

# Sooyong Lee

PHD

Educational Psychology, The University of Texas at Austin

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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

### The University of Texas at Austin

PH.D., MAJOR IN QUANTITATIVE METHODS IN EDUCATIONAL PSYCHOLOGY

Austin, Texas

2017-Present

### Korea University

M.A., MAJOR IN EDUCATIONAL STATISTICS AND MEASUREMENT

Seoul, Republic of Korea

2014-2017

## Research experience

### CGS PhD Career Pathways project

Graduate Research Assistant

2018/9-2019/5

- Data analysis for surveys to collect data on the career pathways of past and present STEM and humanities PhD students.

### President's Award for Global Learning (PAGL)

Graduate Research Assistant

PRESIDENT'S AWARD FOR GLOBAL LEARNING (PAGL)

2019/1-2019/8

- Designing a culturally appropriate mobile application to increase mental health literacy and self-care habits among South Korean young adults

### COE Full-Time Tenured and Tenure-Track Faculty

Graduate Research Assistant

2019/9-2019/12

- Data analysis for surveys of graduate programs of education at the University of Texas at Austin

### maat package development project

Graduate Research Assistant

NORTHWEST EVALUATION ASSOCIATION (NWEA)

2019/9-2020/5

- Development of MAAT package for Computerized Adaptive Testing for Northwest Evaluation Association (NWEA)

### FLPS project

Graduate Research Assistant

IES GRANT

2021/9-Present

- Development of FLPS package for Fully-latent Principal Stratification

### Embedded Standard Setting (ESS)

CREATIVE MEASUREMENT SOLUTIONS LLC

Intern

2020/6-2020/8

- Internship for developing Shiny app for Embedded Standard Setting

### Embedded Standard Setting (ESS)

CREATIVE MEASUREMENT SOLUTIONS LLC

Intern

2021/6-2021/8

- Internship for developing ESS package for Embedded Standard Setting

## Teaching experience

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### EDP 380C: Structural Equation Modeling

PROFESSOR TIFFANY WHITTAKER

Teaching Assistant

2020/1-2020/5

### EDP 380C: Structural Equation Modeling

PROFESSOR TIFFANY WHITTAKER

Teaching Assistant

2021/1-2021/5

## Publications

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### 2016

**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.

### 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.

### 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: 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: 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: 10.1080/10705511.2021.1956320.

**Sooyong Lee** & Tiffany A. Whittaker (2022). Parallel Process Latent Growth Modeling with Multivariate Confounders/Suppressors. *Structural Equation Modeling: A Multidisciplinary Journal*. DOI: 10.1080/10705511.2022.2133774.

**Sooyong Lee**, Kahyun Lee, & Tiffany A. Whittaker (2022). Application of Associative Discrete-Time Survival Analysis Using Latent Transition Specification. *Structural Equation Modeling: A Multidisciplinary Journal*. DOI: 10.1080/10705511.2022.2138892.

### 2023

**Sooyong Lee**, Adam Sales, Hyeon-Ah Kang, & Tiffany A. Whittaker (2023). Fully-Latent Principal Stratification. *The Annual Meeting of the Psychometric Society*. Conference proceedings, In print.

**Sooyong Lee**, Suhwa Han, & Seung W. Choi (2023). Bayesian MIMIC for DIF Detection under Violation of Equal Variance Assumption. *Educational and Psychological Measurement*. Under review.

Tiffany A. Whittaker, Laura Stapleton & **Sooyong Lee** (2023). A Tutorial for Obtaining Item Response Theory Results from Structural Equation Modeling in Mplus Software with Rating Scales. *Structural Equation Modeling: A Multidisciplinary Journal*. Under review.

Kahyun Lee, **Sooyong Lee**, & Allison Master (2023). From Fixed to Growth: An Intensive Longitudinal Study of the Interplay Between Growth Mindset, Emotions, Sense of Belonging, and Experiences in Daily Life Among College Students. In preparation.

