

Sooyong Lee, Ph.D.

Psychometrician

WIDA

The University of Wisconsin-Madison

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PROFESSIONAL SUMMARY

As a psychometrician, I specialize in applying contemporary statistical theories and techniques to my work. My research interests center around developing and utilizing statistical models, including structural equation modeling (SEM), multilevel modeling (MLM), item response theory (IRT), and mixture modeling. In my recent work, I have placed particular emphasis on Bayesian estimation as a means of modeling the relationships between variables.

EDUCATION

- 2017-2023** Ph.D., Major in Quantitative Methods in Educational Psychology
The University of Texas at Austin, Austin, Texas
- Dissertation: Development of a Method for Addressing Various Censoring Effects in a Latent Growth Curve Modeling Framework. Advisor: Tiffany Whittaker
- 2014-2017** M.A., Major in Educational Statistics and Measurement
Korea University, Seoul, Republic of Korea
- Thesis: Exploration of LCA conditions in Latent Class with Low Proportion. Advisor: Sehee Hong
- 2007-2014** B.A. Major in International Studies
Hanyang University, Seoul, Republic of Korea
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PUBLICATIONS

In Preparation

- **Sooyong Lee**, Hacer Karamese, & Kyungwon Bishop (2025). Does Borrowing Scales Work for Vertical Scaling?. In preparation.
- **Sooyong Lee**, Hacer Karamese, & Kyungwon Bishop (2025). Longitudinal Trajectories of English-Language Proficiency for Students With Significant Cognitive Disabilities: A Latent Growth-Curve Approach. In preparation.

Under Review

- **Sooyong Lee**, Suyoung Kim, & Seung W. Choi (2025). Anchor Detection Strategy Using Moderated Non-linear Factor Analysis for Differential Item Functioning. *Applied Psychological Measurement*. Under review.
- **Sooyong Lee**, Cory L. Cobb, & Sooyoung Lee (2025). Comparing Methods for Testing Mediation Effects Involving Nominal Mediators: A Simulation and Empirical Study. *Behavioral Research Methods*. Under review.
- **Sooyong Lee** & Sooyoung Kim (2025). Comparing Bayesian Random Coefficient Prediction and Latent Interaction Models for Multilevel Moderated Mediation. *Frontier in Psychology*. Under review.
- Cory L. Cobb, **Sooyong Lee** (2025). Psychopathology Typologies and their Correlates among Latinos: A Latent Profile Analysis. *International Journal of Social Psychiatry*. Under review.

- Rene M. Dailey, Lingzi Zhong, Sarah Varga, & **Sooyong Lee** (2025). Testing A Comprehensive Model of Post-Dissolution Distress: Predicting Initial and Over Time Changes in Distress Following Romantic Dissolution among U.S. Adults. *Personal Relationships*. Under review.

PUBLICATIONS

2025

- Garron Gianopoulos, Jonghwan Lee, Sangdon Lim, Luting Niu, **Sooyong Lee**, & Seung W. Choi (2025). The Impact of Item Bank Size and Item Bank Distribution on Student Ability Estimates for a Hybrid Interim-Summative CAT. *Journal of Computerized Adaptive Testing*. 12, 54-87. DOI:DOI 10.7333/2502-1201054.
- Lee, J., Lim, S., Schneider, C., Gianopoulos, G., Niu, L., **Sooyong Lee**, & Choi, S. W. (2025). The Impact of Item Bank Transition Rules on Student Ability Estimates and Achievement Level Classifications. *Journal of Computerized Adaptive Testing*. 12, 88-122. DOI:DOI 10.7333/2502-1201088.
- **Sooyong Lee**, Adam Sales, Hyeyon-Ah Kang, & Tiffany A. Whittaker (2025). Fully Latent Principal Stratification With Measurement Models. *Journal of Educational and Behavioral Statistics*. DOI:<https://doi.org/10.3102/10769986251321428>.
- **Sooyong Lee** & Tiffany A. Whittaker (2025). Development of a Method for Handling Doubly-Censored Data in a Latent Growth Curve Modeling Framework. *Multivariate Behavioral Research*. 1-17. DOI:<https://doi.org/10.1080/00273171.2025.2478071>.
- Jiwon Kim, **Sooyong Lee**, Suyoung Kim, & Brian Keller (2025). Tutorial for Bayesian Multilevel Structural Equation Modeling using Blimp. *Structural Equation Modeling: A Multidisciplinary Journal*. 1-13. DOI:<https://doi.org/10.1080/10705511.2025.2526035>.
- **Sooyong Lee**, Adam Sales, Hyeyon-Ah Kang, & Tiffany A. Whittaker (2025). Model Estimation Approaches for Fully-latent Principal Stratification with Small Samples. *Structural Equation Modeling: A Multidisciplinary Journal*. 32(2), 251-263. DOI:<https://doi.org/10.1080/10705511.2024.2402331>.
- **Sooyong Lee**, Kahyun Lee, & Hanjo Kim (2025). Mediation Analysis with an Event-history Mediator: A Simulation Study and Empirical Data Illustration. *Structural Equation Modeling: A Multidisciplinary Journal*. 1-11. DOI:<https://doi.org/10.1080/10705511.2025.2478587>.

