

## Zhiyong Johnny Zhang

### Contact Information

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### Education

2008	Ph.D. of Quantitative Psychology	University of Virginia
2005	Master of Quantitative Psychology	University of Virginia
2003	Master of Statistics	Renmin University of China
2000	Bachelor of Statistics	Renmin University of China

### Employment

2015-Now	Associate Professor	University of Notre Dame
2016-Now	Fellow	Institute for Educational Initiatives
2010-2015	Assistant Professor	University of Notre Dame
2008-2010	Research Assistant Professor	University of Notre Dame

### Honors and Awards

2019	Elected Fellow, American Psychological Association
2018	Cattell Award, Society of Multivariate Experimental Psychology
2016-Now	Associate Editor, Multivariate Behavioral Research
2016	Elected member of Society of Multivariate Experimental Psychology
2009, 2011	University of Notre Dame International Travel Award
2007-2008	Society of Multivariate Experimental Psychology Dissertation Award
2007-2008	University of Virginia Dissertation Year Presidential Fellowship
2007	Young Scientists Scholarship, Annual Meeting of the Psychometric Society
2006, 2007	American Psychological Association Travel Award
2005-2007	Robert J. Huskey Travel Award, University of Virginia
2005, 2007	Society of Multivariate Experimental Psychology Travel Award
2003-2007	Presidential Fellowship, University of Virginia Graduate School

### Grants and Sponsored Programs

#### External

2017-2021	Statistical Consultant	Institute of Education Sciences	<i>Exploring adaptive cognitive and affective learning support for next-generation STEM learning games.</i> (PI: Valerie Shute, Florida State University)
2015-2018	Co-PI	NSF	<i>Structural Equation Modeling with Small N and Large p</i> , \$430,725. (PI: Ke-Hai Yuan)
2014-2017	Co-PI	Gates Foundation	<i>Lymphatic Filariasis Transmission and Elimination Modelling Using a Bayesian Data-Model Assimilation Framework</i> , \$345,446. (PI: Edwin Michael)
2014-2017	PI	Institute of Education Sciences	<i>A General Framework for Statistical Power Analysis with Non-normal and Missing Data through Monte Carlo Simulation</i> , \$573,097. (PI: Zhiyong Zhang)

2012-2015 Senior Staff National Science Foundation *MRI: Acquisition of Data Analytics Cluster for Computational Social Sciences*, \$451,839. (PI: Jarek Nabrzyski)

#### Internal

- 2018 PI ISLA Small Research Grant, \$2,239.  
 2018 PI ISLA Interim Travel to International Conferences Grant, \$2,068.  
 2017 PI ISLA *Testing a Latent Trait Model with Orthogonal and Unorthogonal Factor Structures*, \$2,500.  
 2016 PI Digital Learning Initiatives *Developing an Online Textbook for Advanced Statistics*, \$500. [The ebook is now available at <https://advstats.psychstat.org>]  
 2015 Co-PI Global Collaboration Initiative *International Collaboration to Develop Cutting-edge Methodology for Advancing Social, Behavioral and Education Sciences* (Co-PI: Ke-Hai Yuan)  
 2012-2013 PI Center for Creative Computing *A Web Interface for Drawing Path Diagrams for Structural Equation Modeling*, \$4,000.  
 2012-2013 PI ISLA *A Web Interface for Drawing Path Diagrams for Structural Equation Modeling*, \$2,500.  
 2009-2010 PI Faculty Research Grants *A General Bayesian Estimation Method for structural equation modeling*, \$10,000.  
 2009-2010 PI ISLA *Seed Grants for Cooperative Projects: Daily religious research*, \$4,000.

#### **Refereed Journal Articles** (\*current or former graduate students; + current or former undergraduate students; ^post-doctoral researchers)

1. Serang, S., Grimm, K. J., & Zhang, Z. (in press). On the correspondence between the latent growth curve and latent change score models. *Structural Equation Modelling*. <https://doi.org/10.1080/10705511.2018.1533835>
2. \*Cain, M. K., & Zhang, Z. (in press). Fit for a Bayesian: An evaluation of PPP and DIC for structural equation modeling. *Structural Equation Modeling*. <https://doi.org/10.1080/10705511.2018.1490648>
3. \*Liu, H., Jin, I. K., & Zhang, Z. (in press). Structural equation modeling of social networks: Specification, estimation, and application. *Multivariate Behavioral Research*. <https://doi.org/10.1080/00273171.2018.1479629>
4. Yuan, K., Zhang, Z., & Deng, L. (in press). Fit indices for mean structures with growth curve models. *Psychological Methods*. <https://doi.org/10.1037/met0000186>
5. ^Mai, Y., Zhang, Z., & Wen, Z. (2018). Comparing exploratory structural equation modeling and existing approaches for multiple regression with latent variables. *Structural Equation Modeling*, 25(5), 737-749. <https://doi.org/10.1080/10705511.2018.1444993>
6. ^Mai, Y., & Zhang, Z. (2018). Review of software packages for Bayesian multilevel modeling. *Structural Equation Modeling*, 25(4), 650-658. <https://doi.org/10.1080/10705511.2018.1431545>
7. \*Cain, M. K., Zhang, Z., & Bergeman, C. S. (2018). Time and other considerations in mediation design. *Educational and Psychological Measurement*, 78(6), 952-972. <https://doi.org/10.1177/0013164417743003>

