

Brandon LeBeau, PhD

Data and Statistics Maven

Contact

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<http://educate-r.org>

Statistics

Linear Mixed Model
Regression
Meta Analysis
Simulation
Research Design
Propensity Scores

Programming

♥ R, Stata, SPSS, SAS,
Lisrel, Amos, Mplus,
SQL, Unix, \TeX , \LaTeX ,
Bib \TeX , Bib \LaTeX ,
HTML, CSS,
Javascript

Education

2007–2013

Doctor of Philosophy

University of Minnesota

Educational Psychology – Quantitative Methods in Education

Misspecification of the covariance matrix in the linear mixed model: A monte carlo simulation

2003–2007

Bachelor of Arts

Luther College

Major: Psychology

Minor: Mathematics

Post-Graduate

2014–now

University of Iowa

Iowa City, IA

Assistant Professor

This unique position within the College of Education has my time split evenly between the Iowa Testing Programs and the Educational Measurement and Statistics program. I am teaching an online graduate course titled: *Computer Packages for Statistical Analysis*

2013–2014

University of Arkansas

Fayetteville, Arkansas

Visiting Assistant Professor

Primary responsibilities were teaching. While there I led six introductory statistics courses (3 undergraduate and 3 graduate level) as well as 2 sections of a graduate level research methods course.

Course titles taught (level of course in parentheses):

- Statistics in Nursing (Undergraduate)
- Statistics in Education and Health Profession (Graduate)
- Research Methods in Education (Graduate)

2012–2013

Saint Paul Public Schools

Saint Paul, Minnesota

Assessment Specialist

Analyzed districtwide assessment data and prepared reports to disseminate to stakeholders, including school board, superintendent, staff, and parents. Also performed statistical analyses to evaluate district programs and developed methods section for grant applications.

Detailed achievements:

- Reproducible assessment reports – No more copy and pasting.
- Reduced assessment reporting period from 10 day to 3 days.
- Wrote methods section for successful grant application with the Department of Education.
- Started R user group to improve R knowledge at the district.

Graduate Experience

2012–2012	College of Liberal Arts <i>Quantitative Analyst</i> Helped the College of Liberal Arts explore trends in time to degree. Used graphical procedures to explore bottlenecks in time to degree.	Minneapolis, Minnesota
2011–2012	Department of Educational Psychology <i>Teaching Assistant</i> Assisted professor in an introductory graduate statistics course. Held office hours, graded assignment, and led a series of labs to acquaint students with the R language.	Minneapolis, Minnesota
2009–2012	Office of Research Consultation and Services <i>Research Consultant</i> Assisted graduate students and university faculty on their theses or research projects. Provided methodological and statistical advice and performed analyses for sponsored faculty projects.	Minneapolis, Minnesota
2009–2011	Minnesota Mathematics Achievement Project <i>Quantitative Analyst</i> Performed statistical analyses, using cross-sectional and longitudinal multi-level models, on a National Science Foundation grant. Aided in preparing manuscripts for publications and attended national conferences.	Minneapolis, Minnesota
2010–2011	Department of Educational Psychology <i>Research Assistant</i> Conducted simulation studies in R and presented findings in biweekly meetings. Prepared a technical report summarizing findings.	Minneapolis, Minnesota
2009–2010	Saint Paul Public Schools <i>Quantitative Analyst</i> Analyzed assessment data using descriptive and inferential analyses. Prepared reports for dissemination to stakeholders.	Saint Paul, Minnesota
2008–2009	Department of Educational Psychology <i>Graduate Instructor</i> Led three sections of an introductory undergraduate statistics course. Led students through topics such as descriptive statistics, sampling distributions, and t-tests. Used group/exploratory learning as much as possible.	Minneapolis, Minnesota
2007–2008	Department of Educational Psychology <i>Teaching Assistant</i> Assisted with an introductory undergraduate and graduate statistics course. Helped facilitate labs, graded assignments and exams, and held office hours.	Minneapolis, Minnesota

Packages

SPSSStoR	R Package A R package that converts SPSS syntax to comparable R syntax.	https://github.com/lebebr01/SPSSStoR
simReg	R Package A R package that simulates regression models, both single and multilevel. Exploring power analysis by simulation.	https://github.com/lebebr01/simReg
highlightHTML	R Package A R package that post processes HTML files to add highlighting to table cells using CSS.	https://github.com/lebebr01/highlightHTML

Service

2014–now	Iowa Educational Research & Evaluation Association (IEREA) Help plan the annual conference for Iowa's local Educational conference. Primary responsibility with rating poster submissions.	Council member
2014–now	Big Ten Online Symposium Coordinated Iowa's portion of the Big Ten Online Symposium in conjunction with the University of Minnesota and University of Nebraska.	University of Iowa Coordinator
2014–now	American Educational Research Association Reviewed sessions for the annual conference for Division H and the Multilevel Model special interest group.	Reviewer
2014–now	Review of Educational Research Review journal article submissions as asked by the editors.	Reviewer
2014	Technology Innovations in Statistics Education Review journal article submissions as asked by the editors.	Reviewer
2014	Routledge Publishing Reviewed book proposal regarding effective use of educational assessment, particularly aimed toward preservice teachers.	Reviewer

Interests

Statistics: Simulation, Regression, Linear Mixed Models, Meta Analysis, Longitudinal Data, Research Design, Hierarchical Linear Models, Nonparametric Statistics

Research: Longitudinal Methodological issues, Promoting science, technology, engineering, and mathematics majors, Time to degree, National School Lunch Program

Publications

Published Article

Impact of serial correlation misspecification with the linear mixed model: A monte carlo simulation

Brandon LeBeau

Journal of Modern Applied Statistical Methods (2015). **in press**

Misspecification of the random effect structure: Implications for the linear mixed model

Brandon LeBeau

Multivariate Behavioral Research (2015). **under review**

Model misspecification and assumption violations with the linear mixed model: A meta analysis

Brandon LeBeau

Sociological Methods and Research (2015). **under review**

A Multisite Study of High School Mathematics Curricula and the Impact of Taking a Developmental Mathematics Course in College.

