

# Christy Jenkins Brown

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## EDUCATION

- Ph.D. in Educational Psychology** August 2013  
The University of Georgia  
Concentration: Quantitative Methods Program  
Dissertation Advisor: Jonathan Templin
- M.S. in Statistics** May 2010  
The University of Georgia  
Awarded Best Beginning Applied Student
- B.S.Ed. in Mathematics Education** May 2004  
The University of Georgia  
First Honor Graduate (designation for students with a perfect 4.00 GPA)

## PROFESSIONAL EXPERIENCE

- Clinical Associate Professor** August 2022 – present  
**Quantitative Clinic Director** January 2020 – present  
**Clinical Assistant Professor** August 2019 – July 2022  
Department of Education and Human Development  
Clemson University
- Senior Lecturer** August 2018 – July 2019  
**Lecturer** August 2013 – July 2018  
School of Mathematical and Statistical Sciences  
Clemson University
- Research Assistant** June 2010 – July 2013  
Department of Educational Psychology/Georgia Center for Assessment  
The University of Georgia
- Teaching Assistant** August 2008 – May 2010  
Department of Statistics  
The University of Georgia
- High School Math Teacher** July 2004 – July 2008  
Loganville High School in Loganville, GA

# RESEARCH

## PUBLICATIONS

### Peer-reviewed Articles

Whitworth, B.A., **Brown, C.**, Watson, S. A., Jackson, W., & Simplson, L. A. (2023). *Thinking about science differently: Impacting preservice elementary teachers with a physical science course* [Manuscript submitted for publication].

Mueller, K. E., Van Puymbroeck, M., **Brown, C.**, Crowe, B. M., & Davis, N. (2023). *Development and factor structure of the Mueller Assessment of Transition (MAT): A tool for measuring older adults' wellbeing during transitions into assisted living facilities* [Manuscript submitted for publication].

Frady, K. K., **Brown, C.**, Hughes, C., Huang, S., O'Hara, R., & High, K. (2023). *Analyzing career orientations: Engineering technology educational and career pathway formation* [Manuscript submitted for publication].

Mueller, K. E., Van Puymbroeck, M., **Brown, C.**, Crowe, B. M., & Davis, N. (2023). *Measuring older adults' wellbeing when transitioning into assisted living facilities: A confirmatory factor analysis of the Mueller Assessment of Transition (MAT)* [Manuscript submitted for publication].

Savitz, R. S., Morrison, J. D., **Brown, C.**, Aldrich, C., Kane, B. D., & O'Byrne, W. I. (2023). *Secondary teachers' self-efficacy of adolescent literacy* [Manuscript submitted for publication].

Guynn, S., **Brown, C.**, O'Hara, R., & Coyle, D. (2023). *Development of a scale to assess extension specialist competencies* [Manuscript submitted for publication].

Hirsch, S. E., Lewis, T. J., Griffith, C. A., Carlson, A., **Brown, C.**, & Katsiyannis, A. (2023). An analysis of selected aspects of functional behavioral assessments and behavior intervention plans. *The Journal of Special Education*, 57(3), 131-141.  
<https://doi.org/10.1177/00224669221146168>

**Brown, C.** & Templin, J. (2023). Modification indices for diagnostic classification models. *Multivariate Behavioral Research*, 58(3), 580-597.  
<https://doi.org/10.1080/00273171.2022.2049672>

Savitz, R. S., Allen, A. A., & **Brown, C.** (2022). Variations in RTI literacy implementation in grades 6-12: A national study. *Literacy Research and Instruction*, 61(1), 18-40.  
<https://doi.org/10.1080/19388071.2021.1887416>

**Brown, C.**, Templin, J., & Cohen, A. (2015). Comparing the two- and three-parameter logistic models via likelihood ratio tests: A commonly misunderstood problem. *Applied Psychological Measurement*, 39(5), 335-348. <https://doi.org/10.1177/0146621614563326>

