

YONGNAM KIM

Seoul National University
Department of Education
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ACADEMIC POSITION

- 2020 - Assistant Professor, Department of Education (Educational Measurement & Evaluation), Seoul National University
- 2019 - 2020 Assistant Professor, Department of Educational, School and Counseling Psychology (Statistics, Measurement, and Evaluation in Education), University of Missouri-Columbia
- 2018 - 2019 Post-Doctoral Fellow, Center for Demography and Ecology, University of Wisconsin-Madison (Supervisor: Prof. Felix Elwert)

EDUCATION

- 2018 Ph.D., Educational Psychology (Quantitative Methods), University of Wisconsin-Madison
Dissertation: *The Role of Pretest Measures of the Outcome in Causal Inference* (Supervisor: Prof. Peter M. Steiner)
- 2014 M.S., Educational Psychology (Quantitative Methods), University of Wisconsin-Madison
Thesis: *Bias-Amplification due to Conditioning on Near-Instrumental Variables in Observational Studies* (Supervisor: Prof. Peter M. Steiner)
- 2009 M.A., Educational Psychology, Seoul National University
Thesis: *The Effects of Prior Knowledge and Text Coherence on Cognitive Load and Interest* (Supervisor: Prof. Jongho Shin)
- 2005 B.A., Double Major in Education and Psychology, Seoul National University

RESEARCH INTERESTS

- Causal inference; causal graphical models (directed acyclic graphs); causal mediation analysis; causal discovery; hidden bias; causes of effects (legal liability and causal inference)

- Quasi-experimental designs (matching, propensity score method, difference-in-differences, fixed effects model, instrumental variables method)
- Multiple-choice exams (answer changing, answer reviewing)
- Shadow education; learning motivation; text interest

AWARDS & TRAVEL GRANTS

- 2018 *Busk Travel Scholarship*
Department of Educational Psychology, University of Wisconsin-Madison
- 2018 *Student Research Grants Competition Travel Award*
Graduate School, University of Wisconsin-Madison
- 2008 *Excellence Award*
Korea Research Institute for Vocational Education & Training (KRIVET)
for excellence in Graduate Student Research Competition
- 2007 *Highest Award*
Korean Educational Development Institute (KEDI) for excellence in
Graduate Student Research Competition
- 2005 *Seoul National University Alumni Association Prize*
Seoul National University Alumni Association

METHODOLOGICAL PUBLICATIONS

Peer Reviewed Journal Articles & Book Chapters

- Kim, Y., & Steiner, P. M.** (accepted). Causal graphical views of fixed effects and random effects models. *British Journal of Mathematical and Statistical Psychology*.
- Kim, Y.** (2019). Partial identification of answer reviewing effects in multiple-choice exams. *Journal of Educational Measurement*. Advance online publication. doi: 10.1111/jedm.12259
- Kim, Y.** (2019). The causal structure of suppressor variables. *Journal of Educational and Behavioral Statistics*, *44*(4), 367-389.
- Kim, Y., & Steiner, P. M.** (2019). Gain scores revisited: A graphical models perspective. *Sociological Methods & Research*. Advance online publication. doi: 10.1177/0049124119826155
- Kim, Y., Lubanski, S. A., & Steiner, P. M.** (2018). Matching strategies for causal inference with observational data in education. In C. Lochmiller (Ed.), *Complementary research methods for educational leadership & policy studies* (pp. 173-191). New York, NY: Palgrave Macmillan.

- Steiner, P. M., **Kim, Y.**, Hall, C. E., & Su, D. (2017). Graphical models for quasi-experimental designs. *Sociological Methods & Research*, 46(2), 155-188.
- Kim, Y.**, & Steiner, P. M. (2016). Quasi-experimental designs for causal inference. *Educational Psychologist*, 51(3-4), 395-405.
- Steiner, P. M., & **Kim, Y.** (2016). The mechanics of omitted variable bias: Bias amplification and cancellation of offsetting biases. *Journal of Causal Inference*, 4(2). doi:10.1515/jci-2016-0009

Book Reviews, Commentaries, & Encyclopedia Entries

- Steiner, P. M., **Kim, Y.**, & Lubanski, S. A. (2017). Book review of *Causal Inference in Statistics: A Primer* by J. Pearl, M. Glymour, & N. P. Jewell. *Journal of the American Statistical Association*, 112(519), 1371-1372.
- Steiner, P. M., Park, S., & **Kim, Y.** (2016). Identifying causal estimands for time-varying treatments measured with time-varying (age or grade-based) instruments. *Multivariate Behavioral Research*, 51(6), 865-870.
- Steiner, P. M., & **Kim, Y.** (2015). Quasi-Experiments. *The Encyclopedia of Clinical Psychology*. 1-12.

