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### **SUMMARY**

Professor of the Research, Evaluation, Measurement, and Statistics Program of the Department of Educational Psychology and Instructional Technology (EPIT) at the University of Georgia.

Four years experience with the University of Wisconsin (UW) Center for Placement Testing.

Extensive training and experience in educational measurement, psychometrics, and applied statistics.

### **EXPERIENCE**

1995-Present            EPIT, The University of Georgia  
Professor (2007- )  
Associate Professor (2001-2007)  
Assistant Professor (1995-2001)

Taught graduate courses of research methods, educational assessment, classical test theory, item response theory, introductory statistics, analysis of variance, and categorical data analysis.

Editorial/Review Board Member of:  
*Educational and Psychological Measurement*  
*Journal of Educational Measurement*  
*Measurement in Physical Education and Exercise Science*  
*School Psychology Quarterly*

Reviewed papers for:  
*Applied Psychological Measurement*  
*British Journal of Mathematical and Statistical Psychology*  
*Educational Measurement-Issues and Practice*  
*Educational Researcher*  
*Journal of Behavioral and Educational Statistics*  
*Journal of Educational Evaluation for Health Professions*  
*Multivariate Behavioral Research*  
*Psychological Methods*  
*Psychometrika*  
*Structural Equation Modeling*

1991-1995                      UW Center for Placement Testing, University of Wisconsin-Madison  
Assistant Scientist

Conducted research on educational and psychological measurement issues:

- ! Investigated theoretical issues in item parameter estimation under item response theory.
- ! Developed methods for detecting differential item functioning under the graded response model.
- ! Developed computer program for differential item functioning under item response theory.

Participated in development of placement tests (English, Mathematics, and Foreign Languages-French, German, Spanish) of the University of Wisconsin-System for the 14 campuses:

- ! Supervised statistical analyses of test items and prepared reports for the committees.
- ! Managed equating studies and directed the development of score scales for each institution.
- ! Conducted validity studies for placement tests for the committees.

1985-1991                      Testing and Evaluation Services, University of Wisconsin-Madison  
Program Assistant

Assisted in development of placement tests of the University of Wisconsin-System and engaged in designing and conducting research on educational and psychological measurement issues.

## **EDUCATION**

PhD, University of Wisconsin-Madison, 1991

Major: Educational Psychology (Quantitative Methods)

Minor: Statistics

Advisor: Michael J. Subkoviak

Dissertation: *On joint and marginal Bayesian estimation in item response theory*

MS, University of Wisconsin-Madison, 1986

Major: Educational Psychology (Quantitative Methods)

Thesis: *The  $1/kn$  rules in the minimum logit chi-square estimation procedure when small samples are used*

BA, Korea University, 1983

Major: Education

Minor: Psychology

## **AFFILIATIONS**

American Educational Research Association (AERA)

American Psychological Association (APA)

American Statistical Association (ASA)

Institute of Mathematical Statistics (IMS)

National Council on Measurement in Education (NCME)

Psychometric Society

## PUBLICATIONS

- Kim, S.-H., Baker, F. B., & Subkoviak, M. J. (1989). The  $1/kn$  rules in the minimum logit chi-square estimation procedure when small samples are used. *British Journal of Mathematical and Statistical Psychology*, 42, 113-126.
- Cohen, A. S., Kim, S.-H., & Subkoviak, M. J. (1991). Influence of prior distributions on detection of DIF. *Journal of Educational Measurement*, 28, 49-59.
- Kim, S.-H., & Cohen, A. S. (1991). A comparison of two area measures for detecting differential item functioning. *Applied Psychological Measurement*, 15, 269-278.
- Kim, S.-H., & Cohen, A. S. (1992). Effects of linking methods on detection of DIF. *Journal of Educational Measurement*, 29, 51-66.
- Kim, S.-H., & Cohen, A. S. (1992). IRTDIF: A computer program for IRT differential item functioning analysis. *Applied Psychological Measurement*, 16, 158.
- Cohen, A. S., & Kim, S.-H. (1992). Detecting calculator effects on item performance. *Applied Measurement in Education*, 5, 303-320.
- Cohen, A. S., & Kim, S.-H. (1993). A comparison of Lord's chi-square and Raju's area measures in detection of DIF. *Applied Psychological Measurement*, 17, 39-52.
- Cohen, A. S., Kim, S.-H., & Baker, F. B. (1993). Detection of differential item functioning in the graded response model. *Applied Psychological Measurement*, 17, 335-350.
- Kim, S.-H., Cohen, A. S., Baker, F. B., Subkoviak, M. J., & Leonard, T. (1994). An investigation of hierarchical Bayes estimation in item response theory. *Psychometrika*, 59, 405-421.
- Kim, S.-H., Cohen, A. S., & Kim, H.-O. (1994). An investigation of Lord's procedure for detection of differential item functioning. *Applied Psychological Measurement*, 18, 217-228.
- Kim, S.-H., Cohen, A. S., Park, T.-H. (1995). Detection of differential item functioning in multiple groups. *Journal of Educational Measurement*, 32, 261-276.
- Kim, S.-H., & Cohen, A. S. (1995). A comparison of Lord's chi-square, Raju's area measures, and the likelihood ratio test on detection of differential item functioning. *Applied Measurement in Education*, 8, 291-312.
- Kim, S.-H., & Cohen, A. S. (1995). A minimum chi-square method for equating tests under the graded response model. *Applied Psychological Measurement*, 19, 167-176.
- Cohen, A. S., Kim, S.-H., & Wollack, J. A. (1996). An investigation of the likelihood ratio test for detection of differential item functioning. *Applied Psychological Measurement*, 20, 15-26.