### **Published Conference Proceedings**

- Frady, K., **Brown, C.**, High, K., Hughes, C., O'Hara, R., & Huang, S. (2021). Developing two-year college student engineering technology career profiles. *Proceedings of the 2021 American Society of Engineering Education Virtual Annual Conference*, Virtual Online. <https://doi.org/10.18260/1-2--36945>
- Gallagher, E., Vagnozzi, A. M., Lanning, R., Brown, D. A., **Brown, C.**, Frady, K., Brisbane, J., Matthews, M., Murphy, J., Patel, K., Pfirman, A., Rabb, R., Roberts, R., Welch, R., & Gramopadhye, A. (2020). Poverty and guidance: Challenges and opportunities in mathematics preparation for engineering. *Proceedings of the 2020 American Society of Engineering Education Virtual Annual Conference*, Virtual Online. <https://doi.org/10.18260/1-2--35063>
- Marcanikova, M., Gallagher, E., **Brown, C.**, Brisbane, J., Brown, D. A., Dunwoody, L., Frady, K., Hines, A., Murphy, J., Patel, K., Pfirman, A., Roberson, S., & Gramopadhye, A. (2019). High school technology as a NON-predictor of first college math course. *Proceedings of the 2019 American Society of Engineering Education Southeast Annual Regional Conference*, Raleigh, NC. <https://par.nsf.gov/servlets/purl/10098179>
- Gallagher, E., Brown, D. A., **Brown, C.**, Frady, K., Bass, P., Matthews, M., Peters, T., Rabb, R., Sloan, I., Welch, R., & Gramopadhye, A. (2018). Prevalent mathematical pathways to engineering in South Carolina. *Proceedings of the 2018 American Society of Engineering Education Annual Conference and Exposition*, Salt Lake City, UT. <https://doi.org/10.18260/1-2--30890>
- Gallagher, E., **Brown, C.**, Brown, D. A., Frady, K., Marcanikova, M., Atamturktur, S., Ihekweazu, S., Matthews, M., Rabb, R., Roberts, R., Solan, I., Welch, R., & Gramopadhye, A. (2018). Statewide coalition: Supporting underrepresented populations in Precalculus through organizational redesign toward engineering diversity (SC:SUPPORTED) results from year one. *Proceedings of the 2018 American Society of Engineering Education Annual Conference and Exposition*, Salt Lake City, UT. <https://doi.org/10.18260/1-2--30039>

### **Other Publications**

- Bundrick, L. (Host), **Brown, C.** (Guest), & Alexandar A. M. (Guest). (2023, March 19). *Hybrid highs and lows* (S7 E19) [Audio podcast episode]. The Contemporary College Student Podcast. <https://open.spotify.com/episode/0e4tG91DSLfKcSW59dMgav>
- Brown, C.** (2021). *Selecting an appropriate chi-square test* [Video file]. The College Board AP Statistics Faculty Lecture Series. <https://www.youtube.com/watch?v=zXc1GDwCNwY>

### **Unpublished Technical Reports**

- Clark, V., & **Brown, C.** (2023). *Analysis of teacher residency matching data* (Technical Report No. EHDQC-TR-2023-04). Education and Human Development Quantitative Clinic, Clemson University.

