

August 11, 2020

Brittney E. Bailey

Assistant Professor of Statistics
Amherst College

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EDUCATION

PhD in Biostatistics The Ohio State University Columbus, OH	2018
MS in Statistics The Ohio State University Columbus, OH	2012
BA in Mathematics (Minor in Statistics) Messiah College Grantham, PA	2010

APPOINTMENTS

Assistant Professor of Statistics Amherst College, Department of Mathematics and Statistics Amherst, MA	2020 – Present
Postdoctoral Fellow and Visiting Assistant Professor of Statistics Amherst College, Department of Mathematics and Statistics Amherst, MA	2018 – 2020

RESEARCH POSITIONS

Biostatistics Research Associate The Ohio State University Wexner Medical Center, Institute for Behavioral Medicine Research Columbus, OH	2015 – 2018
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PI: Janice Kiecolt-Glaser, *Director of the Institute for Behavioral Medicine Research, Distinguished University Professor, S. Robert Davis Chair of Medicine, Professor of Psychiatry, Professor of Psychology, Professor of Health Behavior & Health Promotion*

Data analysis, statistical consulting, and grant writing assistance for ongoing clinical trials and related research in psychoneuroimmunology at the Stress & Health Lab

The lab runs randomized controlled clinical trials and longitudinal studies of 58 to 495 subjects to investigate how stress and depression impact the immune and endocrine systems, metabolism, and overall health.

Biostatistics Summer Research Assistant
The Ohio State University, College of Public Health
Columbus, OH

2014

PI: Randi Foraker, *Assistant Professor of Epidemiology*

Implemented a Monte-Carlo simulation study to investigate discrepancies in the direction and significance of estimated coefficients from logistic regression and Cox proportional hazards regression models when studying the influence of socioeconomic status on hospital readmission rates among heart failure patients.

PUBLICATIONS

1. Wilson SJ, Padin AC, **Bailey BE**, Laskowski B, Andridge R, Malarkey WB, & Kiecolt-Glaser JK (2020). Spousal bereavement after dementia caregiving: A turning point for immune health *Psychoneuroendocrinology*, In Press. doi:10.1016/j.psyneuen.2020.104717
2. **Bailey BE**, Andridge R, Shoben, AB (2020). Multiple imputation by predictive mean matching in cluster-randomized trials. *BMC Medical Research Methodology*, 20(1), 1-16. doi:10.1186/s12874-020-00948-6
3. Madison A, Woody W, **Bailey BE**, Lustberg M, Ramaswamy B, Wesolowsky R, Williams N, Reinbolt R, VanDesuen J, Sardesai S, Malarkey W, & Kiecolt-Glaser JK (2020). Cognitive problems of breast cancer survivors on proton pump inhibitors. *Journal of Cancer Survivorship*, 1-9. doi:10.1007/s11764-019-00815-4
4. Wilson SJ, **Bailey BE**, Malarkey WB, & Kiecolt-Glaser JK (2019). Linking marital support to aging-related biomarkers: Both age and marital quality matter. *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, gbz106. doi:10.1093/geronb/gbz106
5. Padin AC, Wilson SJ, **Bailey B**, Lustberg, MB, Farrar WB, Povoski SP, Agnese DM, Reinbolt RE, Wesolowski R, Williams N, Sardesai S, Ramaswamy B, Noonan AM, Vandeusen JF, Haas GJ, & Kiecolt-Glaser JK (2019). Physical activity after breast cancer surgery: Does depression make exercise feel more effortful than it actually is? *International Journal of Behavioral Medicine*, 26(3), 237-246. doi:10.1007/s12529-019-09778-3
6. Wilson SJ, **Bailey BE**, Jaremka LM, Fagundes C, Andridge R, & Malarkey, WB (2018). When couples' hearts beat together: Synchrony in heart rate variability during conflict predicts heightened inflammation throughout the day. *Psychoneuroendocrinology*, 93, 107-116. doi:10.1016/j.psyneuen.2018.04.017
7. Wilson SJ, Andridge RR, Peng J, **Bailey BE**, Malarkey WB, & Kiecolt-Glaser JK (2017). Thoughts after marital conflict and punch biopsy wounds: Age-graded pathways to healing. *Psychoneuroendocrinology*, 85, 6-13. doi:10.1016/j.psyneuen.2017.07.489
8. Belury MA, Cole RM, **Bailey BE**, Ke JY, Andridge R, & Kiecolt-Glaser JK (2016). Erythrocyte linoleic acid, but not oleic acid, is associated with improvements in body composition in men and women. *Molecular nutrition & food research*, 60(5), 1206-1212. doi:10.1002/mnfr.201500744