8. \*Ke, Z., & Zhang, Z. (2018). Testing autocorrelation and partial autocorrelation: asymptotic methods versus resampling techniques. *British Journal of Mathematical and Statistical Psychology*, 71(1), 96–116. <https://doi.org/10.1111/bmsp.12109>
9. \*Tong, X., & Zhang, Z. (2017). Outlying observation diagnostics in growth curve modeling. *Multivariate Behavioral Research*, 52(6), 768–788. <https://doi.org/10.1080/00273171.2017.1374824>
10. Zhang, Z., Jiang, K., \*Liu, H., & Oh, I.-S. (2017). Bayesian meta-analysis of correlation coefficients through power prior. *Communications in Statistics – Theory and Methods*, 46(24), 11988-12007. <https://doi.org/10.1080/03610926.2017.1288251>
11. \*Cain, M. K., Zhang, Z., & Yuan, K. (2017). Univariate and multivariate skewness and kurtosis for measuring nonnormality: Prevalence, influence and estimation. *Behavior Research Methods*, 49(5), 1716–1735. <https://doi.org/10.3758/s13428-016-0814-1>
12. \*Liu, H., & Zhang, Z. (2017). Logistic regression with misclassification in binary outcome variables: A method and software. *Behaviormetrika*, 44(2), 447–476. <https://doi.org/10.1007/s41237-017-0031-y>
13. Yuan, K.-H., Zhang, Z., & Zhao, Y. (2017). Reliable and more powerful methods for power analysis in structural equation modeling. *Structural Equation Modeling*, 24(3), 315-330. <https://doi.org/10.1080/10705511.2016.1276836>
14. \*Cheung, R. Y. M., Cummings, E. M., Zhang, Z., & Davies, P. (2016). Trivariate modeling of interparental conflict and adolescent emotional security: An examination of mother-father-child dynamics. *Journal of Youth and Adolescence*, 45(11), 2336–2352. <https://doi.org/10.1007/s10964-015-0406-x>
15. \*Liu, H., Zhang, Z., & Grimm, K. J. (2016). Comparison of inverse-Wishart and separation-strategy priors for Bayesian estimation of covariance parameter matrix in growth curve analysis. *Structural Equation Modeling*, 23 (3), 354-367. <https://doi.org/10.1080/10705511.2015.1057285>
16. Zhang, Z. (2016). Modeling error distributions of growth curve models through Bayesian methods. *Behavior Research Methods*, 48(2), 427-444. <https://doi.org/10.3758/s13428-015-0589-9>
17. Zhang, Z. & Yuan, K.-H. (2016). Robust coefficients alpha and omega and confidence intervals with outlying observations and missing data: Methods and software. *Educational and Psychological Measurement*, 76(3), 387–411. <https://doi.org/10.1177/0013164415594658>
18. Bernard, K., Peloso, E., Laurenceau, J-P, Zhang, Z., & Dozier, M. (2015). Examining change in cortisol patterns during the 10-week transition to a new childcare setting. *Child Development*, 86(2), 456–71. <https://doi.org/10.1111/cdev.12304>
19. Merluzzi, T.V., Philip, E.J., Zhang, Z., & Sullivan, C. (2015). Perceived discrimination, coping, and quality of life for African-American and Caucasian persons with cancer. *Cultural Diversity and Ethnic Minority Psychology*, 21(3), 337-344. <https://doi.org/10.1037/a0037543>
20. Serang, S., Zhang, Z., Helm, J., Steele, J. S., & Grimm, K. J. (2015). Evaluation of a Bayesian approach to estimating nonlinear mixed-effects mixture models. *Structural Equation Modeling*, 22(2), 202–215. <https://doi.org/10.1080/10705511.2014.937322>
21. Yuan, K.-H., \*Tong, X., & Zhang, Z. (2015). Bias and efficiency for SEM with missing data and auxiliary variables: Two-stage robust method versus two-stage ML. *Structural Equation Modeling*, 22(2), 178–192. <https://doi.org/10.1080/10705511.2014.935750>

22. Zhang, Z., Hamagami, F., Grimm, K. J., & McArdle, J. J. (2015). Using R package RAMpath for tracing SEM path diagrams and conducting complex longitudinal data analysis. *Structural Equation Modeling*, 22(1), 132–147. <https://doi.org/10.1080/10705511.2014.935257>
23. Hardy, S. A., Zhang, Z., Skalski, J. E., Melling, B. S., & Brinton, C. T. (2014). Daily religious involvement, spirituality, and moral emotions. *Psychology of Religion and Spirituality*, 6(4), 338-348. <http://dx.doi.org/10.1037/a0037293>
24. \*Tong, X., Zhang, Z., & Yuan, K.-H. (2014). Evaluation of test statistics for robust structural equation modeling with nonnormal missing data. *Structural Equation Modeling*, 21, 553–565. <https://doi.org/10.1080/10705511.2014.919820>
25. Zhang, Z. (2014a). WebBUGS: Conducting Bayesian analysis online. *Journal of Statistical Software*, 61(7), 1-30. <http://dx.doi.org/10.18637/jss.v061.i07>
26. Zhang, Z. (2014b). Monte Carlo based statistical power analysis for mediation models: Methods and software. *Behavior Research Methods*, 46(4), 1184-1198. <https://doi.org/10.3758/s13428-013-0424-0>
27. \*Tong, X., & Zhang, Z. (2014). Abstract: Semiparametric Bayesian modeling with application in growth curve analysis. *Multivariate Behavioral Research*, 49, 299-299. <https://doi.org/10.1080/00273171.2014.912928>
28. Song, H., & Zhang, Z. (2014). Analyzing multiple multivariate time series data using multilevel dynamic factor models. *Multivariate Behavioral Research*, 49(1), 67-77. <https://doi.org/10.1080/00273171.2013.851018>
29. \*Lu, Z., & Zhang, Z. (2014). Robust growth mixture models with non-ignorable missingness: Models, estimation, selection, and application. *Computational Statistics and Data Analysis*, 71, 220-240. <https://doi.org/10.1016/j.csda.2013.07.036>
30. Zhang, Z. (2013). Bayesian growth curve models with the generalized error distribution. *Journal of Applied Statistics*, 40(8), 1779-1795. <https://doi.org/10.1080/02664763.2013.796348>
31. Grimm, K. J., Kuhl, A. P., & Zhang, Z. (2013). Measurement models, estimation, and the study of change. *Structural Equation Modeling*, 20(3), 504-517, DOI: <http://dx.doi.org/10.1080/10705511.2013.797837>.
32. Philip, E. J., Merluzzi, T. V., Zhang, Z. & Heitzmann, C. (2013). Depression and cancer survivorship: Importance of coping self-efficacy in post-treatment survivors. *Psycho-Oncology*, 22(5), 987-994. <https://doi.org/10.1002/pon.3088>
33. Grimm, K. J., Zhang, Z., Hamagami, F., & Mazzocco, M. (2013). Modeling nonlinear change via latent change and latent acceleration frameworks: Examining velocity and acceleration of growth trajectories. *Multivariate Behavioral Research*, 48, 117-143. <https://doi.org/10.1080/00273171.2012.755111>
34. Zhang, Z., \*Lai, K., \*Lu, Z., & \*Tong, X. (2013). Bayesian inference and application of robust growth curve models using Student's t distribution. *Structural equation modeling*, 20(1), 47-78. <https://doi.org/10.1080/10705511.2013.742382>
35. Zhang, Z., & Wang, L. (2013). Methods for mediation analysis with missing data. *Psychometrika*, 78(1), 154-184. <https://doi.org/10.1007/s11336-012-9301-5>
36. Yuan, K.-H., & Zhang, Z. (2012). Robust structural equation modeling with missing data and auxiliary variables. *Psychometrika*, 77(4), 803-826. <https://doi.org/10.1007/s11336-012-9282-4>