- Huang, S., O'Hara, R., & **Brown, C.** (2023). *Comparing student achievement data between early career teachers from teacher resident and traditional student teaching programs* (Technical Report No. EHDQC-TR-2023-01). Education and Human Development Quantitative Clinic, Clemson University.
- Brown, C.** (2023). *Little Lights Learning Center parent survey results Fall 2022* (Technical Report No. EHDQC-TR-2022-10). Education and Human Development Quantitative Clinic, Clemson University.
- Brown, C.,** Alexander, A. M., & O'Hara, R. (2022). *Year 4 external evaluation report: NSF Research Traineeship (NRT) Technology-Human Integrated Knowledge Education and Research (THINKER) program* (Technical Report No. EHDQC-TR-2022-06). Education and Human Development Quantitative Clinic, Clemson University.
- Brown, C.,** & O'Hara, R. (2022). *A longitudinal analysis of the Building Content Knowledge of Elementary Teachers of Science (BuCKETS) program Year 1 data* (Technical Report No. EHDQC-TR-2022-04). Education and Human Development Quantitative Clinic, Clemson University.
- O'Hara, R., Huang, S., & **Brown, C.** (2022). *Examining parent and student perceptions of reading motivation and opportunities at home in the Tigers Read summer reading program* (Technical Report No. EHDQC-TR-2022-03). Education and Human Development Quantitative Clinic, Clemson University.
- Carlson, A., & **Brown., C.** (2021). *Examining the impact of the Classroom Teaching (CT) Scan observation tool* (Technical Report No. EHDQC-TR-2021-12). Education and Human Development Quantitative Clinic, Clemson University.
- Brown, C.** (2021). *Examining literacy instruction across the disciplines in South Carolina middle and high school classrooms* (Technical Report No. EHDQC-TR-2021-09). Education and Human Development Quantitative Clinic, Clemson University.
- Brown, C.** (2021). *An analysis of career domains in engineering technology students* (Technical Report No. EHDQC-TR-2021-07). Education and Human Development Quantitative Clinic, Clemson University.
- O'Hara, R., & **Brown, C.** (2021). *Psychometric properties of the Tigers Read Me and My Reading survey* (Technical Report No. EHDQC-TR-2021-04). Education and Human Development Quantitative Clinic, Clemson University.
- Brown, C.,** Huang, S., & O'Hara, R. (2021). *An analysis of career anchors in engineering technology students* (Technical Report No. EHDQC-TR-2021-01). Education and Human Development Quantitative Clinic, Clemson University.

**Brown, C.** (2020). *Analyzing the effectiveness of the Tigers Read summer reading program* (Technical Report No. EHDQC-TR-2020-05). Education and Human Development Quantitative Clinic, Clemson University.

**Brown, C., & O'Hara, R.** (2020). *Analysis of response to intervention teacher survey data* (Technical Report No. EHDQC-TR-2020-04). Education and Human Development Quantitative Clinic, Clemson University.

## PRESENTATIONS

### International and National Conferences

Lorah, J., & **Brown, C.** (2023, June). *Integrating social justice issues within the postsecondary statistics curriculum*. Breakout session presented at the U.S. Conference on Teaching Statistics in State College, PA.

Morrison, J., Savitz, R., **Brown, C.**, Kane, B., O'Byrne, W. I., Aldrich, C., & Ming, K. (2022, November). *Determining how teachers' self-efficacy and dispositions impact literacy instruction in content area classrooms*. Paper presented at the annual conference of the Literacy Research Association in Phoenix, AZ.

Mueller, K., Van Puymbroeck, M., Crowe, B.M., **Brown, C.**, & Davis, N. (2022, September). *Is there a relationship between perceived health and wellbeing during older adults' transitions into assisted living facilities?* Paper presented at the annual conference of the American Therapeutic Recreation Association Annual Conference in Birmingham, AL.

Mueller, K., Van Puymbroeck, M., Crowe, B.M., **Brown, C.**, & Davis, N. (2022, September). *The Mueller Assessment of Transition (MAT) for measuring older adults' wellbeing when transitioning into assisted living facilities: A confirmatory factor analysis*. Poster presented at the annual conference of the American Therapeutic Recreation Association Annual Conference in Birmingham, AL.

Bates, C. C., Malloy, J., **Brown, C.**, Malloy, M., Hoover, H., & Madison, S. (2021, December). *Maintaining reading gains: Implementing a summer reading program for students served in Reading Recovery®*. Paper presented at the annual conference of the Literacy Research Association in Atlanta, GA.

Malloy, J., Bates, C. C., O'Hara, R., **Brown, C.**, Malloy, M., Hoover, H., & Madison, S. (2021, November). *Bridging first and second: Parent and student perceptions of motivation in a summer reading program*. Paper presented at the annual conference of the Association of Literacy Educators and Researchers in Hilton Head Island, S.C.

Brems, M., **Brown, C.**, Lee, H., Pittard, M., Ripp, S., & Slade, E. (2019, July). *Student engagement and interaction in online/hybrid courses*. Panel session presented at the Joint Statistical Meetings in Denver, CO.

