# Sunbeom Kwon

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## EDUCATION

*University of Illinois Urbana-Champaign, Champaign, IL*      2021 - Present
Ph.D. in Quantitative Psychology

*University of Illinois Urbana-Champaign, Champaign, IL*      2024
M.S. in Statistics

*Sungkyunkwan University, Seoul*      2020
M.A. in Psychology

*Sungkyunkwan University, Seoul*      2015
B.A. in Psychology and Statistics

## EMPLOYMENT

**ETS**
*Ida Lawrence Research Summer Intern*      June 2024 - July 2024

**BSCHR, Seoul**
*Psychometric Researcher*      August 2020 - February 2021

## TEACHING

**University of Illinois Urbana-Champaign**
*Lab Instructor and Teaching Assistant*
**Courses:**
- PSYC 490: Measurement and Test Development Lab      Fall 2022, 2023
- PSYC 301: Psychological Statistics      Spring 2025, 2024, 2023
- PSYC 235: Introduction to Statistics      Fall 2024

**Sungkyunkwan University**
*Teaching Assistant*
**Courses:**
- Psychological Testing and Measurement      Spring 2018
- Statistical Analysis in Psychology      Fall 2018
- Introduction to Psychology      Spring 2019

# PUBLICATIONS

**Accepted:**

1. **Kwon, S.**, McCaffrey, D., Jewsbury, P., & Casabianca, J. (accepted). An Empirical Bayesian Approach for Testing the Fairness of Automated Scoring. *Journal of Educational and Behavioral Statistics*

2. **Kwon, S.**, & Zhang, S. (in press). Explaining Performance Gaps with Problem-Solving Process Data via Latent Class Mediation Analysis. *Psychometrika*

3. **Kwon, S.**, Zhang, S., Koehn, H. F., & Zhang, B. (2025). MCMC Stopping Rules in Latent Variable Modelling. *British Journal of Mathematical and Statistical Psychology*

4. Choi, J., **Kwon, S.**, & Zhang, B. (2025). A Structural After Measurement Approach to Bifactor Predictive Models. *Structural Equation Modeling: A Multidisciplinary Journal*

**Under Review/Revision:**

1. **Kwon, S.** & Zhang, S. (under review) A Copula-Based Joint Model for Speed and Accuracy. *Psychometrika*

2. Choi, J., Zhang, B., Shi, D., **Kwon, S.**, & Alexander, L. (minor revision). You Must Parcel Carefully If You Have To! Comparing Eight Item Parceling Strategies with the Item-level Model for Bifactor Predictive Models. *Psychological Methods*

**In Preparation:**

1. **Kwon, S.**, Zhang, B., & Zhang, S. A Cross-Estimation Network for Forced-Choice Item Response Models.

2. **Kwon, S.**, McCaffrey, D., Jewsbury, P., & Casabianca, J. An Empirical Bayesian Approach for Testing the Fairness of Automated Scoring: A Multivariate Framework.

# PRESENTATIONS

**Leading Conference Presentations:**

1. **Kwon, S.**, Zhang, S. (2025, July). A copula-based joint model for item responses and response times. *Paper presented at the International Meeting of the Psychometric Society (IMPS), Minneapolis, MN.*

2. **Kwon, S.**, Zhang, S. (2025, April). Explaining Performance Gaps with Problem-Solving Process Data via Latent Class Mediation Analysis. *Poster presented at the National Council on Measurement in Education (NCME) Annual Meeting, Denver, CO.*

3. **Kwon, S.**, McCaffrey, D., Jewsbury, P., & Casabianca, J. (2025, April). An Empirical Bayesian Approach for Testing the Fairness of Automated Scoring. *Paper presented at the National Council on Measurement (NCME) in Education Annual Meeting, Denver, CO.*

4. **Kwon, S.**, Zhang, S. (2024, July). Explaining Performance Gaps with Problem-Solving Process Data via Latent Class Mediation Analysis. *Paper presented at the International Meeting of the Psychometric Society (IMPS), Prague, Czech.*

5. **Kwon, S.**, Zhang, S. (2023, November). Explaining Performance Gaps with Problem-Solving Process Data via Latent Class Mediation Analysis. *Paper presented at the Ideas in Testing Research Seminar, Chicago, IL.*

6. **Kwon, S.**, Zhang, S., & Köhn, F. (2023, March). MCMC Convergence Diagnostics in DINA Model and Bifactor IRT Model. *Poster presented at the National Council on Measurement in Education (NCME) Annual Meeting, Chicago, IL.*

7. **Kwon, S.**, Jahng, S. (2020, October). Effects of Factor Scaling Constraints on Model Estimation in Bayesian Confirmatory Factor Analysis. *Paper presented at the Meeting of the Korean Society of Psychological Measurement and Assessment, Seoul, Korea.*

8. **Kwon, S.**, Jahng, S. (2019, March). Autoregressive Cross-lagged Model with Phantom Variables for Panel Data with a Missing Time Point. *Poster presented at the International Convention of Psychological Science, Paris, France.*

9. **Kwon, S.** (2017, November). Testing Autoregressive Cross-lagged Effects between Academic Achievement and Achievement Values Using Phantom Variables. *Poster presented at the Meeting of the Korean Society of Psychological Measurement and Assessment, Seoul, Korea.*

**Contributed Conference Presentations:**
1. Choi, J., **Kwon, S.,** & Zhang, B. (2024, April). An Investigation of the Structural After Measurement Approach for Bifactor Models. *Poster presented at the Society for Industrial and Organizational Psychology (SIOP) Annual Conference, Chicago, IL.*

## SOFTWARE

The **hmcdm** R package                                      Creator / Maintainer

- A package for fitting hidden Markov cognitive diagnosis models on longitudinal data for learning.
- https://github.com/tmsalab/hmcdm
- https://cran.r-project.org/web/packages/hmcdm/index.html

## SERVICE

**Professional Committee:**

- National Council on Measurement in Education
  *Dissertation Award Committee*                                             2023

**Ad-hoc Manuscript Reviewer:**

- *Behavioral Research Methods*
- *Educational Measurement: Issues and Practice*
- *Behaviormetrika*
- *Statistics and Its Interface*

## AWARDS & HONORS

**External:**

- Psychometric Society Travel Award (sponsored by Duolingo), IMPS 2025.

**University of Illinois Urbana-Champaign:**

- Graduate College Conference Presentation Award, 2025.
- Hobson Fellowship, Department of Psychology, 2021-2025.
- List of Teachers Ranked as Excellent by Students, Center for Innovation in Teaching & Learning, 2023.