

# Cassandra Griger

**Portfolio:** [www.cassondragriger.com](http://www.cassondragriger.com)

**Contact:** cassondragriger@gmail.com

## Education

---

<i>Educational Measurement and Statistics, Ph.D.</i> , University of Iowa	2021 - Present
<i>School Psychology, Ph.D.</i> , Duquesne University	2018 - 2020
<i>Child Psychology, M.S.Ed.</i> , Duquesne University	2016 - 2018
<i>Psychology, B.S.</i> , Mansfield University of Pennsylvania	2009 - 2013

## Personal Research

---

*Development of a Formative Cognitive Assessment for At-Risk Youth* 2022 - Present

- Developing a digital tool to assess cognitive functioning using a PASS theoretical framework of intelligence to respond to current practices in school psychology and engage early detection of potential cognitive risk factors inhibiting adaptive functioning, social-emotional development, and educational achievement in Kindergarteners

*Investigating Measurement Invariance of Clinical Samples in Cognitive Assessment* 2022 - Present

- Exploring uniqueness and equity of cognitive tests among clinical samples using structural equation modeling to inform clinical practitioners of diagnostic attributes per cognitive test

## Research Experience

---

<sup>i</sup> University of Iowa; <sup>d</sup> Duquesne University; <sup>c</sup> Carnegie Mellon University

*Graduate Research Assistant*, Quantitative Methods Lab, Jonathan Templin, Ph.D. <sup>i</sup> 2021 - Present

- Assessing natural-language insight and knowledge patterns of teacher's proportional reasoning with statistical topic models (STMs) to develop a formative measure of professional development
  - Supported by National Science Foundation, Discovery Research K-12 (DRL-1813760):  
*Usable Measures of Teacher Understanding: Exploring Diagnostic Classification Models and Topic Analysis as Tools for Assessing Proportional Reasoning for Teaching*
- Exploring mixture modeling methods for designing an effective routing stage of a two-stage Multistage Test (MST) to establish classification accuracy based on controlled test constraints
- Detecting between-person heterogeneity with location-scale modeling to determine if dimensionality of educational assessments changes as a function of trait level

*Graduate Research & Teaching Assistant*, Neuropsychology Lab, Ara Schmitt, Ph.D. <sup>d</sup> 2018 - 2020

- Conducted systematic review for mapping pediatric chronic illness with neuropsychoeeducational domains to identify performance differences and prevalence of empirical evidence
- Validated efficacy of text-to-speech and speech-to-text assistive technology software programs on 4<sup>th</sup>-9<sup>th</sup> grade reading passages to inform treatment integrity of interventions
- Co-maintained psychoeducational test kits and usage logs for students, alumni, and faculty

*Research Assistantship*, Brain Busters Lab, Erica Beidler, Ph.D. <sup>d</sup> 2017 - 2020

- Managed research team in coordinating and collecting cross-sectional concussion survey data of matched participants to understand relationship of concussion knowledge across two generations
- Supervised undergraduates' analyses and interpretations of survey data to disseminate findings on PA school concussion care compliance and management protocols per Safety in Youth Sport Act

*Lab Manager*, Developmental Cognitive Lab, Robert S. Siegler, Ph.D. <sup>c</sup> 2016 - 2018

*Research Associate*, Developmental Cognitive Lab, Robert S. Siegler, Ph.D. <sup>c</sup> 2014 - 2016

- Maintained IRB protocols for Institute of Education Sciences (IES) funded experiments
- Collaborated with PI, post-doctoral fellows, and graduate students in assessment and coding scheme development to analyze students' conceptual and procedural strategy and errors on rational number arithmetic
- Recruited, established, and managed 7 public school district partnerships yielding 1700+ participants with abilities ranging from gifted students to students with learning disabilities
- Initiated partnership debriefing protocol in connecting results to classroom practice through consultation of instructional strategies for 4th-8th grade public school educators
- Established online consent initiative that increased participant recruitment response rate by 30%

*Research Associate*, Simon Initiative's LearnLab, Kenneth Koedinger, Ph.D. <sup>c</sup> 2013 - 2014

- Prepared and executed longitudinal intervention study of 371 students across 2 middle schools
- Investigated human-computer interactions via data mining techniques to discover learning patterns when using instructional scaffolding with cognitive tutors
- Generated inferential statistics and predictive analyses for monthly PI presentation reports

## **Publications**

---

Tian, J., Leib, E. R., **Griger, C.**, Oppenzato, C. O., & Siegler, R. S. (2022). Biased problem distributions in assignments parallel those in textbooks: Evidence from fraction and decimal arithmetic. *Journal of Numerical Cognition*, 8(1), 73-88. <https://doi.org/10.5964/jnc.6365>

Benno, M. T., **Griger, C.**, Tracy, B., Nayyar, A., Conaway, R. B., Franklin, K., & Schmitt, A. J. (2021). Mapping of pediatric chronic illness sequelae to inform evaluation planning. *Communiqué*, 50(2).