**Brown, C., & Breazel, E.** (2019, July). *Preparing students for success on the AP Statistics investigative task*. Training session presented at the Advanced Placement Annual Conference in Orlando, FL.

Breazel, E., & **Brown, C.** (2018, July). *Top five activities you need for your AP Statistics classroom*. Training session presented at the Advanced Placement Annual Conference in Houston, TX.

**Brown, C.,** Breazel, E., Johnson, E., Duggins, J., & Crissinger, B. (2017, August). *Developing partnerships with an AP Statistics practice exam*. Speed session and poster presented at the Joint Statistical Meetings in Baltimore, MD.

Breazel, E., & **Brown, C.** (2017, July). *The forgotten inference: Chi-squared tests and regression analysis*. Training session presented at the Advanced Placement Annual Conference in Washington, D.C.

Breazel, E., & **Brown, C.** (2016, July). *Conditions for inference: What are they and why do we need them?* Training session presented at the Advanced Placement Annual Conference in Anaheim, CA.

Breazel, E., & **Brown, C.** (2015, July). *What's wrong with accepting the null hypothesis?* Training session presented at the Advanced Placement Annual Conference in Austin, TX.

Breazel, E., & **Brown, C.** (2014, July). *Bias vs. error – what is the difference?: Helping students to distinguish between bias and error and how to communicate statistical understanding of experimental design clearly*. Training session presented at the Advanced Placement Annual Conference in Philadelphia, PA.

**Brown, C., & Templin, J.** (2014, April). *Modification indices for diagnostic classification models*. Dissertation presented at the annual meeting of the National Council on Measurement in Education in Philadelphia, PA.

**Jenkins, C.,** Templin, J., & Cohen, A. (2012, April). *Comparing the two- and three-parameter logistic models via likelihood ratio tests: A commonly misunderstood problem*. Paper presented at the annual meeting of the National Council on Measurement in Education in Vancouver, British Columbia, Canada.

Alexeev, N., Cohen, A., Gregg, N., & **Jenkins, C.** (2011, April). *Factors affecting the formation of latent classes in mixture IRT models*. Paper presented at the annual meeting of the National Council on Measurement in Education in New Orleans, LA.

### **Regional and State Conferences**

Gallagher, E., **Brown, C.,** & Frady, K. (2019, March). *Predictive models for initial college math course and major selection based on high school institutional factors*. Paper presented at the South Carolina Educators for the Practical Use of Research Conference in Columbia, SC.



**Brown, C., & Breazel, E.** (2015, November). *Engaging activities for teaching statistics*. Training session presented at the South Carolina Council of Teachers of Mathematics Fall Conference in Greenville, SC.

### **Local Presentations**

**Brown, C.,** Gallagher, E., Brown, A., Frady, K., Gramopadhye, A. K. (2018, May). *Analysis of pathways to Calculus readiness for SC engineering students: Preliminary results from the SC: SUPPORTED NSF INCLUDES project*. Paper presented at the Clemson University Research Symposium in Clemson, SC.

## **SPONSORED RESEARCH**

### **Funded Grants**

“CU-PREPARES: Preparing Rural Educators for Priority Areas through Residency Expansion,” US Department of Education: Teacher Quality Partnership Grants. PI: Laura Eicher, Total Amount: \$2,309,906, Allocated Amount: \$123,673.05 (10/1/2023 – 9/30/2028). Role: Consultant.

“NOYCE Track 3: Building Leadership Among Science Teachers (BLAST) Program: Designing, Developing, and Implementing a Science Teacher Leadership Academy,” National Science Foundation: Division of Undergraduate Education (DUE-2243496). PI: Brooke Whitworth, Total Amount: \$2,896,659, Allocated Amount: \$579,331.80 (6/1/2023 – 5/31/2029). Role: Consultant.

“BCSER: Investigating Family Science Habitus and Science Capital to Support the Language of Possibility Around Science,” National Science Foundation: Division of Equity for Excellence in STEM (EES-2225149). PI: Julianne Wenner, Total Amount: \$349,579, Allocated Amount: \$34,957.90 (9/15/2022 – 8/31/2025). Role: Consultant.