37. \*Tong, X., and Zhang, Z. (2012). Diagnostics of robust growth curve modeling using Student's t distribution. *Multivariate Behavioral Research*, 47(4), 493-518. <https://doi.org/10.1080/00273171.2012.692614>
38. Yuan, K.-H., & Zhang, Z. (2012). Structural equation modeling diagnostics using R package semdiag and EQS. *Structural Equation Modeling: An Interdisciplinary Journal*, 19(4), 683-702. <https://doi.org/10.1080/10705511.2012.713282>
39. Zhang, Z., & Wang, L. (2012). A note on the robustness of a full Bayesian method for non-ignorable missing data analysis. *Brazilian Journal of Probability and Statistics*, 26(3), 244-264. <https://doi.org/10.1214/10-BJPS132>.
40. Zhang, Z., McArdle, J. J., & Nesselroade, J. R. (2012). Growth rate models: Emphasizing growth rate analysis through growth curve modeling. *Journal of Applied Statistics*, 39(6), 1241-1262. <https://doi.org/10.1080/02664763.2011.644528>
41. Wang, L. & Zhang, Z. (2011). Estimating and testing mediation effects with censored data. *Structural Equation Modeling*, 18(1), 18-34. <http://dx.doi.org/10.1080/10705511.2011.534324>
42. Hardy, S. A., White, J., Zhang, Z., & Ruchty, J.(2011). Parenting and the socialization of religiousness and spirituality. *Psychology of Religion and Spirituality*, 3(3), 217-230. <https://doi.org/10.1037/a0021600>.
43. \*Lu, Z., Zhang, Z., & Lubke, G. (2011). Bayesian inference for growth mixture models with latent class dependent missing data. *Multivariate Behavioral Research*, 46(4), 567-597. <https://doi.org/10.1080/00273171.2011.589261>
44. Zhang, Z., Browne, M. W., & Nesselroade, J. R. (2011). Higher-order factor invariance and idiographic mapping of constructs to observables. *Applied Developmental Sciences*, 15(4), 186-200. <https://doi.org/10.1080/10888691.2011.618099>
45. \*Tong, X., Zhang, Z., & Yuan, K.-H. (2011). Abstract: Evaluation of test statistics for robust structural equation modeling with nonnormal missing data. *Multivariate Behavioral Research*, 46(6), 1016-1016. <https://doi.org/10.1080/00273171.2011.636715>
46. \*Lu, Z., Zhang, Z., & Lubke, G. (2010). Abstract: Bayesian inference for growth mixture models with non-ignorable missing data. *Multivariate Behavioral Research*, 45(6), 1028-1028. <https://doi.org/10.1080/00273171.2010.534381>
47. Winter, W. C., Hammond, W. R., Zhang, Z., & Green, N. H. (2009). Measuring circadian advantage in Major League Baseball: A 10-year retrospective study. *International. Journal of Sports Physiology and Performance*, 4(3) 394-401. <https://doi.org/10.1123/ijsp.4.3.394>
48. Hamaker, E. L., Zhang, Z., & van der Maas, H. L. J. (2009). Dyads as dynamic systems: Using threshold autoregressive models to study dyadic interactions. *Psychometrika*, 74(4) 727-745. <https://doi.org/10.1007/s11336-009-9113-4>
49. Zhang, Z., & Wang, L. (2009). Statistical power analysis for growth curve models using SAS. *Behavior Research Methods*, 41(4), 1083-1094. <https://doi.org/10.3758/BRM.41.4.1083>
50. Zhang, Z., Hamaker, E. L., & Nesselroade, J. R. (2008). Comparisons of four methods for estimating dynamic factor models. *Structural Equation Modeling*, 15(3), 377-402. <https://doi.org/10.1080/10705510802154281>

51. Zhang, Z., McArdle, J. J., Wang, L., & Hamagami, F. (2008). A SAS interface for Bayesian analysis with WinBUGS. *Structural Equation Modeling, 15*(4), 705–728. <https://doi.org/10.1080/10705510802339106>
52. Wang, L., Zhang, Z., McArdle, J. J., & Salthouse, T. A. (2008). Investigating ceiling effects in longitudinal data analysis. *Multivariate Behavioral Research, 43*(3), 476–496. <https://dx.doi.org/10.1080/00273170802285941>
53. Zhang, Z., Davis, H. P., Salthouse, T. A., & Tucker-Drob, E. A. (2007). Correlates of individual, and age-related, differences in short-term learning. *Learning and Individual Differences, 17*(3), 231–240. <https://dx.doi.org/10.1016/j.lindif.2007.01.004>
54. Zhang, Z., Hamagami, F., Wang, L., Grimm, K. J., & Nesselroade, J. R. (2007). Bayesian analysis of longitudinal data using growth curve models. *International Journal of Behavioral Development, 31*(4), 374-383. <https://doi.org/10.1177/0165025407077764>
55. Zhang, Z., & Nesselroade J. R. (2007). Bayesian estimation of categorical dynamic factor models. *Multivariate Behavioral Research, 42*(4), 729-756. <https://doi.org/10.1080/00273170701715998>

### Books and Monographs

56. Zhang, Z., & \*Haiyan Liu (under contract, expected Dec 2019). *Applied Network Analysis for Social and Behavioral Research Using R: A Structural Equation Modeling Framework*. Springer Nature.
57. Jacobucci, R., Grimm, K. J., & Zhang, Z. (under contract, expected Sep 2019). *Exploratory data mining for social and behavioral scientists*. New York, NY: Guilford.
58. Zhang, Z. (2018). *Text Mining for Social and Behavioral Research Using R: A Case Study on Teaching Evaluation*. Retrievable from <https://books.psychstat.org/textmining>. [This is online textbook developed for my Exploratory Data Analysis class.]
59. Zhang, Z., & Yuan, K.-H. (2018). *Practical Statistical Power Analysis Using Webpower and R*. Granger, IN: ISDSA Press.
60. Zhang, Z. & Wang, L. (2017). *Advanced statistics using R*. Retrievable from <https://advstats.psychstat.org/>. Granger, IN: ISDSA Press. [Online book developed for my Advanced Statistics class.]

### Refereed Publications in Proceedings and Books

61. Zhang, Z., +Ye, M., +Huang, Y., & +Sun, N. (2018). A Longitudinal Social Network Clustering Method Based on Tie Strength. *2018 IEEE International Conference on Big Data*. (pp. 1690–1697) [Short paper, acceptance rate 19.4%]
62. Zhang, Z., & \*Liu, H. (2018). Sample Size and Measurement Occasion Planning for Latent Change Score Models through Monte Carlo Simulation. In E. Ferrer, S. M. Boker, and K. J. Grimm (Eds.) *Advances in Longitudinal Models for Multivariate Psychology: A Festschrift for Jack McArdle*. New York: Routledge.
63. ^Mai, Y., & Zhang, Z. (2017). Statistical Power Analysis for Comparing Means with Binary or Count Data Based on Analogous ANOVA. In L. A. van der Ark, M. Wiberg, S. A. Culpepper, J. A. Douglas, and W.-C. Wang (Eds.) *Quantitative Psychology - The 81st Annual Meeting of the Psychometric Society, Asheville, North Carolina, 2016*. Springer Proceedings in Mathematics & Statistics. (pp. 381-393)
64. ^Han, D., Zhang, Z., & Yuan, K.-H. (2017). Power analysis for t-test with non-normal data and unequal variances. In L. A. van der Ark, M. Wiberg, S. A. Culpepper, J. A. Douglas, and W.-C. Wang (Eds.) *Quantitative Psychology - The 81st Annual Meeting of*