Beidler, E., Schmitt, A. J., Matta, M., & **Griger, C.** (2021). Diagnosed and nondisclosed sport-related concussion: An exploratory comparison study by ADHD status in collegiate athletes. *Journal of Attention Disorders*, 26(4). doi: 10.1177/10870547211015432

Matsuda, N., **Griger, C.**, Barbalios, N., Stylianides, G., Cohen, W. W., & Koedinger, K. R. (2014). Investigating the effect of meta-cognitive scaffolding for learning by teaching. In S. Trausen-Matu, K. Boyer, M. Crosby, & K. Panourgia (Eds.), *Proceedings of the international conference on intelligent tutoring systems* (pp. 104-113). Switzerland: Springer.

## Acknowledgements

---

*Methodological contributions to the following projects.*

McMullen, J., Hannula-Sormunen, M. M., Lehtinen, E., Siegler, R. S. (2021). Predicting adaptive expertise with rational number arithmetic. *British Journal of Educational Psychology*, 92(2), 688-706. doi: 10.1111/bjep.12471

Braithwaite, D. W. & Siegler, R. S. (2020). Putting Fractions Together. *Journal of Educational Psychology*, 113(3), 556-571. doi: 10.1037/edu0000477

McMullen, J., & Siegler, R. (2020). Spontaneous focusing on multiplicative relations and fraction magnitude knowledge. *Mathematical Thinking and Learning*, 1-9. doi: 10.1080/10986065.2020.1816284

Tian, J., Braithwaite, D. W., & Siegler, R. S. (2020). How do people choose among rational number notations? *Cognitive Psychology*, 123, 101333. <https://doi.org/10.1016/j.cogpsych.2020.101333>

Tian, J., Braithwaite, D. W., & Siegler, R. S. (2020). Distributions of textbook problems predict student learning: Data from decimal arithmetic. *Journal of Educational Psychology*, 113(3), 516-529. doi: 10.1037/edu0000618

## Conference Presentations

---

Nayyar, A., Conaway, B., Benno, M., **Griger, C.**, Tracy, B., & Schmitt, A. (2021, February). *Evaluation planning for pediatric chronic illnesses through neuro-psychoeducational sequelae mapping*. Poster to be presented at the National Association of School Psychologists, Virtual.

Benno, M., **Griger, C.**, Tracy, B., Schmitt, A.J., & McCallum, E. (2019, August). *Accuracy of text-to-speech and speech-to-text assistive technology*. Poster presented at the American Psychological Association Annual Convention, Chicago, IL.

**Griger, C.**, Schmitt, A. & Beidler, E. (2019, March). *Predictors of unreported sport-related concussions among youth athletes*. Poster presented at the Graduate Student Research Symposium, Duquesne University, Pittsburgh, PA.

Beidler, E., McAllister-Deitrick, J., Wallace, J., Anderson, M., Schmitt, A., & **Griger, C.** (2018, May). *Predictors of sport-related concussion nondisclosure in collegiate student-athletes*. Poster presented at the 6th Annual Concussion Symposium of Sports Neuropsychology Society, Washington, DC.

**Griger, C.**, Beidler, E., Schmitt, A., & McAllister-Deitrick, J. (2018, May). *Concussion diagnosis and under-reporting behavior of ADHD collegiate student-athletes*. Poster presented at the 6th Annual Concussion Symposium of Sports Neuropsychology Society, Washington, DC.

**Griger, C., Williams, K., Beidler, E., & Schmitt, A.** (2018, March). *Concussion diagnosis and reporting behavior of collegiate student-athletes*. Poster presented at the Graduate Student Research Symposium, Duquesne University, Pittsburgh, PA.

Mostow, J., Weinberg, G., & **Griger, C.** (2014, July). *What's the difference? Linguistic model comparison using bayesian knowledge tracing*. Presented at Simon Initiative's LearnLab Summer School: Educational Data Mining, Carnegie Mellon University, Pittsburgh, PA.

Matsuda, N., **Griger, C.**, Barbalios, N., Stylianides, G., Cohen, W. W., & Koedinger, K. R. (2014, June). *Investigating the effect of meta-cognitive scaffolding for learning by teaching*. Poster presented at the 12<sup>th</sup> International Conference on Intelligent Tutoring Systems, Honolulu, HI.

## **Teaching Experience**

---

*Instructor*, Psychological Testing, Duquesne University 2019 / 2020 Spring

- Introduced basic principles of test theory and development, psychometric methodologies, and interpretation principles to graduate-level counseling students with a focus on standardized tests, cognitive and achievement assessments, and personality and interest inventories.