2024

- **Sooyong Lee**, Kahyun Lee, & Kejin Lee (2024). Discrete-time Survival Analysis Incorporating Time Structure in Developmental Research. *Structural Equation Modeling: A Multidisciplinary Journal*. DOI:<https://www.tandfonline.com/doi/abs/10.1080/10705511.2024.2432598>. In print.
- **Sooyong Lee**, Suhwa Han, & Seung W. Choi (2024). A Bayesian Moderated Nonlinear Factor Analysis Approach for DIF Detection under Violation of the Equal Variance Assumption. *Journal of Educational Measurement*. 62(2), 303-324. DOI:<https://doi.org/10.1111/jedm.12388>.
- Suyoung Kim, **Sooyong Lee**, Jiwon Kim, & Tiffany A. Whittaker (2024). Investigating Latent Interaction Effects in Multiple-Group Analysis in the Structural Equation Modeling Framework. *Structural Equation Modeling: A Multidisciplinary Journal*. 31(6), 1043-1055. DOI:<https://doi.org/10.1080/10705511.2024.2363827>.

2023

- Sales, A., **Sooyong Lee**, Whittaker, T., & Kang, H. A (2023). Fully-Latent Principal Stratification for Modeling Complex Program Implementation Data. *Society for Research on Educational Effectiveness*. DOI:<https://eric.ed.gov/?id=ED659422> (Report).
- **Sooyong Lee** & Tiffany A. Whittaker (2023). Parallel Process Latent Growth Modeling with Multivariate Confounders/Suppressors. *Structural Equation Modeling: A Multidisciplinary Journal*. 30(2), 284-295. DOI:<https://doi.org/10.1080/10705511.2022.2133774>.

- **Sooyong Lee**, Kahyun Lee, & Tiffany A. Whittaker (2023). Application of Associative Discrete-Time Survival Analysis Using Latent Transition Specification. *Structural Equation Modeling: A Multidisciplinary Journal*. 30(5), 831-842. DOI:<https://doi.org/10.1080/10705511.2022.2138892>.
- **Sooyong Lee**, Adam Sales, Hyeyon-Ah Kang, & Tiffany A. Whittaker (2023). Fully Latent Principal Stratification: Combining PS with Model-Based Measurement Models.. *The Annual Meeting of the Psychometric Society*. pp. 287-298. DOI:<https://doi.org/10.1007/978-3-031-27781-8> (Conference proceedings).

2022

- Seung Choi, Sangdon Lim, Luping Niu, **Sooyong Lee**, Christina M. Schneider, Jay Lee, & Garron J. (2022). maat: An R Package for Multiple Administrations Adaptive Testing. *Applied Psychological Measurement*. 46-1, 73-74. DOI:<https://doi.org/10.1177/01466216211049212>.
- **Sooyong Lee**, Suhwa Han, & Seung W. Choi (2022). DIF Detection With Zero-Inflation Under the Factor Mixture Modeling Framework. *Educational and Psychological Measurement*. 82-4, 678-704. DOI:<https://doi.org/10.1177/00131644211028995>.
- **Sooyong Lee** & Tiffany A. Whittaker (2022). Comparison of Three Approaches to Class Enumeration in Growth Mixture Modeling when Time Structures are Variant Across Latent Classes. *Structural Equation Modeling: A Multidisciplinary Journal*. 29, 23-35. DOI:<https://doi.org/10.1080/10705511.2021.1956320>.