- the Psychometric Society, Asheville, North Carolina, 2016*. Springer Proceedings in Mathematics & Statistics. (pp. 373-380)
65. Zhang, Z., Wang, L., & \*Tong, X. (2015). Mediation Analysis with Missing Data through Multiple Imputation and Bootstrap. In L. A. van der Ark, D. M. Bolt, W.-C. Wang, J. A. Douglas, & S.-M. Chow (Eds.) *Quantitative Psychology Research: the 79th Annual Meeting of the Psychometric Society*. Springer Proceedings in Mathematics & Statistics. (pp. 341–355).
  66. \*Lu, Z., & Zhang, Z. (2015). Issues in Aggregating Time Series: Illustration through an AR(1) Model. In L. A. van der Ark, D. M. Bolt, W.-C. Wang, J. A. Douglas, & S.-M. Chow (Eds.) *Quantitative Psychology Research: the 79th Annual Meeting of the Psychometric Society*. Springer Proceedings in Mathematics & Statistics. (pp. 357–370).
  67. \*Lu, Z., Zhang, Z., & Cohen, A. (2014). Model selection criteria for latent growth models using Bayesian methods. In R. E. Millsap, D. M. Bolt, L. A. van der Ark, & W.-C. Wang (Eds.), *Quantitative Psychology Research*, volume 89 of Springer Proceedings in Mathematics & Statistics (pp. 319–341). Springer International Publishing.
  68. \*Lu, Z., Zhang, Z., & Cohen, A. (2013). Bayesian methods and model selection for latent growth curve models with missing data. In R. E. Millsap, L. A. van der Ark, D. M. Bolt, & C. M. Woods (Eds.), *New Developments in Quantitative Psychology*, volume 66 of Springer Proceedings in Mathematics & Statistics (pp.275–304). Springer New York.
  69. Hamagami, F., Zhang, Z., & McArdle, J. J. (2009). Modeling latent difference score models using Bayesian algorithms. In S.-M. Chow, E. Ferrer, & F. Hsieh (Eds), *Statistical methods for modeling human dynamics: An interdisciplinary dialogue* (pp. 319-348). New Jersey: Lawrence Erlbaum Associates.
  70. Wang, L., Zhang, Z., & Estabrook, R. (2009). Longitudinal mediation analysis of training intervention effects. In S.-M. Chow, E. Ferrer, & F. Hsieh (Eds), *Statistical methods for modeling human dynamics: An interdisciplinary dialogue* (pp. 349-380). New Jersey: Lawrence Erlbaum Associates.
  71. Zhang, Z., & Wang, L. (2008). Methods for evaluating mediation effects: Rationale and comparison. In K. Shigemasu, A. Okada, T. Imaizumi, & T. Hoshino (Eds.), *New trends in psychometrics* (pp. 585-594). Tokyo: Universal Academy Press.

### Encyclopedia Entries

72. \*Liu, H., & Zhang, Z. (2018). Probit Transformation. *The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation*. (p.1300)
73. Zhang, Z. (2018). Moments of a Distribution. *The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation*. (p.1084-1085)
74. \*Cain, M., & Zhang, Z. (2018). Posterior. *The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation*. (p.1274-1275)

### Other Publications

75. Zhang, Z. (2018). Psychometrics from a Bayesian Perspective: A review of Bayesian Psychometric Modeling (Levy & Mislevy, 2016). Book Review. *Journal of Educational and Behavioral Statistics*. 43(4), 502-505.

76. Winter, W., Potenziano, B., Zhang, Z., Green, N., & Hammond, W. (2010). Chronotype as a predictor of performance in major league baseball pitchers, *Sleep*, 2010, 33, A188-A189.

### Software Development

77. <sup>+</sup>Xu, J., Zhang, Z., & <sup>\*</sup>Qu, W. (2018). webnetvis: Interactive Network Visualization Online. Retrieved from <https://webnetvis.psychstat.org>.
78. <sup>\*</sup>Wen, Q., <sup>\*</sup>Liu, H., & Zhang, Z. (2018). mnormr: An R package for multivariate non-normal data generation.
79. Zhang, Z., & <sup>+</sup>Keenan, A. (2017) WebPower: An Android App for Statistical Power analysis. <https://play.google.com/store/apps/details?id=org.psychstat.webpower>
80. Zhang, Z., Yuan, K.-H., & <sup>\*</sup>Cain, M. (2016). Software for estimating univariate and multivariate skewness and kurtosis. Retrieved from <http://psychstat.org/nonnormal>
81. <sup>\*</sup>Ke, Z., & Zhang, Z. (2016). pautocorr: Testing Autocorrelation and Partial Autocorrelation Through Bootstrap and Surrogate Methods. R package retrievalbe from <https://r-forge.r-project.org>.
82. <sup>\*</sup>Liu, H., & Zhang, Z. (2016). logistic4p: Logistic Regression with Misclassification in Dependent Variables. R package retrievalbe from <https://r-forge.r-project.org>
83. <sup>^</sup>Mai, Y., Zhang, Z., & Yuan, K.-H. (2015) An Online Interface for Drawing Path Diagrams for Structural Equation Modeling. Retrieved from <http://semdiag.psychstat.org>
84. Zhang, Z., Yuan, K.-H., & <sup>^</sup>Mai, Y. (2015-2018). WebPower: Statistical power analysis online. Retrieved from <http://webpower.psychstat.org>. (1390 registered users, 72,865 power analyses by Dec 2018)
85. Zhang, Z., & Yuan, K.-H. (2015). coefficientalpha: Robust Cronbach's alpha and McDonald's omega for non-normal and missing data. <https://CRAN.R-project.org/package=coefficientalpha>
86. Zhang, Z. (2014-2018). WebBUGS: Conducting Bayesian Analysis online. Retrievalbe from <http://webbugs.psychstat.org>. (95 registered users by Dec 2018)
87. Zhang, Z., Jiang, J., & <sup>\*</sup>Liu, H. (2013). An online software for meta-analysis of correlation. Available at <http://webbugs.psychstat.org/modules/metacorr/>
88. Zhang, Z., McArdle, J. J., Hamagami, F., & Grimm, K. J. (2013). RAMpath: Structural Equation Modeling using RAM Notation. R package version 0.3.6. <https://CRAN.R-project.org/package=RAMpath>
89. Zhang, Z. & Yuan, K.-H. (2012-2018). WebSEM: Conducting SEM analysis online. Available at <https://websem.psychstat.org>. (846 registered users by Dec 2018)
90. Yuan, K.-H. & Zhang, Z. (2011). rsem: An R package for robut structural equation modeling with non-normal and missing data. Retrievalbe from <https://CRAN.R-project.org/package=rsem>. (No access information available)
91. Zhang, Z. & Yuan, K.-H. (2011). semdiag: An R package for structural equation modeling diagnostics. Retrievalbe from <https://CRAN.R-project.org/package=semdiag>.
92. Zhang, Z., & Wang, L. (2011). bmem: An R packages for mediation analysis with ignorable and non-ignorable missing data. Retrievalbe from <https://CRAN.R-project.org/package=bmem>. (Accessed more than 6,367 times for a simplified version of bmem by Dec 2018)



