

# Dingjing Shi

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Department of Psychology  
University of Oklahoma

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## PERSONAL INFORMATION

### EDUCATION

Ph.D. University of Virginia, Quantitative Psychology	2016-2020
M.A. University of Virginia, Quantitative Psychology	2016-2018
M.S. Indiana University Bloomington, Learning and Developmental Sciences	2011-2013

### EMPLOYMENT

Assistant Professor, Quantitative Psychology Department of Psychology, University of Oklahoma	2020 - Present
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## SCHOLARLY ACTIVITY

### PUBLICATIONS

- Golino, H., **Shi, D.**, Christensen, A., Nieto, M. D., Sadana, R., Thiyagarajan, J. (2020). Investigating the performance of Exploratory Graph Analysis and traditional techniques to identify the number of latent factors: a simulation and tutorial. *Psychological Methods*, 25(3), 292-320. doi.org/10.1037/met0000255
- Shi, D.**, & Tong, X. (2020). Mitigating selection bias: a Bayesian approach to two-stage causal modeling with instrumental variables for nonnormal missing data. *Sociological Methods & Research*. <https://doi.org/10.1177/0049124120914920>
- Golino, H., Moulder, R., **Shi, D.**, Christensen, A., Nieto, M. D., Nesselroade, J., Sadana, R., Thiyagarajan, J., & Boker, S. M. (2020). Entropy fit index: a new fit measure for assessing the structure and dimensionality of multiple latent variables. *Multivariate Behavioral Research*. DOI: 10.1080/00273171.2020.1779642

14. **Shi, D.**, Tong, X., & Meyer, J. M. (2020). A Bayesian approach to mitigating selection bias in causal modeling: a tutorial with the ALMOND package in R. *Frontiers in Psychology, section Quantitative Psychology and Measurement, 11*:169. doi: 10.3389/fpsyg.2020.00169
13. **Shi, D.**, & Tong, X. (2018). Bayesian robust two-stage causal modeling with nonnormal missing data. (abstract) *Multivariate Behavioral Research, 53*(1), 127. doi: 10.1080/00273171.2017.1404894
12. Ryoo, J., Wang, C., Swearer, S., Hull, M., & **Shi, D.** (2018). Longitudinal model building using latent transition analysis: an example using school bullying data. *Frontiers in Psychology, section Quantitative Psychology and Measurement, 9*, 1-13. doi: 10.3389/fpsyg.2018.00675
11. **Shi, D.**, & Tong, X. (2017). The impact of prior information on Bayesian latent basis growth model estimation. *SAGE Open, 7*, 1-14. doi: 10.1177/2158244017727039
10. **Shi, D.**, & Tong, X. (2017). Bayesian two-stage robust modeling with instrumental variables using Student's t distributions. Tejedor, J.P. (Eds), *Bayesian Inference* (pp.221-233). InTech. Rijeka. doi: 10.5772/intechopen.70393
9. **Shi, D.**, & Tong, X. (2017). Robust Bayesian estimation in causal two-stage least squares modeling with instrumental variables. In van der Ark, L.A., Culpepper, S., Douglas, J.A., Wang, W.-C., & Wiberg, M. (Eds.), *Quantitative Psychology Research: Springer Series in Mathematics and Statistics* (pp.395-405). New York, NY: Springer. doi: 0.1007/978-3-319-56294-034
8. Ryoo, J., & **Shi, D.** (2015). Review of discovering structural equation modeling using Stata. *Structural Equation Modeling: A Multidisciplinary Journal, 22*(1), 162-165. doi: 10.1080/10705511.2014.935845
7. Spradin, T., Cierniak, K., **Shi, D.**, & Chen, M. (2013). Attendance and chronic absenteeism in Indiana: the impact on student achievement. *CEEP Education Policy Brief, 10*(3), 1-12.
6. Whiteman, R., **Shi, D.**, & Plucker J. (2012). Revamping the teacher evaluation process. *CEEP Education Policy Brief, 9*(4), 1-24.
5. Spradlin, T., **Shi, D.** & Cierniak, K. (2012). *Indiana school-level attendance and chronic absenteeism*. Report commissioned by Department of Education, Indiana Statehouse, Indianapolis, IN
4. Spradlin, T., Dickinson, S., Chen, J., & **Shi, D.** (2012). *Examining the prevalence, scale, and impact of chronic absence in Indiana student-level data analysis*. Report commissioned by Department of Education, Indiana Statehouse, Indianapolis: IN.
3. Spradlin, T., Dickinson, S., Guo, L., **Shi, D.**, & Whiteman, R. (2012). *McGraw-Hill acuity assessment program: Indiana efficacy study*. CTB\McGraw-Hill Education.

2. National Survey of Student Engagement. (2012). *Promoting student learning and institutional improvement: Lessons from the National Survey of Student Engagement*. Bloomington, IN: Indiana University Center for Postsecondary Research.
1. National Survey of Student Engagement. (2012). *NSSE Annual Report*. Bloomington: Indiana University Bloomington, Center for Postsecondary Research.