- Kim, S.-H., & Cohen, A. S. (1996). Table of percentage points of the Behrens-Fisher distribution. *Journal of Statistical Computation and Simulation*, 55, 181-187.
- Kim, S.-H. (1997). [Review of a computer program *BILOG 3 for Windows: Item analysis and test scoring with binary logistic models*]. *Applied Psychological Measurement*, 21, 371-376.
- Cohen, A. S., & Kim, S.-H. (1998). An investigation of linking methods under the graded response model. *Applied Psychological Measurement*, 22, 116-130.
- Kim, S.-H., & Cohen, A. S. (1998). A comparison of linking and concurrent calibration under item response theory. *Applied Psychological Measurement*, 22, 131-143.
- Kim, S.-H., & Cohen, A. S. (1998). Detection of differential item functioning under the graded response model with the likelihood ratio test. *Applied Psychological Measurement*, 22, 345-355.
- Kim, S.-H. (1998). Polytomous item response theory. In J. Whang (Ed.), *New horizons in educational measurement and evaluation* (pp. 177-247). Seoul, Korea: Educational Sciences. [in Korean]
- Kim, S.-H., & Cohen, A. S. (1998). On the Behrens-Fisher problem: A review. *Journal of Educational and Behavioral Statistics*, 23, 356-377.
- Kim, S.-H. (1999). Parameter estimation using a Markov chain Monte Carlo method under the Rasch model. *Methods of Psychological Research Online*, 4, 9.
- Kim, S.-H., Olejnik, S., & Yu, C. (1999). A Monte Carlo study of factors that affect the Mantel test and the generalized Mantel-Haenszel test of differential item functioning. *Methods of Psychological Research Online*, 4, 11.
- Kim, S.-H. (2001). An evaluation of a Markov chain Monte Carlo method for the Rasch model. *Applied Psychological Measurement*, 25, 163-176.
- Cohen, A. S., Kane, M. T., & Kim, S.-H. (2001). The precision of simulation study results. *Applied Psychological Measurement*, 25, 136-145.
- Kim, S.-H., & Cohen, A. S. (2002). A comparison of linking and concurrent calibration under the graded response model. *Applied Psychological Measurement*, 26, 25-41.
- De Ayala, R. J., Kim, S.-H., Stapleton, L. M., & Dayton, C. M. (2002). Differential item functioning: A mixture distribution conceptualization. *International Journal of Testing*, 2, 243-276.
- Kim, S.-H. (2003). An investigation of Bayes estimation procedures for the two-parameter logistic model. In H. Yanai, A. Okada, K. Shigemasu, Y. Kano, & J. J. Meulman (Eds.), *New developments in psychometrics* (pp. 389-396). Tokyo: Springer-Verlag.

Baker, F. B., & Kim, S.-H. (2004). *Item response theory: Parameter estimation techniques* (2nd ed.). New York: Marcel Dekker.

Webb, M., Schwanenflugel, P. J., & Kim, S.-H. (2004). A construct validation study of phonological awareness for children entering prekindergarten. *Journal of Psychoeducational Assessment, 22*, 304-319.

Kim, S., Kim, S.-H., Kim, Y.-Y., & Jeong, H.-S. (2006). Analysis of the differentiated curriculum and student assessment at high schools between Korea and United States. *The Korea Educational Review, 12*, 5-35. [In Korean]

Kim, S.-H. (2006). [Review of *Explanatory Item Response Models: A Generalized Linear and Nonlinear Approach*]. *Journal of Applied Statistics, 33*, 573-574.

Kim, S.-H., Cohen, A. S., & Lin, Y.-H. (2006). LDIP: A computer program for local dependence indices for polytomous items. *Applied Psychological Measurement, 30*, 509-510.