Michael Harwell, Danielle Dupuis, Thomas R. Post, Amanuel Medhanie, Brandon LeBeau

Educational Research Quarterly 37.3 (2014) pp. 3–22

The Impact of Institutional Factors on the Relationship Between High School Mathematics Curricula and College Mathematics Course-Taking and Achievement.

Michael Harwell, Dupuis Danielle, Thomas Post, Amanuel Medhanie, Brandon LeBeau

Educational Research Quarterly 36.3 (2013) pp. 22–46

A Multi-Institutional Study of High School Mathematics Curricula and College Mathematics Achievement and Course Taking

Michael R Harwell, Thomas R Post, Amanuel Medhanie, Danielle N Dupuis, Brandon LeBeau

Journal for Research in Mathematics Education 44.5 (2013) pp. 742–774. *National Council of Teachers of Mathematics (NCTM)*

Student and high-school characteristics related to completing a science, technology, engineering or mathematics (STEM) major in college

Brandon LeBeau, Michael Harwell, Debra Monson, Danielle Dupuis, Amanuel Medhanie, Thomas R Post

Research in Science & Technological Education 30.1 (2012) pp. 17–28. *Taylor & Francis*

A Multi-Institutional Study of the Relationship between High School Mathematics Achievement and Performance in Introductory College Statistics

Danielle N Dupuis, Amanuel Medhanie, Michael Harwell, Brandon LeBeau, Debra Monson, Thomas R Post

Statistics Education Research Journal 11.1 (2012) pp. 4–20. *International Association for Statistics Education and the International Statistical Institute. PO Box 24070, 2490 AB The Hague, The Netherlands*

The role of the ACCUPLACER mathematics placement test on a student's first college mathematics course

Amanuel G Medhanie, Danielle N Dupuis, Brandon LeBeau, Michael R Harwell, Thomas R Post

Educational and Psychological Measurement 72.2 (2012) pp. 332–351. *Sage Publications*

Outcomes Assessment of Case-Based Writing Exercises in a Veterinary Clinical Pathology Course

Leslie Sharkey, Helen Michael, Brandon LeBeau, Bruce Center, Deb Wingert

Journal of veterinary medical education 39.4 (2012) pp. 396–403. *UT Press*

Student eligibility for a free lunch as an SES measure in education research

Michael Harwell, Brandon LeBeau

Educational Researcher 39.2 (2010) pp. 120–131. *SAGE Publications*

Articles In Preparation

Comparison of the ltm R package and bilog-mg for IRT calibration: A simulation

Brandon LeBeau

AERA Open (2015). **in preparation**

Technical Reports

Next Generation Iowa Assessments: Item Pool Calibration

Brandon LeBeau, Aaron McVay, Keyu Chen, Wei Cheng Liu, Steve Dunbar, Cathy Welch

Technical Report, Iowa Testing Programs, University of Iowa, 2015

Presentations

Misspecification of the random effect structure: Implications for the linear mixed model

Brandon LeBeau

Paper submitted to Modern Modeling Methods Conference, Storrs, CT (2015)

Model misspecification and assumption violations with the linear mixed model: A meta analysis

Brandon LeBeau

Paper accepted to American Educational Research Association (AERA) conference, Philadelphia, PA (2014)

Impact of non-normal level one and two residuals on the linear mixed model

Brandon LeBeau

Paper presented at American Educational Research Association (AERA), San Francisco, CA (2013)

Linking the 3rd Grade Reading MAP and Mondo Assessments: A logistic regression analysis

Brandon LeBeau, Jose Palma

Presentation to the Evaluation Roundtable at the Saint Paul Public Schools, Saint Paul, MN (2013)

Introduction to R – Practical reasons to use R in a large urban school district

Brandon LeBeau

Presentation to the Research, Evaluation, and Assessment department at the Saint Paul Public Schools, Saint Paul, MN (2013)

Exploring the interaction between gender and race/ethnicity at Saint Paul Public Schools

Brandon LeBeau

Presentation to the Evaluation Roundtable at the Saint Paul Public Schools, Saint Paul, MN (2012)

A multisite study of the relationship between high school mathematics curricula and developmental mathematics course-taking and achievement in college

Michael Harwell, Brandon LeBeau, Thomas Post, Amanuel Medhanie, Danielle Dupuis

Paper presented at the Society for Research on Educational Effectiveness, Washington DC (2011)

An institutional analysis of the relationship between high school mathematics curricula and preparation for college mathematics

Michael Harwell, Thomas Post, Danielle Dupuis, Amanuel Medhanie, Brandon LeBeau, Debra Monson

Paper presented at the annual meeting of the American Educational Research Association, Denver, CO (2010)

Basics of L^AT_EX

Andrew Zieffler, Brandon LeBeau

Presentation at the University of Minnesota, Minneapolis, MN (2009)

Introduction to R

Andrew Zieffler, Brandon LeBeau

Presentation at the University of Minnesota, Minneapolis, MN (2008)

Introduction to R

Brandon LeBeau

Presentation at the University of Minnesota, Minneapolis, MN (2008)