

Sunbeam Kwon

University of Illinois Urbana-Champaign
Department of Psychology
603 E Daniel St, Champaign IL 61820

E-mail: sunbeam2@illinois.edu
Website: <https://sunbeamk.github.io/>

EDUCATION

<i>University of Illinois Urbana-Champaign, Champaign, IL</i>	2021 - Present
Ph.D. in Quantitative Psychology	
<i>University of Illinois Urbana-Champaign, Champaign, IL</i>	2024
M.S. in Statistics	
<i>Sungkyunkwan University, Seoul</i>	2020
M.A. in Psychology	
<i>Sungkyunkwan University, Seoul</i>	2015
B.A. in Psychology and Statistics	

EMPLOYMENT

ETS <i>Ida Lawrence Research Summer Intern</i>	June 2024 - July 2024
BSCHR, Seoul <i>Psychometric Researcher</i>	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., J eyebury, 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. (under review). 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.

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., J eyebury, 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
<ul style="list-style-type: none"> • 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:

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| <ul style="list-style-type: none"> • <i>Behavioral Research Methods</i> • <i>Educational Measurement: Issues and Practice</i> | <ul style="list-style-type: none"> • <i>Behaviormetrika</i> • <i>Statistics and Its Interface</i> |
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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.