Kim, S.-H. (2007). Some posterior standard deviations in item response theory. *Educational and Psychological Measurement, 67*, 258-279.

Kim, S.-H., Cohen, A. S., Alagoz, C., & Kim, S. (2007). DIF detection and effect size measures for polytomously scored items. *Journal of Educational Measurement, 44*, 93-116.

Kim, S.-H., Cohen, A. S., & Lin, Y.-H. (in press). LDID: A computer program for local dependence indices for dichotomous items. *Applied Psychological Measurement*.

Kim, S.-H. (in press). [Review of *Test Equating, Scaling, and Linking: Methods and Practices* (2nd ed.)]. *Journal of Applied Statistics*.

## PRESENTATION

Kim, S.-H., & Cohen, A. S. (1991, April). *Effects of linking methods on detection of DIF*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago.

Kim, S.-H. (1991, June). *Hierarchical Bayesian estimation in item response theory*. Paper presented at the annual meeting of the Psychometric Society, New Brunswick, NJ.

Cohen, A. S., & Kim, S.-H. (1991, November). *A comparison of Lord's chi-square and Raju's area measures on detection of DIF*. Paper presented at the International Symposium on Modern Theories in Measurement: Problems and Issues at the University of Ottawa, Ontario, Canada.

Kim, S.-H., Cohen, A. S., Baker, F. B., Subkoviak, M. J., & Leonard, T. (1992, April). *An investigation of hierarchical Bayes estimation in item response theory*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Kim, S.-H., Cohen, A. S., & Park, T.-H. (1993, April). *Detection of differential item functioning in multiple groups*. Paper presented at the annual meeting of the American Educational Research Association, Atlanta, GA.

Cohen, A. S., & Kim, S.-H. (1993, April). *A comparison of equating methods under the graded response model*. Paper presented at the annual meeting of the National Council on Measurement in Education, Atlanta, GA.

Kim, S.-H. (1994, April). *Hierarchical Bayes estimation of item parameters*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Kim, S.-H., & Cohen, A. S. (1994, April). *A comparison of Lord's chi-square, Raju's area measures, and the likelihood ratio test on detection of differential item functioning*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Kim, S.-H., Cohen, A. S., Kim, H.-O. (1994, April). *An investigation of Lord's procedure for detection of differential item functioning*. Paper presented at the annual meeting of the National Council on Measurement in Education, New Orleans, LA.

Cohen, A. S., Kim, S.-H., & Wollack, J. A. (1995, April). *An investigation of the likelihood ratio test for detection of differential item functioning*. Paper presented at the annual meeting of the National Council on Measurement in Education, San Francisco, CA.

Kim, S.-H., & Cohen, A. S. (1995, June). *On the Behrens-Fisher problem*. Paper presented at the annual meeting of the Psychometric Society, Minneapolis, MN.

Kim, S.-H., & Cohen, A. S. (1996, April). *A comparison of linking and concurrent calibration under item response theory*. Paper presented at the annual meeting of the American Educational Research Association, New York.

Kim, S.-H., Cohen, A. S., & Baker, F. B. (1996, June). *A comparison of a chi-square test and area measures or the detection of differential item functioning under the graded response model*. Paper presented at the annual meeting of the Psychometric Society, Banff, Alberta, Canada.

Kim, S.-H. (1997, March). *An evaluation of hierarchical Bayes estimation for the two-parameter logistic model*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.

Kim, S.-H., & Cohen, A. S. (1997, March). *A comparison of linking and concurrent calibration under the graded response model*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.

Kim, S.-H., & Cohen, A. S. (1997, March). *An investigation of the likelihood ratio test for detection of differential item functioning under the graded response model*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.

Seong, T.-J., Kim, S.-H., & Cohen, A. S. (1997, March). *A comparison of procedures for ability estimation under the graded response model*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago.

Kim, S.-H. (1997, June). *An investigation of the Mantel test and the likelihood ratio test for detection of DIF*. Paper presented at the annual meeting of the Psychometric Society, Gatlinburg, TN.

Kim, S.-H., & Cohen, A. S. (1998, April). *An evaluation of a Markov chain Monte Carlo method for the two-parameter logistic model*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

Kim, S.-H., & Cohen, A. S., DiStefano, C., & Kim, S. (1998, April). *An investigation of the likelihood ratio test for detection of differential item functioning under the partial credit model*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

Cohen, A. S., Kim, S.-H., & Wollack, J. A. (1998, April). *A comparison of item response theory and observed score DIF detection measures for the graded response model*. Paper presented at the annual meeting of the National Council on Measurement in Education, San Diego, CA.