**Sooyong Lee**, Adam Sales, Hyeon-Ah Kang, & Tiffany A. Whittaker (2023). Bayesian and Maximum Likelihood Estimation in Fully Latent Principal Stratification. In preparation.

**Sooyong Lee**, Adam Sales, Hyeon-Ah Kang, & Tiffany A. Whittaker (2023). Multidimensional Fully-latent Principal Stratification. In preparation.

**Sooyong Lee**, Jiwon Kim, & Suyoung Kim (2023). Plausible values in Second-order LGM with dichotomous indicators. In preparation.

**Sooyong Lee**, Suyoung Kim, & Jiwon Kim (2023). Investigating Latent Interaction Effects in Multiple-Group Analysis in the Structural Equation Modeling Framework. In preparation.

## Presentation

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### Presentation

Daniel Lewis & **Sooyong Lee** (2021-04-01). *A Comparison of Two ESS Cut Score Estimation Algorithms*. National Council on Measurement in Education (NCME), Baltimore, MD, USA.

Garron Gianopulos, Jay Lee, Sangdon Lim, Luping Niu, **Sooyong Lee**, & Seung W. Choi (2022-04-01). *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.

Jay Lee, M. Christina Schneider, Garron Gia, Luping Niu, **Sooyong Lee**, Sangdon Lim, & Seung W. Choi (2022-04-01). *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.

**Sooyong Lee**, Adam Sales, Hyeon-Ah Kang, & Tiffany A. Whittaker (2022-07-01). *Fully-Latent Principal Stratification*. International Meeting of the Psychometric Society (IMPS), Bologna, Italy.

Tiffany Whittaker, Hyeon-Ah Kang, **Sooyong Lee**, Adam Sales (2023-04-23). *Bayesian and Maximum Likelihood Estimation in Fully Latent Principal Stratification*. National Council on Measurement in Education (NCME), Chicago, USA.

### Poster

Kejin Lee, **Sooyong Lee**, & Youngri Lee (2018-05-01). *An Alternative Approach to Discrete-Time Survival Analysis for Meaningful Interpretation*. Modern Modeling Methods conference (MMM), Connecticut, USA.

**Sooyong Lee** & Sehee Hong (2018-07-01). *Exploration of LCA conditions in Latent Class with Low Proportion*. International Meeting of the Psychometric Society (IMPS), New York, USA.

**Sooyong Lee** & Tiffany A. Whittaker (2020-04-01). *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.

**Sooyong Lee** & Suhwa Han (2020-07-01). *Item selection and trait estimation methods in CAT with item leakage*. International Meeting of the Psychometric Society (IMPS), Maryland, USA.

**Sooyong Lee**, Suhwa Han, & Seung W. Choi (2021-04-01). *DIF Detection with Zero-Inflation under the Mixture Modeling Framework*. American Educational Research Association (AERA), Virtual.

## Program

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### Embeded Standard Setting

• [https://sooyonglee.shinyapps.io/ESS\\_test/](https://sooyonglee.shinyapps.io/ESS_test/)

Shiny application  
2021

### GRshiny: Graded response model

• <https://sooyonglee.shinyapps.io/GRShiny/>

Shiny application  
2022

## Embeded Standard Setting

- <https://sooyongl.github.io/EmStanS/>

*R package*

2022

## maat package

- <https://choi-phd.github.io/maat/>

*R package*

2022

## flps package

- <https://sooyongl.github.io/flps/>

*R package*

2022

## GRshiny package

- <https://sooyongl.github.io/GRShiny/>

*R package*

2023

## clavaan package

- <https://github.com/sooyongl/clavaan>

*R package*

2023

## Fellowship & Awards

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2020-21 William Hays Endowed Fellowship

*Fellowship*

2021-22 Benjamin & Dorothy Fruchter Excellence Award

*Award*