“CAREER: Valuing Education and Career Transition Opportunities Raising Student Success (VECTORS) in Engineering,” National Science Foundation: Division of Engineering Education and Centers (EEC-2144213). PI: Kris Frady, Total Amount: \$599,943, Allocated Amount: \$29,997.15 (5/1/2022-4/30/2027). Role: Consultant.

“NRT: Technology-Human Integrated Knowledge Education and Researcher (THINKER),” National Science Foundation: Division of Graduate Education (DGE-1829008). PI: Laine Mears, Total Amount: \$2,993,421 (9/1/2018 – 8/31/2024). Role: Evaluator, 2021-2024.

“INCLUDES Statewide Consortium: Supporting Underrepresented Populations in Precalculus by Organizational Redesign Towards Engineering Diversity (SC:SUPPORTED),” National Science Foundation: Division of Engineering Education and Centers (EEC-1744497). PI: Anand Gramopadhye, Total Amount: \$299,994, Allocated Amount: \$44,999.10 (12/1/2017 – 11/30/2021). Role: Senior Personnel.

## **Grants Currently Under Review**

“FMRG: Cyber: Internet of People and Things – Collaborative Intelligence through Human-AI Team Building,” National Science Foundation. PI: Laine Mears, Total Amount: \$3,000,033 (Submitted April 19, 2023). Role: Evaluator.

## **INTERNAL AWARDS**

**Clemson Research Fellows Grant**, Clemson Office of Research Development, 2023

Awarded \$150,000 to support a postdoctoral researcher in program evaluation.

**Faculty Learning Community Participant**, Clemson Office of Teaching Effectiveness, 2019

Received \$400 for participation in a learning community for Clemson faculty on the Scholarship of Teaching and Learning (SoTL).

**Faculty Learning Community Leader**, Clemson Office of Teaching Effectiveness, 2018

Received \$1,500 to facilitate a learning community for Clemson faculty on innovative methods for teaching large enrollment general education courses. The learning community was selected from a campus-wide call for proposals.

**General Education Assessment Program Participant**, Clemson University, 2017 – 2018

Awarded \$2,500 per year for participation in assessment of student proficiencies in general education competencies at Clemson University.

**TIGER Grant**, Clemson College of Engineering, Computing, and Applied Science, 2017

The Clemson research team for the NSF funded SC:SUPPORTED research project was awarded \$14,631 to accelerate the data collection and analysis timeline.

**Online Course Development Grant**, Clemson College of Engineering and Science, 2015

Awarded \$7,500 for the development of an online version of the Statistical Methods I course at Clemson University with an initial offering in Summer 2016.

## **RESEARCH HONORS AND AWARDS**

**Second Place Conference Research Poster**

2022

American Therapeutic Recreation Association

**Best Conference Paper Award**

2021

Two-Year College Division, American Society of Engineering Education



# TEACHING & ADVISING

## COURSES TAUGHT

### Clemson University

EDF 9270: Quantitative Research Designs and Statistics for Educational Contexts (4 semesters)  
EDF 9770: Multiple Regression / General Linear Model in Educational Research (4 semesters)  
EDHD 9310: Data Science in Education Using R (1 semester)  
STAT 2300: Statistical Methods I (11 semesters)  
STAT 2300 Online: Statistical Methods I Online (4 semesters)  
STAT 3090: Introductory Business Statistics (2 semesters)  
MATH 1040: Precalculus and Introductory Differential Calculus (1 semester)  
MATH 1070: Differential and Integral Calculus (1 semester)  
MATH 9000: Preparing for College Teaching in the Mathematical Sciences (4 semesters)

### The University of Georgia

STAT 2000: Introductory Statistics (1 semester)  
STAT 2000 Lab: Introductory Statistics Laboratory (3 semesters)  
STAT 4210: Statistical Methods (1 semester)

### Loganville High School, Loganville, GA

Advanced Placement (AP) Statistics (4 semesters)  
Statistics (3 semesters)  
SAT Math Prep (1 semester)  
Euclidean Geometry (6 semesters)