## CONFERENCE PRESENTATIONS

16. Nieto, M. D., Garrido, L., Golino, H., **Shi, D.**, & Abad, F. (2019). *A tutorial on the recovery of the optimal latent factors with traditional and modern techniques*. 16<sup>th</sup> Conference of Methodology of Behavioral and Health Sciences, Madrid, Spain.
15. **Shi, D.**, & Tong, X. (2019). *The development a Bayesian package ALMOND (Analysis of LATE for Missing Or/and Nonnormal Data) to mitigate selection bias in casual model*. Paper presentation at the 2019 Association for Psychology Science annual convention, Symposium “Advanced Bayesian Methods in Popular Psychological Modeling”, Washington D.C.
14. **Shi, D.** (2017). *Bayesian robust two-stage causal modeling with nonnormal missing data*. Poster presentation at 2017 Society for Multivariate Experimental Psychology (SMEP) Graduate Student Pre-Conference. Minneapolis, Minnesota.
13. **Shi, D.**, & Wei, X. (2017, accepted). *The evaluation of covariates in propensity score matching*. Paper presentation accepted at the 2017 annual meeting of National Council on Measurement in Education (NCME), San Antonio, TX.
12. Ryoo, J. H., Jung, K., Hwang, H., Meyer, J. P., Molfese, V., Brown, T. E., & **Shi, D.** (2016). *Application of generalized structured component analysis to item response theory*. Paper presentation at the 2016 Modern Modeling Methods (M3) Conference, Storrs, CT.
11. **Shi, D.**, & Tong, X. (2016). *The impact of priors on the Bayesian estimation for latent basis growth models*. Paper presentation at the 2016 annual meeting of American Psychological Association, Division 5: Qualitative and Quantitative Methods, Symposium “Bayesian Developments in Psychology”, Denver, CO.
10. **Shi, D.**, & Tong, X. (2016). *Robust estimation for instrumental variables in causal inference using student’s t distribution*. Paper presentation at the 2016 International Meeting of Psychometric Society, Asheville, NC.
9. **Shi, D.**, & Tong, X. (2016). *Parameter recovery of informative priors in Bayesian Confirmatory Factor Model*. Paper presentation at the 2016 annual meeting of American Educational Research Association, Division D: Measurement & Research Methodology, Washington, D.C.

8. **Shi, D.**, & Ryoo, J. (2016). *Detecting measurement invariance in SEM: evaluating goodness-of-fit indexes*. Poster presentation at the 2016 annual meeting of American Educational Research Association, Division D: Measurement & Research Methodology, Washington, D.C.
7. Ryoo, J., Tai, R., Mitchell, C., **Shi, D.**, Almarode, J., & Maltese, A. (2016). *Examination of measurement invariance on a framework for observing and categorizing instructional strategies*. Poster presentation at the 2016 annual meeting of American Educational Research Association SIG: Science Teaching and Learning, Washington, D.C.
6. **Shi, D.**, & Ryoo, J. (2015). *Which effect size to report: meta-analysis of effect size in single case design*. Poster presentation at the 2015 annual meeting of American Educational Research Association, Division D: Measurement & Research Methodology, Chicago, IL.
5. Ryoo, J., Wang, C., Swearer, S., & **Shi, D.** (2015). *Investigation of measurement invariance on longitudinal school bullying data*. Poster presentation at the 2015 annual meeting of American Psychological Association, Division 5: Qualitative and Quantitative Methods, Toronto, Canada.
4. Ryoo, J., Chatterjee, M., & **Shi, D.** (2015). *New variable selection criteria in model selection*. Paper presentation at the 2015 Modern Modeling Methods Conference, Storrs, CT.
3. **Shi, D.**, & Ryoo, J. (2014). *Testing the model fit index of structural equation modeling: a simulation study to the performance of RMSEA*. Paper presentation at the 79th annual meeting of Psychometric Society, Madison, WI.
2. Ryoo, J., Molfese, V., Brown, E., & **Shi, D.** (2014). *Examination of population heterogeneity on the early childhood mathematics: a growth mixture modeling approach*. Poster presentation at 2014 Modern Modeling Methods Conference, Storrs, CT.
1. Wang, R., Dong, Y., **Shi, D.**, & Wilmot, H. (2013). *Measuring service learning while promoting student engagement*. Paper presentation at the 2013 annual meeting of Student Affairs Administrators in Higher Education Association, Orlando, FL.

## SOFTWARE DEVELOPMENT

### Statistical Software

[R Package]. ALMOND: Bayesian Analysis of LATE (Local Average Treatment Effect) for Missing Or/and Nonnormal Data. **Role: Author, Creator**.

Retrieval from <https://github.com/dingjshi/ALMOND>, and available at `Rdevtools::install_github('dingjshi/ALMOND')` in R.

### Web Application

[Shiny app]. Dimensionality assessment for psychometric properties: a tool to simulate data, analyze empirical data and conduct Monte Carlo simulations using the Shiny web app. **Role: Contributor.**

Retrievable from [https://appdim.shinyapps.io/app\\_dimensionality/](https://appdim.shinyapps.io/app_dimensionality/)

### HONORS AND AWARDS

Society of Multivariate Experimental Psychology SMEP Graduate Student Traveling Award	2017
American Psychological Association Advanced Training Institute Graduate Student Award	2017, 2015
SAS Institute SAS Statistical Fellowship	2016
Dean's Office Grant Curry School of Education, University of Virginia	2015
NSSE Fellowship National Survey of Student Engagement	2013
Office of International Service Award Indiana University Bloomington	2012

### SOFTWARE SKILLS

Statistical *R, SAS, BUGS, Mplus, Stata*