

Jordan M. Wheeler
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Education

- Ph.D. Candidate, Quantitative Methodology**, University of Georgia August 2019 - Present
Advisor: Allan S. Cohen, Ph.D.
- M.S., Mathematical Statistics**, University of Nebraska at Omaha May 2019
Master's Project: Automated ARMA and GARCH Forecasting Application
Advisor: Andrew W. Swift, Ph.D.
- B.S., Mathematics**, Nebraska Wesleyan University May 2017

Academic Experience

University of Georgia

- Graduate Research Assistant**, Department of Educational Psychology August 2019 - Present
Research Assistant, Georgia Center for Assessment August 2019 - Present

University of Nebraska at Omaha

- Research Assistant**, Department of Statistics August 2018 - May 2019

Research Interests

psychometric modeling; topic models; process data; estimation procedures; Bayesian modeling; rater-mediated assessments

Publications

Journal Articles

1. **Wheeler, J. M.**, Engelhard, G., & Wang, J. (in press) Exploring Rater Accuracy Using Unfolding Models Combined with Topic Models: Incorporating Supervised Latent Dirichlet Allocation. *Measurement: Interdisciplinary Research and Perspectives*.

Conference Proceedings

3. **Wheeler, J. M.**, Cohen, A. S., Xiong, J., Lee, J., & Choi, H.-J. (2021) Sample Size for Latent Dirichlet Allocation of Constructed-Response Items. In Wiberg, M., Böckenholt, U., Gonzalez, J., Molenaar, D. & Kim, J.-S. (Editors) *Quantitative Psychology: The 85th Annual Meeting of the Psychometric Society*.
2. Xiong, J., **Wheeler, J. M.**, Lee, J., Choi, H.-J., & Cohen, A. S (2021) An Empirical Study of Developing Automated Scoring Engine using supervised Latent Dirichlet Allocation. In Wiberg, M., Böckenholt, U., Gonzalez, J., Molenaar, D. & Kim, J.-S. (Editors) *Quantitative Psychology: The 85th Annual Meeting of the Psychometric Society*.
1. Kim, S.-H., Duong, E., Mardones, C., Schellman, M., **Wheeler, J. M.**, Xiong, J., Zheng, G., Zor, S., & Cohen, A. S. (2021) Priors in Bayesian Estimation Under the Two- Parameter Logistic Model. In Wiberg, M., Böckenholt, U., Gonzalez, J., Molenaar, D. & Kim, J.-S. (Editors) *Quantitative Psychology: The 85th Annual Meeting of the Psychometric Society*.

Book Chapters

1. Shermis, M. D., Cohen, A. S., & **Wheeler, J. M.** (under review). Test Administration and Scoring. *Educational Measurement* (5th edition).

Manuscripts Submitted to Journals

3. **Wheeler, J. M.**, Cohen, A. S., & Wang, S. (under review) Comparison of Latent Semantic Analysis and Latent Dirichlet Allocation in Educational Measurement.
2. **Wheeler, J. M.**, Raczynski, K., Cohen, A. S., & Engelhard, G. (under review) Using Topic Models to Understand Rater-Mediated Assessments.
1. Mardones, C., **Wheeler, J. M.**, Cohen, A. S., & Choi, H.-J. (submitted) Model Selection for Latent Dirichlet Allocation with Short Answers.

Manuscripts in Preparation

2. **Wheeler, J. M.**, Wang, S., Tan, Y., & Cohen, A. S. (in preparation) Textual Data as Process Data: A new scoring procedure to improve ability estimation for mixed format assessments.
1. Xiong, J., Liu, Q., Wang, S., **Wheeler, J. M.**, & Cohen, A. S. (in preparation) Machine Learning - Assisted Psychometrics: Principles, Challenges, and Applications.

Presentations

Invited Presentations

1. Cohen, A. S., & **Wheeler, J. M.** (2021, February) Topic Modeling of Answers to Constructed Response Tests. *Department of Psychology, University of Notre Dame, South Bend, IN.*

Conference Papers

17. **Wheeler, J. M.**, Xiong, J., Mardones, C., Choi, H.-J., & Cohen, A. S. (2021, July) *Impact of priors on parameter recovery for latent Dirichlet allocation*. Paper presented at the International Meeting of the Psychometric Society (IMPS). College Park, MD (Virtual).
16. Xiong, J., **Wheeler, J. M.**, Choi, H.-J., & Cohen, A. S. (2021, July) *Individualized test preparation recommendation systems based on latent Dirichlet allocation*. Paper presented at the International Meeting of the Psychometric Society (IMPS). College Park, MD (Virtual).
15. Xiong, J., **Wheeler, J. M.**, & Cohen, A. S. (2021, July) *Applications of machine learning in educational and psychological measurement*. Paper presented at the International Meeting of the Psychometric Society (IMPS). College Park, MD (Virtual).
14. Mardones, C., Choi, H.-J., Hong, M., **Wheeler, J. M.**, & Cohen, A. S. (2021, July) *Comparison of estimation algorithms for latent Dirichlet allocation*. Paper presented at the International Meeting of the Psychometric Society (IMPS). College Park, MD (Virtual).
13. **Wheeler, J. M.**, Wang, S., & Cohen, A. S. (2021, June) *Comparison of Latent Semantic Analysis and Latent Dirichlet Allocation*. Paper presented at the Annual Meeting of the National Council on Measurement in Education (Virtual).
12. **Wheeler, J. M.**, Choi, H.-J., Cohen, A. S., Xiong, J., & Lee, J. (2021, June) *A Semi-Confirmatory Latent Dirichlet Allocation Topic Model*. Paper presented at the Annual Meeting of the National Council on Measurement in Education (Virtual).