93. Zhang, Z., & Wang, L. (2009). SAS macros for power analysis of growth curve models, Version 1.0. Retrievable from <http://saspower.psychstat.org> (Accessed 52,097 times by Dec 2018)
94. Zhang, Z., & Wang, L. (2008). BAUW as an OpenBUGS plugin, Version 1.0. Retrievable from <http://bauw.psychstat.org>.
95. Zhang, Z., McArdle, J. J., Wang, L., & Hamagami, F. (2008). SAS scripts for Bayesian analysis with WinBUGS. Retrievable from <http://www.psychstat.org/us/sort.php/25.htm>. (Accessed 99,828 times by Dec 2018)
96. Zhang, Z., & Wang, L. (2007). MedCI: Mediation Confidence Intervals, Version 3.0. Retrievable from <http://www.psychstat.org/us/sort.php/31.htm>
97. Zhang, Z., & Wang, L. (2006). BAUW: Bayesian Analysis Using WinBUGS, Version 1.0. Retrievable from <http://bauw.psychstat.org> (Accessed 44,065 times by Dec 2018)
98. Zhang, Z. (2006). LDSM: A C++ program for generating codes for analyzing latent difference score model in Mplus. Retrievable from <http://www.psychstat.org/us/article.php/38> (Accessed 10,120 times by Dec 2018)
99. Zhang, Z., & Nesselroade, J. R. (2005). Selection: A C++ program for analyzing selection effects. Retrievable from <http://www.psychstat.org/us/article.php/64> (Accessed 4,505 times by Dec 2018)
100. Zhang, Z., & Nesselroade, J. R. (2004). DFA: Dynamic Factor Analysis, Version 2.0. Retrievable from <http://dfa.psychstat.org> (Accessed 51,472 times by Dec 2018)

### Work in Progress

1. Zhang, Z., & \*Haiyan Liu (under contract). Applied Network Analysis for Social and Behavioral Research Using R: A Structural Equation Modeling Framework. Springer Nature.
2. Jacobucci, R., Grimm, K. J., & Zhang, Z. (under contract). Exploratory data mining for social and behavioral scientists. New York, NY: Guilford.
3. \*Du, H., Edwards, M., & Zhang, Z. (under revision) Bayes factor in one sample tests of means with a sensitivity analysis: A discussion of separate prior distributions. Behavior Research Methods.
4. \*Liu, H., Jin, I.-H., Zhang, Z., & Yuan, Y. (under review) Social Network Mediation Analysis: a Latent Space Approach. Network Analysis.
5. \*Wen, Q., \*Liu, H., & Zhang, Z. (under review). Generating Multivariate Non-normal Random Numbers with Specified Multivariate Skewness and Kurtosis. Behavior Research Methods.
6. Zhang, Z., & \*Che, C. (under preparation). A Bayesian method for latent space models with factor structure.
7. \*Liu, H., & Zhang, Z. (under preparation). The quadratic relationship between friendship network and personality.
8. Zhang, Z., & Yuan, K.-H. (in preparation). A fast and efficient algorithm for factor analysis with a huge number of indicators.
9. Zhang, Z., & Zhao, Z. (in preparation). Longitudinal social network clustering with mixed-effects link strength.
10. Wang, L., Zhang, Z., Bergeman, C., & Lei, Y. (under revision). Mediation data analysis with planned missingness.

11. \*Tong, X., & Zhang, Z. (to submit). Bayesian estimation of differential equation models with Gaussian processes.
12. Zhang, Z., & Grimm, K. J. (in preparation). Random coefficient latent difference score models.
13. Zhang, Z., von Oertzen, T., & Völkle, M. (in preparation). Simulation based power analysis for longitudinal study with attrition.
14. \*Qu, W. & Zhang, Z. (in preparation) Permutation test for social network analysis.

### **Invited Lectures and Addresses**

1. Zhang, Z. (2018, July). A Blessing or a Curse? An Overview of Non-normal Data and Missing Data. Invited talk at 2018 International Conference on Management and Operations Research. Beijing, China.
2. Zhang, Z., +Ye, M., +Huang, Y., & +Sun, N. (2018, July). A Longitudinal Social Network Clustering Method Based on Tie Strength. Invited talk at the 8th International Forum on Statistics. Beijing, China.
3. Zhang, Z. (2017, June). Modeling Non-normal Distributions in Mixed-effects and Multilevel Models. Invited talk at the 2017 ICSA Applied Statistics Symposium, Chicago, IL.
4. Zhang, Z. (2017, May). Statistical Methods and Software for Handling Non-normal Data in Social, Behavioral and Economic Sciences. Invited talk at Henan University, Kaifeng, China.
5. Zhang, Z. (2017, Mar). Two-Stage Bayesian Estimation in Structural Equation Modeling. Invited talk at the ACMS Statistics Seminar, Department of ACMS, University of Notre Dame, Notre Dame, IN.
6. Zhang, Z., & \*Liu, H. (2016, October). Sample size planning for latent change score models through Monte Carlo simulation. Invited talk at the Conference on Advances in Longitudinal Models for Multivariate Psychology: A Festschrift for Jack McArdle, October 18, 2016, Richmond, VA.
7. Zhang, Z., & Yuan, K.-H. (2015, December). Online statistical software for simple and complex models. Invited poster presented at the IES PI meeting, Washington, D.C.
8. Zhang, Z. (2015, June). Statistical Power Analysis for Mediation Effects through WebPower. Invited talk at the Renmin University of China. Beijing, China.
9. Zhang, Z. (2015, March). Bayesian factor analysis. Invited talk at the University of Southern California. Los Angeles, CA.
10. Zhang, Z. (2014, September). The use of relaxed and Bayesian assumptions on error terms in dynamic models of change. Invited talk at 2014 SRCD Themed Meeting: Developmental Methodology, San Diego, CA.
11. Yuan, K.-H., \*Tong, X., & Zhang, Z. (2012, July). Bias and efficiency for SEM with missing data and auxiliary variables: Robust method versus normal distribution based ML. Paper presented at the 2nd Institute of Mathematical Statistics Asia Pacific Rim Meeting (Invited Paper Session). Tsukuba, Japan.
12. \*Lu, Z., Zhang, Z., & Lubke, G. (2012, January). Bayesian inference for growth mixture models with latent class dependent missing data. Invited Presentation, Hong Kong Institute of Education, Hong Kong.
13. Zhang, Z. (June 7-16, 2011). Invited lecture on Introduction to Bayesian Analysis at the Renmin University of China.