*Academic Tutor*, Law Clinic, Duquesne University 2020 Fall

- Contracted to provide academic interventions for a 3rd grade student involved in a social justice case law with a neighboring school district

## **School Psychology Practicum Experience**

---

### *Test Administrations*

- Cognitive Assessment: WPPSI-4, WISC-5, WJ-IV COG, UNIT-2, SB-5
- Neuropsychological Assessment: NEPSY, D-KEFS
- Achievement Assessment: WJ-IV ACH, WIAT-4
- Adaptive and Behavioral Rating Scales: BASC-3, Conners-3, Vineland-3, ABAS-3
- Personality / Projective Tests: MMPI-2, Rorschach-PAS, Thematic Apperception, Figure Drawings, Sentence Completion
- Speech/Language Tests: WJ-IV OL, SOLOM
- Social Scales: SSIS, SRS

*Advanced Doctoral Practicum*, Hampton Township School District 2020 - 2021

- Conducted full, clinical evaluations under supervision of a licensed School Psychologist and special education law guidelines to serve K-12 students
- Supervised two 2<sup>nd</sup> year practicum students' consultation and counseling cases and scaffolded case conceptualization to guide competency development

*Integrated Practicum*, Carlynton School District 2019 - 2020

- Conducted full, clinical evaluations under supervision of a licensed School Psychologist and special education law guidelines to serve K-3 students
- Consulted with educators, special education professionals, and parents/guardians to implement interventions within the general classroom, special education settings, and home, respectively

- Evaluated K-5 students using functional behavioral assessment (FBA) and curriculum-based measurements (CBM) to support Response to Intervention (RtI) placement and services
- Conducted semi-structured clinical interviews and acquired case information from parents/guardians and teachers
- Provided academic interventions and counseling services to address case needs

### **Conferences & Workshops**

---

- 2022** American Educational Research Association (AERA)  
**2022** National Council on Measurement in Education (NCME)  
**2020** Association of School Psychologists of Pennsylvania (ASPP)  
**2019** American Psychological Association (APA) Convention  
**2019** Duquesne University Graduate Student Research Symposium  
**2018** Annual Concussion Symposium of Sports Neuropsychology Society  
**2018** Duquesne University Graduate Student Research Symposium  
**2016** BrainHub's Neurons to Neighborhoods Community Outreach Event  
**2015** Multimodal Neuroimaging Training Program (MNTP) and Center for the Neural Basis of Cognition (CNBC), Health Neuroscience Symposium  
**2014** Simon Initiative's LearnLab Summer School, Educational Data Mining

### **Service**

---

- 2022** *Co-Founder*, E.F. Lindquist Chapter of AERA, University of Iowa  
**2022** *Co-Editor*, Educational Measurement and Statistics Handbook, University of Iowa  
**2022** *Executive Council*, Graduate Measurement & Statistics Student (GMASS), University of Iowa  
**2019** *Volunteer Chair*, Student Affiliates in School Psychology (SASP), Duquesne University  
**2019** *Research Mentor*, Brain Busters Lab, Duquesne University  
**2018** *Co-Curator*, Conference on Rational Numbers, Carnegie Mellon University  
**2017** *Co-Curator*, K-8 In-Service Professional Development, Bethel Park School District  
**2016** *Group Discussion Facilitator*, BrainHub's Neurons to Neighborhoods Community Outreach Event, Carnegie Mellon University

### **Awards**

---

- 2022** AERA Cognition and Assessment SIG Conference Scholarship

### **Professional Organization Affiliations**

---

- 2022 - Present** American Educational Research Association (AERA)  
Cognition and Assessment Special Interest Group #167  
**2022 - Present** National Council on Measurement in Education (NCME)  
**2018-2021** National Association of School Psychologists (NASP)  
**2018-2020** Student Association of School Psychologists (SASP)

## **Relevant Coursework**

---

<b>2022 Fall</b>	Bayesian Psychometric Modeling Factor Analysis and Structural Equation Modeling Educational Measurement and Evaluation
<b>2022 Summer</b>	Turn Your Research Into Teaching
<b>2022 Spring</b>	Item Response Theory Generalized Linear Models Computing Packages for Statistical Analysis Scientific Integrity & Responsible Conduct of Educational Research and Evaluation
<b>2021 Fall</b>	Clustered Multi-level Modeling Theory and Techniques in Educational Measurement Intro to Multivariate Statistical Methods
<b>2020 Fall</b>	Educational Statistics III, Multivariate Advanced Doctoral Practicum Single Subject Methods
<b>2020 Spring</b>	Research Methods & Design Integrated Practicum Child Neuropsychology Organizational Consultation
<b>2019 Spring</b>	Educational Statistics II Personality Assessment
<b>2018 Fall</b>	Individual Testing
<b>2016 Fall</b>	Psychological Testing

## **Technical Skills**

---

<b>Analysis Software</b>	R, MPlus, MS Excel, SAS, SPSS
<b>Development Tools</b>	RStudio, Qualtrics, TAO
<b>Productivity</b>	Dropbox, Google Drive, OneDrive, Discord, Notion
<b>Operating Systems</b>	Windows, iOS