TALKS

Invited Conference Talks

1. **Bailey BE**, Andridge RR, Shoben AB. *New predictive mean matching imputation methods for cluster randomized trials*. Invited Panel with James Carpenter, Tom Louis, and Yaoyuan Vincent Tan. JSM.

Denver, CO. August 2019.

Invited Colloquia

1. **Bailey BE.** *Organizing for Productivity.* StatFest. Virtual roundtable September 2020.
2. **Bailey BE,** *Multiple imputation by predictive mean matching in cluster-randomized trials.* University of Massachusetts, Amherst Statistics Department. Amherst, MA. April 2020. Cancelled due to COVID-19 pandemic.
3. **Bailey BE.** *A Noncomprehensive Guide to Statistical Ethics in Practice.* Williams College Data Science Bootcamp. Virtual talk. January 2020.
4. **Bailey BE,** *Missing Data 101.* Research Bytes @ MassMutual. Amherst, MA. April 2019.
5. **Bailey BE,** *Multiple imputation in cluster-randomized trials* Smith College SDS Program. Northampton, MA. February 2019.
6. **Bailey BE,** *Multiple imputation in cluster-randomized trials* Smith College Center for Women in Mathematics. Northampton, MA. November 2018.

Contributed Talks

1. **Bailey BE,** Andridge RR, Shoben AB. *A new predictive mean matching approach to multiple imputation in cluster-randomized trials.* Annual Meeting of the Society for Clinical Trials (SCT). New Orleans, LA. May 2019.
2. **Bailey BE,** Andridge RR, Shoben AB. *Investigating multiple imputation in cluster-randomized trials.* JSM. Baltimore, MD. July 2017.
3. **Bailey BE,** Shoben AB. *Analyzing binary outcome data from a partially clustered design.* JSM. Chicago, IL. August 2016.
4. **Bailey BE,** Shoben AB. *Analyzing binary outcome data from individually-randomized group treatment trials.* SCT. Montreal, Quebec. May 2016.
5. **Bailey BE,** Shoben AB, and Foraker RE. *Quality measures? The impact of modeling strategy and informative censoring on estimated readmission risk.* JSM. Seattle, WA. August 2015.

POSTERS

Invited Posters

1. **Bailey BE.** *How do we count what wasn't measured? Dealing with missing data in stepped wedge designs.* Invited Poster Session. Joint Statistical Meetings (JSM). Philadelphia, PA. August 2020. Withdrawn due to COVID-19 pandemic.

Contributed Posters

1. **Bailey BE.** *Missing Data Methods for Cluster Randomized Trials.* International Conference on Health Policy Statistics (ICHPS). San Diego, CA. January 2020.
2. **Bailey BE.** *Missing data in cluster randomized trials: Options for analysis in R.* IMS 21st Meeting of New Researchers in Statistics and Probability. Fort Collins, CO. July 2019.