2021

- Cory L. Cobb, Charles R. Martínez, Jr., **Sooyong Lee**, Tae Kyoung Lee, & Elma I. Lorenzo-Blanco (2021). Acculturation trajectories differ by youth age at arrival and time in residency among Latino immigrant families in a US emerging immigrant context. *International Journal of Intercultural Relations*. 81, 79-93. DOI:[10.1016/j.ijintrel.2021.01.005](https://doi.org/10.1016/j.ijintrel.2021.01.005).

2020 and earlier

- **Sooyong Lee**, Eun Soo Lee, & Sehee Hong (2016). Effects of adolescent's career development on labor market outcomes: Applying the two-part growth mixture model. *Journal of Vocational Education & Training*. 19(3), 137-162.
- Eun Soo Lee, **Sooyong Lee**, & Sehee Hong (2016). The Effects of Community Child-Center Service on School Adjustment Change Trajectory. *Korean Journal of Social Welfare Research*. 50, 59-85.

NATIONAL AND INTERNATIONAL PRESENTATIONS

Presentations

1. Kei Bishop, Hacer Karamese, Syed Abdul Hadi, & **Sooyong Lee** (2025-04). Two rating scale Rasch model linking in a large-scale language assessment: psychometric and content reviews. International Objective Measurement Workshio, Colorado, USA.
2. Syed Abdul Hadi, Kei Bishop, Hacer Karamese, & **Sooyong Lee** (2025-04). Automated Plagiarism Detection in Spoken Responses using Linguistic and Acoustic Features. National Council on Measurement in Education (NCME), Colorado, USA.
3. Syed Abdul Hadi, Kei Bishop, Hacer Karamese, & **Sooyong Lee** (2024-09). Automated Essay Scoring: Syntactic and Semantic Feature Engineering for Interpretable and Content Aware System. International Association for Computerized Adaptive Testing (IACAT), Seoul, South Korea.
4. Kei Bishop, Hacer Karamese, **Sooyong Lee**, & Syed Abdul Hadi (2024-09). Comparing Vertical Scaling Methods in Multistage Adaptive Testing using Simulation and Operational Data on WIDA's Language Assessments. International Association for Computerized Adaptive Testing (IACAT), Seoul, South Korea.
5. **Sooyong Lee**, Adam Sales, Hyeyon-Ah Kang, & Tiffany A. Whittaker (2024-04). Multidimensional Fully Latent Principal Stratification. American Educational Research Association (AERA), Philadelphia, USA.
6. Tiffany Whittaker, Hyeyon-Ah Kang, **Sooyong Lee**, Adam Sales (2023-04). Bayesian and Maximum Likelihood Estimation in Fully Latent Principal Stratification. National Council on Measurement in Education (NCME), Chicago, USA.
7. **Sooyong Lee**, Adam Sales, Hyeyon-Ah Kang, & Tiffany A. Whittaker (2022-07). Fully-Latent Principal Stratification. International Meeting of the Psychometric Society (IMPS), Bologna, Italy.
8. Garron Gianopoulos, Jay Lee, Sangdon Lim, Luping Niu, **Sooyong Lee**, & Seung W. Choi (2022-04). The Impact of Item Pool Size and Item Pool Distribution on Student Ability Estimates for a Hybrid Interim-Summative CAT. National Council on Measurement in Education (NCME), San Diego, USA.
9. Jay Lee, M. Christina Schneider, Garron Gia, Luping Niu, **Sooyong Lee**, Sangdon Lim, & Seung W. Choi (2022-04). The Impact of item bank transition rules on student ability estimates and achievement level classifications. National Council on Measurement in Education (NCME), San Diego, USA.
10. Daniel Lewis & **Sooyong Lee** (2021-04). A Comparison of Two ESS Cut Score Estimation Algorithms. National Council on Measurement in Education (NCME), Baltimore, MD, USA.

