Butler, E.R.**, (April 2018). Medical Cannabis Expectancies Questionnaire. Senior Symposium at Oberlin College.

UNDERGRADUATE TEACHING EXPERIENCE

Oberlin College, Oberlin, OH   August 2017 - December 2017
Grader — Introduction to Biostatistics, Mathematics Department

- Supervisor: Jeffrey Witmer, Ph.D.
- Responsibilities: Graded and provided freedback on biostatistics homework.

Oberlin College, Oberlin, OH   August 2017 - December 2017
Drop-In Tutor — Mathematics Department

- Responsibilities: Assisted students with comprehension of calculus and statistics.

Oberlin College, Oberlin, OH   February 2016 - May 2016
Teaching Assistant — Research Methods II, Psychology Department

- Supervisor: Travis Wilson, Ph.D.
- Responsibilities: Held office hours, graded daily quizzes, and assisted students during lab.

Oberlin College, Oberlin, OH   October 2015 - December 2017
Tutor — Student Academic Services

- Courses: Introduction to Neuroscience, Statistical Modeling, Calculus I-III, Research Methods I-II, Aural Skills 1-IV, Music Theory I-IV

CLINICALLY RELEVANT EXPERIENCE

Oberlin College, Oberlin, OH   August 2017 - December 2017
Peer Advising Leader — Office of the Dean of Students

- Supervisor: Dana Hamdan, M.Ed., Executive Director, Career Development Center
- Responsibilities: Advised freshmen on course selection, study habits, and career opportunities.

Oberlin College, Oberlin, OH   October 2016 - May 2018
Peer Listener — Peer Support Center

- Supervisor: Matthew Hayden, M.A., Associate Dean of Students
- Responsibilities: Listened to and support peers during periods of stress.

Oberlin College, Oberlin, OH   November 2014 - May 2018
Board Member — Peer Support Center

- Supervisor: Matthew Hayden, M.A., Associate Dean of Students
- Responsibilities: Troubleshot logistics of launching a peer-to-peer support center.

COMMUNITY SERVICE

Mighty Writers West, Philadelphia, PA   October 2018 - present
Mentor

- Supervisor: Christina Rissell
- Responsibilities: Helped a student from 7th through 8th grade develop writing and studying skills.

Oberlin Community Services, Oberlin, OH   February 2014 - May 2018
Tutor — America Counts

- Responsibilities: Tutored a student from 4th through 8th grade in mathematics.