3. **Bailey BE**, Andridge RR, Shoben AB. *Investigating multiple imputation in cluster-randomized trials*. International Clinical Trials Methodology Conference (ICTMC) and Annual Meeting of the Society for Clinical Trials (SCT). Liverpool, UK. May 2016.
4. **Bailey BE**, Shoben AB. *Individually randomized group treatment trials with binary outcomes*. The Ohio State University, Cleveland Clinic Foundation, and Case Western Reserve University (OSU/CCF/CWRU) Joint Biostatistics Symposium. Columbus, OH. April 2016.
5. **Bailey BE**. *Classroom to collaboration: A grad student's guide*. Conference on Statistical Practice (CSP). San Diego, CA. February 2016.
6. **Bailey BE**, Shoben AB. *Individually randomized group treatment trials with binary outcomes*. OSU Statistics and Biostatistics Graduate Student Poster Session. Columbus, OH. September 2015.
7. **Bailey BE**, Shoben AB, and Foraker RE. *Quality measures? The impact of modeling strategy and informative censoring on estimated readmission risk*. JSM. Seattle, WA. August 2015.
8. **Bailey BE**, Shoben AB, and Foraker RE. *Quality measures? The impact of modeling strategy and informative censoring on estimated readmission risk*. OSU/CCF/CWRU Joint Biostatistics Symposium. Cleveland, OH. April 2015.

TEACHING EXPERIENCE

Amherst College

Assistant Professor of Statistics	2020 – Present
STAT 135: Introduction to Statistics via Modeling, <i>Fall 2020</i>	
Visiting Assistant Professor of Statistics	2018 – 2020
STAT 230: Intermediate Statistics, <i>Fall 2019</i>	
STAT 135: Introduction to Statistics via Modeling, <i>Fall 2018, Spring 2019</i>	

The Ohio State University

Teaching Assistant	2014 – 2015
PUBHBIO 2210H: Honors Biostatistics for Public Health Research, <i>Spring 2015</i>	
PUBHBIO 2210: Biostatistics for Public Health Research, <i>Autumn 2014, Spring 2015</i>	
Online Course Design Assistant	2014
Recorded instructional examples for first online version of PUBHBIO 6210: Design and Analysis of Studies in the Health Sciences I	
Grader	2013 – 2014
PUBHBIO 6211: Design and Analysis of Studies in the Health Sciences II, <i>Spring 2014</i>	
PUBHBIO 6210: Design and Analysis of Studies in the Health Sciences I, <i>Autumn 2013</i>	
Teaching Assistant	2012 – 2013
STAT1450: Introduction to the Practice of Statistics, <i>Spring 2012, Autumn 2012, Spring 2013</i>	
STAT135: Elementary Statistics, <i>Winter 2012</i>	
Grader	2012
STAT 427: Introduction to Probability and Statistics, <i>Spring 2012</i>	

Lecturer

2011

STAT1450: Introduction to the Practice of Statistics, *Autumn 2011*

Columbus State Community College

Adjunct Instructor of Statistics

2013 - 2014

STAT 1350: Elementary Statistics, *Summer 2013, Autumn 2013, Spring 2014, Autumn 2014*STAT 2450: Introduction to Statistical Analysis, *Summer 2013***PROFESSIONAL DEVELOPMENT OPPORTUNITIES****Workshops and Short Courses**

1. *National Institute of Statistical Sciences (NISS) Writing Workshop* August 2020.
2. *Methods for Causal Inference from Randomized Trials with Loss to Follow-up or Non-Adherence*. SCT workshop lead by Ellie Murray Ellie Caniglia New Orleans, LA. May 2019.
3. *Build → Improve → Share: Apps and Dashboards with Shiny*. Women in Statistics and Data Science short course by Mine Çetinkaya-Rundel. Cincinnati, OH. October, 2018.
4. *Fostering Diversity in Biostatistics*. ENAR workshop. Washington, DC. March 2017.
5. *Fostering Diversity in Biostatistics*. ENAR workshop. Austin, TX. March 2016.
6. *Propensity Score Methods: Practical Aspects and Software Implementation*. CSP workshop by Adin-Cristian Andrei. San Diego, CA. February 2016.
7. *Adaptive Designs: Overview, Hurdles, Examples, and Software*. SCT workshop by Christopher S. Coffey. Arlington, VA. May 2015.