Under Review / Preprints

- Kim, Y.** (2019). *Are gain scores really a “treacherous quicksand”? An empirical comparison between gain score methods and ANCOVA*. The preprint is uploaded on PsyArXiv, <https://doi.org/10.31234/osf.io/8p7nf>
- Kim, Y.** (2019). *Apples to oranges: Causal effects of answer changing in multiple-choice exams*. The preprint is uploaded on arXiv, <https://arxiv.org/abs/1808.10577>

In Preparation

- Kim, Y.** *Causal Graphical Analysis of Regression to the Mean*.
- Kim, Y.** *Causal Analysis of the Monty Hall problem*.
- Kim, Y.**, & Elwert, F. *Difference-in-Differences in Mediation Analysis: A Solution to Mediator-Outcome Confounding*.
- Kim, Y.**, & Elwert, F. *Comment: The Role of Idiosyncratic Errors in Sofer, Richardson, Colicino, Schwartz, and Tchetgen Tchetgen’s (2016) Solution to Scale Dependence in Difference-in-Differences*.
- Kim, Y.** *Can Self-Concept Increase Height? (written in Korean)*
- Kim, Y.** *The Effect of Private Tutoring on College Entrance (Using the Front-Door Criterion)*.

Kim, Y. *The Sign of the Bias of “Measured” Confounding: Detecting Hidden Bias Using Covariate Knowledge.*

Kim, Y., & Gil, H. *Detecting Hidden Bias Using Pretests and Second Control Groups (written in Korean).*

Kim, Y., & Steiner, P. M. *How Conditioning on Pretests of the Outcome Decreases or even Increases Bias in Effect Estimates from Observational Data.*

Kim, Y., Elwert, F., McVay, M., & Voils, C. *The Mechanism of the Weight Loss Maintenance in the MAINTAIN Trial.*

SUBSTANTIVE PUBLICATIONS

Peer Reviewed Journal Articles & Book Chapters

Shin, J., Chang, Y., & **Kim, Y.** (2016). Effects of expository-text structures on text-based interest, comprehension, and memory. *The SNU Journal of Education Research*, 25(2), 39-57.

Lee, H., & **Kim, Y.** (2014). Korean adolescents' longitudinal change of intrinsic motivation in learning English and mathematics during secondary school years: Focusing on gender difference and school characteristics. *Learning and Individual Differences*, 36, 131-139.

Lee, H., & **Kim, Y.** (2012). The school related factors affecting high school dropout rates. *Asia Journal of Education*, 13(1), 149-185.

Shin, J., **Kim, Y.**, & Hwang, H. (2010). Is shadow education effective on students' motivations? In Lee, J. (Ed.), *Shadow education: Phenomenon and coping* (pp. 110-110). Seoul, South Korea: Kyoyookgwahaksa.

Shin, J., Lee, H., & **Kim, Y.** (2009). Student and school factors affecting mathematics achievement: International comparisons between Korea, Japan and the USA. *School Psychology International*, 30(5), 520-537.

Kim, Y., Min, Y., & Kim, M. (2008). The factors and the effects of self-directed HRD on company productivity, *HRD review*, 11(3), 50-59.

Shin, J., Seo, J.-H., Choi, J., **Kim, Y.**, Kim, Y. K., & Lee, H. (2007). Study on differences in learning-activity preferences between gifted and average students according to thinking styles. *Journal of Korean Elementary Science Education*, 25(5), 495-506.

Shin, J., Ko, B-S., Kye, B-K., Chang, Y., Kim, H-S., & **Kim, Y.** (2007). Effects of types of e-learning environments and learners' achievement levels on writing in elementary school students. *The Korean Journal of Educational Psychology*, 21(3), 763-780.

Translated Books

Yoo, S.-S., Park, J., Lee, G., & **Kim, Y.** (Trans., in Korean) (2018). *Finding superman: Debating the future of public education in America* [교육을 바꿀 슈퍼맨을 찾습니다]. Paju, South Korea: Kyoyookgwahaksa.

In Preparation

Lee, H., **Kim, Y.**, & Boo, E. *The impacts of student- and instruction-oriented classes on learning outcomes*

INVITED TALKS & CONFERENCE PRESENTATIONS (SINCE 2011)

Invited Talks

Kim, Y. (2019, October). *Causal graphical views of fixed effects and random effects models*. Invited talk at the Department of Psychology, University of Missouri-Columbia, MO.