14. Zhang, Z., McArdle, J. J., & Nesselroade, J. R. (2011, May). Growth Rate Models: Emphasizing Growth Rate Analysis through Growth Curve Modeling. Invited talk at Nesselroade Festschrift, Charlottesville, VA
15. Zhang, Z. (July 27-29, 2009). Workshop on Bayesian Analysis at the University of Southern California

## **Conference Presentations**

### Organized Meetings

16. Yuan, K.-H., & Zhang, Z. (May, 2017). Statistics in Social Sciences: Present and Future. Beijing, China.

### Chaired Symposiums

17. Zhang, Z., & Yuan, K.-H. (2015, May, Chaired Symposiums). Methods and Software for Statistical Power Analysis with Non-normal Data. Symposium presented at the 27th Annual Convention of the American Psychological Society, New York, NY.
18. Zhang, Z. (2014, May). New Developments in Bayesian Analysis. Symposium presented at the 26th Annual Convention of the American Psychological Society, San Francisco CA.
19. Zhang, Z., & Yuan, K.-H. (2012, May). Robust Statistical Data Analysis. Symposium presented at the 24th Annual Convention of the American Psychological Society, Chicago IL.
20. Zhang, Z. (2011, August). Bayesian Methods for Non-Normal and Non-Ignorable Missing Data Analysis. Symposium presented at the 119th Annual Convention of the American Psychological Association, Washington DC.

### Workshops

21. Zhang, Z. (2016, August). Practical Statistical Power Analysis for Simple and Complex Models. Workshop conducted for the American Psychological Association Convention in Denver, Colorado, August 4-7, 2016.
22. Zhang, Z., & Yuan K.-H. (2013, August). Robust SEM for Non-Normal and Missing Data Using WebSEM. Workshop presented at the 119th Annual Convention of the American Psychological Association, Washington DC.
23. Zhang, Z. (2009, August). Introduction to Bayesian analysis. Workshop presented at the 117th Annual Convention of the American Psychological Association, Toronto, Canada.

### Paper Presentations

24. Zhang, Z., +Ye, M., +Huang, Y., & +Sun, N. (2018, December). A Longitudinal Social Network Clustering Method Based on Tie Strength. Paper presented at the 2018 IEEE Big Data Conference, December 10-13. Seattle, WA.
25. \*Qu, W., \*Liu, H., & Zhang, Z. (2018, July). Generation of Multivariate Non-Normal Random Numbers with Specified Multivariate Measures. Paper presented at the 2008 International Meeting of the Psychometric Society (IMPS), July 9-13. New York, NY.
26. Zhang, Z. (2017, Oct). Two-Stage Bayesian Estimation in Structural Equation Modeling. Paper presented at 2017 SMEP meeting, Minneapolis, MN.
27. \*Liu, H., & Zhang, Z. (2016, July). Logistic Regression with Misclassification in Binary Outcome Variables: Method and Software. Paper presented at the Annual Meeting of the Psychometric Society, July 12-15, Asheville, NC.

28. Zhang, Z. (2016, July). Statistical Power Analysis for Mediation with Non-normal and Missing Data. Paper presented at the Annual Meeting of the Psychometric Society, July 12-15, Asheville, NC.
29. \*Cain, M. K., & Zhang, Z. (2016, May). Time and Other Considerations in Mediation Design. Poster presented at the 2017 Modern Modeling Methods Conference, May 23-26, 2016, in Storrs, CT.
30. Zhang, Z. (2014, May). Monte Carlo Based Statistical Power Analysis for Mediation Analysis with Non-normal Data: Methods and Software. Paper presented at the 27th Annual Convention of the American Psychological Society, New York, NY.
31. \*Lu, Z., & Zhang, Z. (2014, July). Aggregating Time Series: Illustration Through an AR(1) Model. Paper presented at the 79th Annual Meeting of the Psychometric Society, Madison, Wisconsin.
32. Zhang, Z., Wang, L., & \*Tong, X. (2014, July). Mediation Analysis with Missing Data through Multiple Imputation and Bootstrap. Paper presented at the 79th Annual Meeting of the Psychometric Society, Madison, Wisconsin.
33. \*Liu, H., & Zhang, Z. (2014, July). Separating-strategy Priors for Covariance Matrices. Paper presented at the 79th Annual Meeting of the Psychometric Society, Madison, Wisconsin.
34. \*Lu, Z., Zhang, Z., & Cohen, A. (2014, May). Bayesian model selection criteria for latent growth models. Paper presented at the 26th Annual Convention of the American Psychological Society, San Francisco, CA.
35. \*Tong, X., & Zhang, Z. (2014, May). Robust semi-parametric Bayesian methods in growth curve modeling with nonnormal data. Paper presented at the 26th Annual Convention of the American Psychological Society, San Francisco, CA.
36. Zhang, Z., Jiang, K., & \*Liu, H. (2014, May). Bayesian meta-analysis of correlation coefficients through power prior. Paper presented at the 26th Annual Convention of the American Psychological Society, San Francisco, CA.
37. \*Lu, Z., & Zhang, Z. (2014, April). Robust Growth Mixture Models With Non-Ignorable Missingness. Paper presentation at the National Council on Measurement in Education (NCME) 2014 Annual Meeting, Philadelphia, Pennsylvania.
38. Liu, X., Liu, F., Simon, M., & Zhang, Z. (2014, April). Are the Score Gains Suspicious? – A Bayesian Growth Analysis Approach. Paper presentation at the National Council on Measurement in Education (NCME) 2014 Annual Meeting, Philadelphia, Pennsylvania.
39. Zhang, Z., & Grimm, K. J. (2013, April). A Random-Coefficient Latent Change Score Model for Nonlinear Growth Data. Paper presented at 2013 SRCD Biennial Meeting, Seattle, Washington.
40. Zhang, Z., \*Lai, K., \*Lu, Z., & \*Tong, X. (2012, May). Bayesian Robust Growth Curve Modeling Based on Student's t Distribution. Paper presented at the 24th Annual Convention of the American Psychological Society, Chicago IL.
41. Yuan, K.-H., & Zhang, Z. (2012, May). Robust Structural Equation Modeling With Missing Data and Auxiliary Variables. Paper presented at the 24th Annual Convention of the American Psychological Society, Chicago IL.
42. \*Tong, X., Zhang, Z., & Yuan, K.-H. (2012, May). Evaluation of Fit Statistics for Robust SEM With Non-Normal Missing Data. Paper presented at the 24th Annual Convention of the American Psychological Society, Chicago IL.