11. Raczynski, K., Choi, H.-J., **Wheeler, J. M.**, Shermis, M., Lottridge, S., Cohen, Y., & Cohen, A.S. (2021, June) *Using Artificial Intelligence for Constructed-Response Scoring: Some Practical Considerations*. Symposium presented at the Annual Meeting of the National Council on Measurement in Education (Virtual).
10. Mardones, C., **Wheeler, J. M.**, Choi, H.-J., & Cohen, A. S. (2021, June) *Model Selection for Latent Dirichlet Allocation with Small Number of Topics*. Paper presented at the Annual Meeting of the National Council on Measurement in Education (Virtual).
9. Lee, J., Xiong, J., **Wheeler, J. M.**, Choi H.-J., & Cohen, A. S. (2021, June) *Application of Multidimensional Mixture IRT and supervised-LDA for DIF in Mixed-Format Test*. Paper presented at the Annual Meeting of the National Council on Measurement in Education (Virtual).
8. **Wheeler, J. M.**, Engelhard, G. Jr., & Wang, J. (2021, April) *Exploring Rater Accuracy Using Unfolding Models Combined with Topic Models Incorporating Supervised Latent Dirichlet Allocation*. Paper presented at the Annual Conference of the American Educational Research Association (Virtual).
7. **Wheeler, J. M.**, Cohen, A. S., Xiong, J., Lee, J., & Choi, H.-J. (2020, July) *A Simulation Guide for Topic Models of Constructed-Response Items*. Paper presented at the International Meeting of the Psychometric Society (IMPS) in College Park, MD (Virtual).
6. Xiong, J., **Wheeler, J. M.**, Lee, J., Choi, H.-J., & Cohen, A. S (2020, July) *An Empirical Study of Developing Automated Scoring Engine using supervised Latent Dirichlet Allocation*. Paper presented at the International Meeting of the Psychometric Society (IMPS) in College Park, MD (Virtual).
5. Kim, S.-H., Duong, E., Mardones, C., Schellman, M., **Wheeler, J. M.**, Xiong, J., Zheng, G., Zor, S., & Cohen, A. S. (2020, July) *Priors in Bayesian Estimation for the Two- and Three-Parameter Logistic Models* Paper presented at the International Meeting of the Psychometric Society (IMPS) in College Park, MD (Virtual).
4. **Wheeler, J. M.**, & Cohen, A. S. (2020, April) *Comparison of Latent Semantic Analysis and Latent Dirichlet Allocation*. Paper accepted at the Annual Meeting of the National Council on Measurement in Education in San Francisco, CA (Conference Canceled).
3. **Wheeler, J. M.**, Cohen, A. S., Choi, H.-J., Lee, J., & Xiong, J. (2020, February) *Ninth Grade English Language Arts Constructed-Response Item: A Topic Model Analysis*. Poster presented at the College of Education Graduate Student Research Conference in Athens, GA.
2. Xiong, J., **Wheeler, J. M.**, Lee, J., Choi, H.-J., & Cohen, A. S (2020, February) *An Empirical Study of Constructing Topic Structures Using Latent Dirichlet Allocation*. Poster presented at the College of Education Graduate Student Research Conference in Athens, GA.
1. Choi, H.-J., Xiong, J., Lai, S., Raczynski, K., **Wheeler, J. M.**, & Lee, J. (2019, October) *A New Method for Analyzing Students' Answers for Constructed Response Items in Formative Assessments: An Application of a Topic Model*. Paper presented at the Georgia Educational Research Association Annual Conference in Macon, GA.

Technical Reports

Georgia Center for Assessment

1. Kwak, M., Xiong, J., Kim, S., **Wheeler, J. M.**, Lee, J., Choi, H.-J., & Cohen, A. S. (2019) *Georgia Center for Assessment Writing Assessment Analysis Summary Report*. Technical Report. Georgia Center for Assessment.

Teaching Experience

- Graduate Teaching Assistant, ERSH 6600E, Classroom Assessment** Fall 2021
 Gave some lectures over various assessment topics (e.g., reliability, fairness)
 Grades homework and project assignments
 Held office hours to answer questions and assist students
- Graduate Teaching Assistant, ERSH 8610, Theories of Educational Measurement** Fall 2021
 Helped answer questions from students
 Graded and provided feedback on term papers
 Gave a lecture over Explanatory Item Response Models

Work Experience

- Data Scientist, CATCH Intelligence** August 2018 - July 2019
 Consulted with clients across multiple industries
 Built and delivered data pipelines and predictive models
- Data Science Intern, CATCH Intelligence** January 2018 - August 2018
 Researched different machine learning models
 Generated visualizations and slide decks for proof of concepts
- Mathematics Mentor, Lincoln Public Schools** August 2017 - January 2018
 Created lesson plans and used multiple strategies to teach required topics
 Accountable for writing reports on students' progress for administration

Service Activities and Leadership Positions

- Peer Reviewer for Journals
Educational Measurement: Issues and Practices
- Graduate Researchers in Educational Psychology (GREP)
 University of Georgia, Department of Educational Psychology
Executive Committee: Vice President June 2021 - Present
Executive Committee: Secretary June 2020 - June 2021

Honors

- College of Education's Research Scholar Award August 2019 - Present
University of Georgia, College of Education Fellowship
- Outstanding Scholarship in Quantitative Methodology May 2021
University of Georgia, Department of Educational Psychology
- Second Place: Machine Learning Kaggle Competition Spring 2019
University of Nebraska Omaha, Statistics Department

Miscellaneous

Software Skills

R, Python, and Mplus
 Git, SQL, and Microsoft Office
 JAGS, Stan, OpenBUGS, WinBUGS, Facets, and BILOG-MG

Professional Affiliations

Psychometric Society	2020 - Present
American Educational Research Association	2020 - Present
National Council on Measurement in Education	2020 - Present