Kim, Y., & Steiner, P. M. (2017, March). *The mechanics of omitted variable bias and the effect of measurement error*. Talk at an invited session at the 2017 ENAR Spring Meeting of the Eastern North American Region International Biometric Society, Washington, DC.

Kim, Y. (2015, July). *Controlling for confounders in causal inference: A graphical models approach*. Invited talk at the Center for Learning Science & Creative Talent Development, Seoul National University, Seoul, South Korea.

Steiner, P. M., & **Kim, Y.** (2015, October). *Omitted variable bias: Bias amplification and cancellation of offsetting biases*. Invited talk at the Department of Population Health Sciences, UW-Madison, WI.

Steiner, P. M., & **Kim, Y.** (2015, July). *When covariate adjustments increase selection bias: Bias amplification and cancellation of offsetting biases*. Invited talk at the Eidgenoessische Technische Hochschule (ETH), Zuerich, Switzerland.

Conference Presentations

Kim, Y. (2020, April, cancelled due to the pandemic). *Two Misconceptions About Answer Changing and Reviewing Effects in Multiple-Choice Exams*. Scheduled at the National Council on Measurement in Education Annual Meeting, San Francisco, CA.

Kim, Y. (2020, April, cancelled due to the pandemic). *Difference-in-Differences in Mediation Analysis: A Solution to Mediator-Outcome Confounding*. Scheduled at the American Educational Research Association Annual Meeting, San Francisco, CA.

- Kim, Y.** (2020, March, cancelled due to the pandemic). *Are Gain Scores Really a "Treacherous Quicksand"? An Empirical Comparison Between Gain Score Methods and ANCOVA*. Scheduled at the 2020 Spring Conference of the Society for Research on Educational Effectiveness, Crystal City, VA.
- Kim, Y.** (2018, May). *An example where the fundamental problem of causal inference does not occur: The causal effect of answer changing*. Poster presented at the Atlantic Causal Inference Conference, Pittsburgh, PA.
- Kim, Y., & Steiner, P. M.** (2018, March). *How conditioning on pretests of the outcome decreases or even increases bias in effect estimates from observational data*. Paper presented at the 2018 Spring Conference of the Society for Research on Educational Effectiveness, Washington, DC.
- Kim, Y., & Steiner, P. M.** (2017, May). *The mechanics of omitted variable bias: Bias amplification and cancellation of offsetting biases*. Paper presented at the Modern Modeling Methods Conference, Storrs, CT.
- Kim, Y., & Steiner, P. M.** (2017, May). *Gain scores revisited: A graphical models perspective*. Poster presented at the Modern Modeling Methods Conference, Storrs, CT.
- Kim, Y., & Steiner, P. M.** (2017, March). *Identification of causal effects using gain scores*. Paper presented at the 2017 Spring Conference of the Society for Research on Educational Effectiveness, Washington, DC.
- Steiner, P. M., & **Kim, Y.** (2016, May). *The mechanics of omitted variable bias: Covariate selection in the presence of omitted variables*. Paper presented at the Atlantic Causal Inference Conference, New York, NY.
- Kim, Y., & Steiner, P. M.** (2016, May). *Graphical models for quasi-experimental designs*. Poster presented at the Atlantic Causal Inference Conference, New York, NY.
- Kim, Y., Steiner, P. M., Hall, C. H., & Su, D.** (2016, March). *Graphical models for quasi-experimental designs*. Paper presented at the 2014 Spring Conference of the Society for Research on Educational Effectiveness, Washington, DC.
- Steiner, P. M., & **Kim, Y.** (2014, August). *Implications of measurement error on covariate selection for causal inference*. Paper presented at the 2014 Joint Statistical Meetings, Boston, MA.
- Kim, Y., & Steiner, P. M.** (2014, July). *Bias-amplification in observational studies*. Paper presented at the 2014 International Meeting of the Psychometric Society, Madison, WI.
- Steiner, P. M., & **Kim, Y.** (2014, March). *On the bias-amplifying effect of near instruments in observational studies*. Paper presented at the 2014 Spring Conference of the Society for Research on Educational Effectiveness, Washington, DC.

Steiner, P. M., & Kim, Y. (2013, March). *Implications for covariate measurement error for propensity scores*. Paper presented at the March 2013 Conference of the Society for Research on Educational Effectiveness, Washington, DC.

Steiner, P. M., & Kim, Y. (2012, July). *Covariate selection under model uncertainty in conditional and direct causal effects*. Symposium conducted at the meeting of the Altes Schloss Dornburg, Jena, Germany.