43. \*Lu, Z., & Zhang, Z. (2012, May). Robust Growth Mixture Modeling Using Bayesian Methods. Paper presented at the 24th Annual Convention of the American Psychological Society, Chicago IL.
44. Yuan, K.-H., \*Tong, X., & Zhang, Z. (2012, July). Bias and efficiency for SEM with missing data and auxiliary variables: Robust method versus normal distribution based ML. Paper presented at the 2nd Institute of Mathematical Statistics Asia Pacific Rim Meeting (Invited Paper Session). Tsukuba, Japan.
45. \*Lu, Z., Zhang, Z., & Cohen, A. (2012, July). Latent growth curve models with non-ignorable missing data: Bayesian inference and model selection criteria. Paper presentation at the 77th Annual International Meeting of the Psychometric Society (IMPS 2012), Lincoln, Nebraska.
46. Zhang, Z. & \*Lu, Z. (2012, February). Issues in Aggregating Time Series: Illustration Through an AR(1) Model. Paper presented at 2012 SRCDD Themed Meeting: Developmental Methodology, Tampa, Florida.
47. \*Lu, Z., Zhang, Z., & Cohen, A. (2012, April). Latent growth curve models with non-ignorable missing data: Bayesian inference and model selection criteria. Paper presentation at the National Council on Measurement in Education (NCME) 2012 Annual Meeting, Vancouver, British Columbia, Canada.
48. \*Xin, T., Zhang, Z., & Yuan, K.-H. (2011). Evaluation of Test Statistics for Robust Structural Equation Modeling with Non-normal Missing Data. Presented at the Annual Society of Multivariate Experimental Psychology Graduate Student Pre-conference, Oklahoma.
49. Zhang, Z., & Wang, L. (2011, August). Overview of Full Bayesian Analysis of Non-Ignorable Missing Data. Paper presented at the 119th Annual Convention of the American Psychological Association, Washington DC.
50. \*Lu, Z., Zhang, Z., & Lubke, G. (2011, August). Bayesian Inference for Growth Mixture Models With Non-Ignorable Missing Data. Paper presented at the 119th Annual Convention of the American Psychological Association, Washington DC.
51. Wang, L. & Zhang, Z. (2011, August). Bayesian Estimation and Inference on Mediation Effects With Censored Data. Paper presented at the 119th Annual Convention of the American Psychological Association, Washington DC.
52. \*Tong, X., & Zhang, Z. (2011, August). Bayesian Inference for Robust Growth Curve Modeling Using t Distributions. Paper presented at the 119th Annual Convention of the American Psychological Association, Washington DC.
53. \*Lu, Z., Zhang, Z., & Lubke, G. (2011, July) Bayesian inference for growth mixture models with latent class dependent missing data. Paper presentation at the 76th Annual International Meeting of the Psychometric Society (IMPS 2011), Hong Kong Institute of Education, Hong Kong.
54. \*Lu, Z., Zhang, Z., & Lubke, G. (2010, September) Bayesian inference for growth mixture models with non-ignorable missing data. Paper presentation at the 8th Annual Society of Multivariate Experimental Psychology (SMEP), Graduate Student Pre-conference, Georgia Tech Conference Center, Atlanta, GA.
55. Zhang, Z. (2010, July). Testing the invariance of latent traits in multiple group analysis. Paper presented at the 7th Conference of the International Test Commission, Hong Kong, China.

56. Zhang, Z. (2009, June). Bayesian SEM: Current developments and future directions. Paper presented at the American Psychological Society Meeting, San Francisco, CA.
57. Zhang, Z. (2007, October). Bootstrap analysis of mediation effects. Paper presented at the Society of Multivariate Experimental Psychology Pre-conference, Chapel Hill, NC.
58. Zhang, Z., & Wang, L. (2007, July). Methods evaluating mediation effect: Rationale and comparison. Paper presented at the 72nd Annual Meeting of the Psychometric Society, Tokyo, Japan.
59. Wang, L., Zhang, Z., & McArdle, J. J. (2006, June). Investigating the ceiling effects in longitudinal data analysis. Paper presented at the 71st Annual Meeting of the Psychometric Society, Montreal, Canada.
60. Zhang, Z., Wang, L., & Nesselroade, J. R. (2006, June). Growth rate models and Bayesian estimation. Paper presented at the 71st Annual Meeting of the Psychometric Society, Montreal, Canada.

#### Poster Presentations

61. Zhang, Z. (2018, May). A New Software Program for Practical Statistical Power Analysis. Poster presented at the 30th Annual Convention of the American Psychological Society, San Francisco, CA.
62. <sup>+</sup>Tzakis, T., <sup>\*</sup>Liu, H., & Zhang, Z. (2018, May). A Review of Social Network Analysis in Psychological Research. Poster presented at the 30th Annual Convention of the American Psychological Society, San Francisco, CA.
63. <sup>+</sup>Tzakis, T., & Zhang, Z. (2018, March). A Review of Social Network Analysis in Psychological Research. Poster presented at the Michigan Academy 2018 Conference, Alma, MI.
64. Zhang, Z. (2017, August). Practical Statistical Power Analysis for Multilevel Modeling: Methods and Software. Poster presented at the 125th Annual Convention of the American Psychological Association, Washington DC.
65. Zhang, Z., & <sup>\*</sup>Liu, H. (2017, May). Sample Size Planning for Latent Change Score Models through Monte Carlo Simulation. Poster presented at the 30th Annual Convention of the American Psychological Society, Boston, MA.
66. <sup>\*</sup>Cain, M. K., & Zhang, Z. (2017, May). Fit for a Bayesian: An Evaluation of PPP and DIC. Poster presented at the 2017 Modern Modeling Methods Conference, in Storrs, CT.
67. <sup>^</sup>Mai, Y., & Zhang, Z. (2016, May). Multilevel Modeling Through Path Diagramming: An Online Graphical Interface. Poster presented at the 28th APS Annual Convention, May 26-29, 2016, in Chicago, IL.
68. Zhang, Z. (2016, October). Practical Statistical Power Analysis for Structural Equation Modeling: Methods and Software. Poster presented at the 87th Annual Meeting of the Indiana Academy of the Social Sciences, October 7, 2015, Westville, IN.
69. Zhang, Z., & Wang, L. (2010, August). Power Analysis for Linear and Nonlinear Growth-Curve Modeling. Poster presented at the 118th Annual Convention of the American Psychological Association, San Diego, CA.
70. Zhang, Z., & Wang, L. (2007, August). Bayesian analysis of longitudinal data using growth curve models. Poster presented at the 115th Annual Convention of the American Psychological Association, San Francisco, CA.