Kim, S.-H. (1998, June). *An evaluation of a Markov chain Monte Carlo method for the Rasch Model*. Paper presented at the joint annual meeting of the Psychometric Society and the Classification Society of North America, Urbana, IL.

Kim, S.-H., & Cohen, A. S. (1999, April). *Accuracy of parameter estimation in Gibbs sampling*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

Cohen, A. S., Kane, M. T., & Kim, S.-H. (1999, April). *The precision of simulation study results*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

De Ayala, R. J., Kim, S.-H., Stapleton, L. M., & Dayton, C. M. (1999, April). *A reconceptualization of differential item functioning*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

Kim, S.-H., & Cohen, A. S. (2000, April). *An investigation of ability estimation in Gibbs Sampling*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Kim, S.-H. (2000, April). *An investigation of the likelihood ratio test, the Mantel test, and the generalized Mantel-Haenszel test of DIF*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Kim, S.-H., & Garberson, L. (2001, April). *An investigation of state rankings based on SAT I scores*. Paper presented at the annual meeting of the American Educational Research Association, Seattle, WA.

Morgan, D. A., & Kim, S.-H. (2001, April). *An investigation of polytomous DIF in a performance assessment using bias interactions and standardized impact*. Paper presented at the annual meeting of the American Educational Research Association, Seattle, WA.

Kim, S.-H. (2001, July). *An investigation of Bayes estimation procedures for the two-parameter logistic model*. Paper presented at the International Meeting of the Psychometric Society, Osaka, Japan.

Kim, S.-H. (2002, June). *A continuation ratio model for ordered category items*. Paper presented at the annual meeting of the Psychometric Society, Chapel Hill, NC.

Kim, S.-H. (2003, April). *Applications of the continuation ratio model for ordered category items*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.

Webb, M., Kim, S.-H., & Schwanenflugel, P. J. (2004, April). *A construct validation study of phonological awareness for children entering prekindergarten*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

Kim, S.-H. (2004, April). *On state rankings based on SAT I and ACT scores*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

Alagoz, C., Kim, S.-H., & Cohen, A. S. (2005, April). *Scoring tests with multiple-choice and constructed response items*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

Kim, S.-H., Oswald, S., & Cohen, A. S. (2005, April). *An investigation of DIF detection methods for Likert-type items*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

Kim, S.-H., Cohen, A. S., Alagoz, C., & Kim, S. (2005, April). *A comparison of DIF detection methods for polytomously scored items*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

Kim, S., & Kim, J., Jung, S.-A., & Kim, S.-H. (2005, April). *The assessment of Korean high school students for the effective implementation of differentiated curricula*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

Cohen, A. S., Cho, S.-J., & Kim, S.-H. (2005, April). *A mixture testlet model for educational tests*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

Kim, S., Kamphaus, R. W., & Kim, S.-H. (2005, August). *Twelve-year comparison of American child behavior in school*. Paper presented at the annual meeting of the American Psychological Association, Washington, DC.

Gil, A. M., Campbell, J. M., & Kim, S.-H. (2005, August). *Dimensional typology of adolescent socioemotional and Behavioral adjustment*. Paper presented at the annual meeting of the American Psychological Association, Washington, DC.

Kim, S.-H., Kim, S., & Jeong, H.-Y. (2006, April). *On content relevance and representativeness in computerized adaptive testing*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Kim, S., Kim, S.-H., & Ra, J. (2006, April). *Consumer reports on BILOG and LOGIST*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Lin, Y.-H., Kim, S.-H., & Cohen, A. S. (2006, June). *Local dependence indices and detection investigation for polytomous items*. Paper presented at the annual meeting of the Psychometric Society, Montreal, Canada.

Cho, S.-J., Cohen, A. S., & Kim, S.-H. (2006, June). *An investigation of priors on the probabilities of mixtures in the mixture Rasch model*. Paper presented at the annual meeting of the Psychometric Society, Montreal, Canada.

Kim, S.-H., & Cohen, A. S. (2007, April). *Detection of DIF in multiple groups using MANOVA approach*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago.

Kim, S., Cohen, A. S., & Kim, S.-H. (2007, April). *On effect size for DIF in polytomously scored items*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago.

Cho, S.-J., Cohen, A. S., Kim, S.-H., & Bottge, B. (2007, April). *Latent transition analysis with a mixture item response theory measurement model*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago.

Kim, S., Kim, Y.-Y., Jeong, H.-S., Kang, T.-Y., & Kim, S.-H. (2007, April). *A study on the use of science subject performance assessment in Korean high schools*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.

Kim, S., Alagoz, C., Ra, J., & Kim, S.-H. (2007, April). *Linking tests with multiple-choice and constructed-response items*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.