Lee, H., Kim, Y., & Boo, E. (2012, April). *Longitudinal change of learning interest by high school types*. Paper presented at the conference of the Korean Educational Psychology Association, Gwangju, South Korea.

Lee, H., & Kim, Y. (2011, October). *Longitudinal analysis of intrinsic and instrumental motivation*. Paper presented at the conference of the Korean Educational Psychology Association, Gwangju, South Korea.

Lee, H., & Kim, Y. (2011, October). *School-level factors affecting high school dropout rate*. Paper presented at the 5th Korean Education Longitudinal Study Conference, Seoul, South Korea.

STATISTICAL PROGRAMMING LANGUAGES

R, SAS, SPSS, HLM, M-plus

LANGUAGES

Korean	native
English	fluent

RESEARCH EXPERIENCE

2016 - 2018 Project Assistant, Wisconsin Center for Educational Research, University of Wisconsin-Madison: *Developing Methodological Foundations for Empirical Evaluations of Non-Experimental Methods in STEM Intervention Evaluations* (PIs: Dr. Vivian Wong & Dr. Peter M. Steiner), National Science Foundation

2012 - 2016 Project Assistant, Wisconsin Center for Educational Research, University of Wisconsin-Madison: *Matching Strategies for Observational Studies with Multilevel Data in Educational Research* (PIs: Dr. Peter Steiner & Dr. Jee-Seon Kim), Institute of Education Sciences, U.S. Department of Education

2011 - 2012 Project Assistant, Wisconsin Center for Educational Research, University of Wisconsin-Madison: *Validating Universal Screening and Progress Monitoring Instruments for Use with ELLs in Response-to-Intervention*

Models (PIs: Dr. Craig A. Albers & Dr. David Kaplan), Institute of Education Sciences, U.S. Department of Education

2009 - 2011 Researcher, Korean Institute for Research in the Behavioral Sciences, Seoul, South Korea: *Managing norm-references tests / test equating*

TEACHING EXPERIENCE

2020 Spring Lecturer, Department of Educational, School & Counseling Psychology, University of Missouri-Columbia: *Introduction to Causal Inference* (ESC_PS 8087-01)

2019 Fall Lecturer, Department of Educational, School & Counseling Psychology, University of Missouri-Columbia: *Quantitative Foundations in Educational Research* (ESC_PS 8850-02)

2017 - 2018 Teaching Assistant, Department of Educational Psychology, University of Wisconsin-Madison: in *Statistical Methods Applied to Education I* (Instructor: Dr. Jodi E. Wollack)

Mar 2017 Guest Lecturer, Department of Sociology, University of Wisconsin-Madison: "Graphical representations of fixed effects models" in *Seminar on Causality* (Instructor: Dr. Felix Elwert)

Aug 2016 Teaching Assistant, Northwestern University: in the analysis sessions in R for a two-week IES workshop titled *The Design and Analysis of Quasi-experiments* (Instructors: Dr. Thomas Cook, Dr. Peter Steiner, Dr. Steve West, Dr. Vivian Wong, & Dr. Coady Wing)

Mar 2016 Guest Lecturer, Department of Educational Psychology, University of Wisconsin-Madison: "Gain score methods for causal inference" in *Graphical Models for Causal Inference* (Instructor: Dr. Peter Steiner)

PROFESSIONAL ACTIVITIES & MEMBERSHIPS

Session Chair

When measurement meets causal inference: Making both count, Organized at the National Council on Measurement in Education Annual Meeting, San Francisco, 2020, April (co-chaired with Dr. Hyo-Jeong Shin; scheduled but cancelled due to the pandemic)

Ad hoc Reviewer

Educational Measurement: Issues and Practice (2020)

Multivariate Behavioral Research (2020)

American Journal of Political Science (2020)

Journal of Research on Educational Effectiveness (2020)

Korean Journal of Educational Psychology (2020)

AERA Open, American Educational Research Association (2019, 2020)
Advances in Methods and Practices in Psychological Science (2019)
Evaluation Review (2019)
Instructional Science (2019)
Journal of Educational and Behavioral Statistics (2018, 2019)
Pharmaceutical Statistics (2018, 2020)
Educational Psychology (2018)

Research Grant Peer Review

Medical Research Council (2019)

Editorial Activities

Editorial Assistant of the *Asia Pacific Education Review*, Educational Research Institute, Seoul National University (2006-2007)

Society Memberships

Society for Research on Educational Effectiveness (SREE)
The National Council on Measurement in Education (NCME)

LICENSURE

Secondary Education Certification, Ministry of Education, Science and Technology, South Korea (Feb 2005)