Posters

1. **Sooyong Lee**, Kei Bishop, Hacer Karamese, & Syed Abdul Hadi (2025-04). Censored Confirmatory Factor Analysis for Non-Normal Likert-Type Data in Language. National Council on Measurement in Education (NCME), Colorado, USA.
2. Hacer Karamese, Kei Bishop, **Sooyong Lee**, & Syed Abdul Hadi (2025-04). An Empirical Comparison of Linking Methods in Multistage Adaptive Test. National Council on Measurement in Education (NCME), Colorado, USA.

3. **Sooyong Lee**, Kahyun Lee, & Allison Master (2024-04). Exploring the dynamics of daily experiences, emotions, and depression among Asian American students: The moderating role of growth mindsets.. American Educational Research Association (AERA), Philadelphia, USA.
4. **Sooyong Lee**, Suhwa Han, & Seung W. Choi (2021-04). DIF Detection with Zero-Inflation under the Mixture Modeling Framework. American Educational Research Association (AERA), Virtual.
5. **Sooyong Lee** & Suhwa Han (2020-07). Item selection and trait estimation methods in CAT with item leakage. International Meeting of the Psychometric Society (IMPS), Maryland, USA.
6. **Sooyong Lee** & Tiffany A. Whittaker (2020-04). Comparison of Three Approaches to Class Enumeration in Growth Mixture Modeling when Time Structures are Variant Across Latent Classes. American Educational Research Association (AERA), Virtual (Cancelled).
7. **Sooyong Lee** & Sehee Hong (2018-07). Exploration of LCA conditions in Latent Class with Low Proportion. International Meeting of the Psychometric Society (IMPS), New York, USA.
8. Kejin Lee, **Sooyong Lee**, & Youngri Lee (2018-05). An Alternative Approach to Discrete-Time Survival Analysis for Meaningful Interpretation. Modern Modeling Methods conference (MMM), Connecticut, USA.

RESEARCH

Psychometrician	WIDA - Psychometrics for K-12 students Langauge tests	2024/4-present
Post-doc Fellow	FLPS project - Development of 'flps' package for Fully-latent Principal Stratification	2023/9-2024/3
Research Assistant	FLPS project - Development of 'flps' package for Fully-latent Principal Stratification	2021/9-2023/8
Intern	Embedded Standard Setting (ESS) - Internship for developing ESS package for Embedded Standard Setting	2021/6-2021/8
Intern	Embedded Standard Setting (ESS) - Internship for developing Shiny app for Embedded Standard Setting	2020/6-2020/8
Research Assistant	'maat' package development project - Development of MAAT package for Computerized Adaptive Testing for Northwest Evaluation Association (NWEA)	2019/9-2020/5
Research Assistant	Survey of COE Full-Time Tenured and Tenure-Track Faculty - Data analysis for surveys of graduate programs of education at the Univerisity of Texas at Austin	2019/9-2019/12
Research Assistant	President's Award for Global Learning (PAGL) - Designing a culturally appropriate mobile application to increase mental health literacy and self-care habits among South Korean young adults	2019/1-2019/8
Research Assistant	CGS PhD Career Pathways project - Data analysis for surveys to collect data on the career pathways of past and present STEM and humanities PhD students.	2018/9-2019/5

TEACHING

Teaching Assistant

University of Texas at Austin		
EDP 380C: Structural Equation Modeling Professor Tiffany Whittaker		2021/1-2021/5
EDP 380C: Structural Equation Modeling Professor Tiffany Whittaker		2020/1-2020/5

PROGRAMS

R package	GRshiny package https://sooyongl.github.io/GRShiny/	2023
R package	clavaan package https://github.com/sooyongl/clavaan	2023
Shiny application	GRShiny: Graded response model https://sooyonglee.shinyapps.io/GRShiny/	2022
R package	Embeded Standard Setting https://sooyongl.github.io/EmStanS/	2022
R package	maat package https://choi-phd.github.io/maat/	2022
R package	flps package https://cran.r-project.org/web/packages/flps/index.html	2022
Shiny application	Embeded Standard Setting	2021

SERVICE

Invited Reviewer	Structural Equation Modeling: A Multidisciplinary Journal	2024
Invited Reviewer	Qeios	2024
Reviewer	International Journal of Intercultural Relations	2023/7 - present