Other Meeting Attendance

1. *Engaging Everyone*. Electronic Conference on Teaching Statistics. June 2020.
2. *Cluster Randomized Clinical Trials: Challenges and Opportunities*. 13th Annual Conference on Statistical Issues in Clinical Trials. Philadelphia, PA. April 2020. Cancelled due to COVID-19 pandemic.
3. *Electronic Health Records (EHR) in Randomized Clinical Trials: Challenges and Opportunities*. 12th Annual Conference on Statistical Issues in Clinical Trials. Philadelphia, PA. April 2019.
4. *Addressing Cancer Health Disparities in Appalachia*. Annual Ohio ACCN Research Seminar Columbus, OH. May 2015.
5. *Advances in Clinical Trial Statistics: Multiplicity Adjustment and Sequential, Multiple Assignment, Randomized Trials*. Innovative Methods Program for Advancing Clinical Trials (IMPACT) Symposium. Gary, NC. November 2014.

HONORS

Participant, IMS 21st Meeting of New Researchers in Statistics and Probability

2019

One of 60 early-career statisticians selected to participate.

Biostatistics Fellow, NIMH Advanced Research Institute Spring Retreat One of 2 early-career biostatisticians selected to participate.	2018
Statistics Mentee, JSM Diversity Mentoring Program One of 20 students selected to participate.	2017

AWARDS

Research Supplement to Promote Diversity in Health-Related Research, National Institute of Health, National Cancer Institute	2015 – 2018
Lester R. Curtin Award, American Statistical Association	2016
University Fellow, The Ohio State University	2010 – 2011
Lubrizol Foundation Fellowship, The Ohio State University	2010

NATIONAL SERVICE

Member, StatFest National Organizing Committee	2018 – Present
Co-Chair, StatFest Local Organizing Committee	2018
Referee Journals in alphabetical order include <i>BMC Public Health, Clinical Trials, Epidemiology, Harvard Data Science Review, International Journal of Data Science and Analytics, Journal of Statistics Education, Statistics in Medicine</i>	2017 – Present

Panelist, StatFest Graduate Student Experience Panel.
StatFest. Atlanta, GA. September 2017.

JSM Topic-Contributed Session Chair 2016
Time-to-Event Models for Studies with Informative Censoring, Truncation, or Drop-Out. JSM. Chicago, IL, August 2016

SCT Topic-Contributed Session Chair 2016
Cluster Randomized Trials/Cross-Protocol Analyses. SCT. Montreal, Quebec, May 2016

INSTITUTIONAL SERVICE

Intensive Advising AY 2020-2021: 3 Students	2020 – Present
Summer Bridge Faculty, Quantitative and Social Sciences Track Co-taught Statistics class with Kevin Donges.	July – August 2020

STEM Incubator Lead	June – July 2020
Thesis Consultations	
Heather Scott '21 (Carrie Palmquist), Psychology, 4hrs	Summer 2020
Tyler Marovitz '20, Political Science, 1.5hrs	Spring 2020
Bree Barnes '20, Environmental Studies, 1.5hrs	Fall 2019
Erik Zhang '19 (Marc Edwards), Biology, 19hrs	Spring 2019
Drop-in student '19, Psychology, 1hr	Spring 2019
Graduate School Experience Panel, Meiklejohn Fellowship Program	February 2020
Faculty Panel, Diversity Open House	October 2019
Quantitative Module Development (Amy Coddington)	Fall 2019
Developed a quantitative module for graph design and analysis in First Year Seminar, <i>What is Mainstream Music?</i> .	
Mead Art Museum Consultation (Emily Potter-Ndiaye)	
Evaluated attendance records with Juhwan Jeong '20, 4hrs	Spring 2019

DEPARTMENTAL SERVICE

Thesis Advising

Tony Ni '21, *TBD*

Thesis Reading

Dahyun Jessica Jeong '20, *Scaling statistical modeling and analysis for larger datasets using Sparklyr*
 Margaret Chien '20, *Modeling fatalities in armed conflict with mixed effects models*
 Zach Brown '19, *Using EM methods to handle data below the lower limit of detection*

PROFESSIONAL MEMBERSHIPS

American Statistical Association	2007 – Present
International Biometrics Society, Eastern North American Region (ENAR)	2016 – Present
Society for Clinical Trials	2016 – Present
Society for Epidemiological Research	2019 – Present
American Public Health Association	2019 – Present
Society for Prevention Research	2020 – Present