## DISSERTATION COMMITTEES

Virginia Clark (In Progress; Learning Sciences)  
Nan Burvenich (In Progress; Teaching and Learning)  
Alex Dennison (In Progress; Learning Sciences)  
Davida Rogers (In Progress; Special Education)  
Jacqui DiMaggio (In Progress; Educational Leadership)  
Alex Carlson (In Progress; Special Education)  
Kelli Seawell (In Progress; Educational Leadership)  
Randi Sims (In Progress; Engineering and Science Education)  
Samantha Scott (In Progress; Special Education)  
Amy Burke (In Progress; Educational Leadership)  
Derek Whaley (In Progress; Parks, Recreation, and Tourism Management)  
Anne Grant (In Progress; Learning Sciences)  
Anne Marie Alexander (PhD in Educational Leadership, May 2023)  
Charlotte Branyon (Doctor of Nursing Practice, August 2022)  
Kaitlin Mueller (PhD in Parks, Recreation, and Tourism Management, May 2022)  
Myles Surret (PhD in Educational Leadership, December 2021)

## TEACHING HONORS AND AWARDS

<b>Award of Excellence in Teaching Finalist</b> College of Education, Clemson University	2023
<b>Excellence in Teaching</b> College of Science, Clemson University	2018
<b>Outstanding Graduate Teaching Assistant Award</b> Department of Statistics, The University of Georgia	2010

## SERVICE

### SERVICE TO PROFESSION

Models for Sustainable and Inclusive Data Science Consulting and Collaboration in Higher Education Workshop Series Participant, NC State University, 2023

#### **Service to the Advanced Placement (AP) Statistics Community**

AP Statistics Instructional Design Team Member AP Statistics Course and Exam Description Contributor The College Board	2018 – 2019
College Board Endorsed AP Statistics Workshop Consultant • UNC Charlotte AP Statistics Summer Institute, July 24-27, 2023 (21 participants) • UT Austin AP Statistics Summer Institute, July 19-22, 2022 (26 participants)	2020 – present
AP Statistics Exam Scorer for Educational Testing Service • Question Leader, 2021 & 2022 • Rubric Team Member, 2023 • Table Leader, 2016 – 2019 • Reader, 2008 – 2015	2008 – present
AP Statistics Teacher Community Co-Coordinator Greenville, SC	2017 – present
Clemson AP Statistics Practice Exam Coordinator School of Mathematical and Statistical Sciences, Clemson University	2014 – 2019

#### **Peer Reviewer**

Statistics Education Research Journal (1 article)  
Journal of Statistics and Data Science Education (1 article)

*Introduction to Statistical Investigations*, 2nd edition by Tintle et al.  
*Intermediate Statistical Investigations*, 1st edition by Tintle et al.

## **UNIVERSITY SERVICE**

Learning Sciences Doctoral Program Advisory Committee, Member Department of Education and Human Development, Clemson University	2019 – present
Research Fellow in Special Education Search Committee, Member Department of Education and Human Development, Clemson University	2023
Academic Technology Council, Member Clemson University	2019 – 2022
Assistant/Associate Professor of Quantitative Methods Search Committee, Member Department of Education and Human Development, Clemson University	2021-22
Associate Professor of Quantitative Methods Search Committee, Member Department of Education and Human Development, Clemson University	2020-21
General Education Assessment Subcommittee, Member Clemson University	2018 – 2019
Statistical Methods I Course Coordinator School of Mathematical and Statistical Sciences, Clemson University	2015 – 2019
Mathematics Curriculum Team, Member The University of Georgia	2011 – 2013
Open Rank Faculty Search Committee, Graduate Student Member Department of Educational Psychology, The University of Georgia	2013

## **PROFESSIONAL MEMBERSHIPS**

American Statistical Association (ASA)	2012 – present
National Council on Measurement in Education (NCME)	2014 – present
American Educational Research Association (AERA)	2021 – present

## **SERVICE HONORS AND AWARDS**

<b>Excellence in Service</b> College of Education, Clemson University	2021
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