71. Zhang, Z., McArdle, J. J., Wang, L., and Hamagami, F. (2006, August). Using WinBUGS inside SAS for Bayesian analysis. Poster presented at the 114th Annual Convention of the American Psychological Association, New Orleans, LA.
72. Wang, L. & Zhang, Z. (2006, April). Memory training on individual learning performance for independent and vital older adults. Poster presented at the 19th Cognitive Aging Conference, Atlanta, GA.
73. Zhang, Z., Wang, L., & Hamagami, F. (2006, April). Evaluation of the intervention of memory training on short-term learning for elderly. Poster presented at the 19th Cognitive Aging Conference, Atlanta, GA.

#### **Master's Theses Directed**

- 2015 Megan Cain
- 2012 Xin Tong

#### **Master Thesis Reader**

- 2018 Ian Campbell
- 2014 Can Shao

#### **Master Thesis Committees**

- 2016 Ryan Woodbury
- 2015 Callie Baird
- 2012 Zijun Ke

#### **Qualification Exams/ Prelim Committee**

- 2018 Ian Campbell
- 2016 Samantha Anderson, Haiyan Liu
- 2013 Charles Laurin, Raymond Walters
- 2012 Xin Tong
- 2011 Keke Lai

#### **Doctoral Dissertations Directed**

- 2018 Haiyan Liu (Now tenure-track assistant professor at the University of California, Merced)
- 2017 Megan Cain (Now data scientist at Multi Health Systems Inc., Started as a research assistant professor at University of Texas at San Antonio)
- 2014 Xin Tong (Now tenure-track assistant professor at the University of Virginia)
- 2011 Zhenqiu Lu (Now tenured Associate professor at the University of Georgia, co-advised with Ke-Hai Yuan)

#### **Dissertation Committees**

- 2018 Agung Santoso, Miao Yang, Ge Jiang, Erin Hillard, Robert Miller, Kat Ralph
- 2017 Han Du, Meghan Cain, Amber Shoaib, Jaime Shapiro
- 2016 Patrick Miller, Han Du, Daniel McArtor, Can Shao, Callie Baird
- 2015 Qian Zhang, Quinn Lathrop
- 2014 Charles Laurin, Raymond Walters, Jeffrey Patton, Xin Tong
- 2013 Zijun Ke

- 2012 Chun-Ting Lee, KeKe Lai
- 2011 Melissa Mitchell, Laura Lu
- 2010 Stephen Tueller

**Quantitative Minor Advised**

- 2015 Rebecca Cheung (Tenure-track Assistant Professor at the Education University of Hong Kong)
- 2010 Windy McNerney (Research Health Specialist in the MIRECC the VA Palo Alto, and a Clinical Assistant Professor (Affiliated) at Psychiatry and Behavioral Sciences at Stanford School of Medicine)

**Undergraduate Students Advised**

- 2018 Shitao Fan, Jingyi Xu, Ann Keenan, Leah Tzakis, Silvia Camara, Roann Yanes
- 2017 Xin Tong, Christopher Clarizio, Kelly Dodson, Yuchen Liu, Yiwen Chen, Margaret West, Jianan Wang, Leah Tzakis, Ann Keenan
- 2016 Leah Tzakis, David Mattia, Ann Keenan, Cindy Wang, Brett Baumgartner, Yijie Huang, Mao Ye, Nan Sun
- 2015 Leah Tzakis, David Mattia, Cindy Wang
- 2014 Leah Tzakis

**Courses Taught**

- 2018 Fall Advanced Statistics (PSY40120); Exploratory Data Analysis (PSY30105/PSYC60105); Grad Seminar: Quantitative Study (PSY63199)
- 2018 Spring Bayesian Statistics (PSY60108); Grad Seminar: Quantitative Study (PSY63199)
- 2017 Fall Advanced Statistics (PSY40120); Structural Equation Modeling (PSY60130); Grad Seminar: Quantitative Study (PSY63199)
- 2017 Spring Grad Seminar: Quantitative Study (PSY63199)
- 2016 Fall Advanced Statistics (PSY40120); Structural Equation Modeling (PSY60130); Grad Seminar: Quantitative Study (PSY63199)
- 2016 Spring Bayesian Statistics (PSY60108); Grad Seminar: Quantitative Study (PSY63199)
- 2015 Fall Grad Seminar: Quantitative Study (PSY63199)
- 2015 Spring Structural Equation Modeling (PSY60130); Grad Seminar: Quantitative Study (PSY63199)
- 2014 Spring Structural Equation Modeling (PSY60130); Grad Seminar: Quantitative Study (PSY63199)
- 2013 Fall Bayesian Statistics (PSY60108); Advanced Statistics (PSY40120); Structural Equation Modeling (PSY60130); Grad Seminar: Quantitative Study (PSY63199)
- 2013 Spring Structural Equation Modeling (PSY60130); Grad Seminar: Quantitative Study (PSY63199)
- 2012 Fall Advanced Statistics (PSY40120); Exploratory Data Analysis (PSY30105/PSYC60105); Grad Seminar: Quantitative Study (PSY63199)
- 2012 Spring Structural Equation Modeling (PSY60130); Grad Seminar: Quantitative Study (PSY63199)



- 2011 Fall Bayesian Statistics (PSY60108); Advanced Statistics (PSY40120); Structural Equation Modeling (PSY60130); Grad Seminar: Quantitative Study (PSY63199)
- 2011 Spring Structural Equation Modeling (PSY60130); Grad Seminar: Quantitative Study (PSY63199)
- 2010 Fall Advanced Statistics (PSY40120)
- 2010 Spring Bayesian Statistics (PSY60108); Exploratory Data Analysis (PSY30105/PSYC60105)
- 2009 Spring Bayesian Statistics (PSY60108)
- 2009 Fall Dynamical Systems Analysis

### **Professional Affiliations and Memberships**

American Psychological Association  
American Psychological Society  
Institute of Electrical and Electronics Engineers  
Psychometric Society  
Society of Multivariate Experimental Psychology

### **Services**

#### University and Departmental Service

- 2018- University Committee on Research and Sponsored Programs
- 2008-Now Psychology Department Computer Committee
- 2015 Review Committee of the Bernoulli awards
- 2015 ISLA Bi-Annual Large Grant Review Committee

#### Professional Service

##### *Associate Editor*

Multivariate Behavioral Research

##### *Guest Action Editor*

Psychological Methods (2016, 2017)

Sage Open (2017, 2018)

##### *Consulting Editor*

Psychological Methods, 2014 – now

##### *Tenure evaluation*

2018 (1 case)

2017 (2 cases)

##### *Green Card Letter Writer*

2018 (1)

2017 (1)

##### *Grant reviewer*

2018- SMEP Dissertation Grant Award Committee

2018 National Science Foundation (2), Natural Sciences and Engineering Research Council of Canada, The Netherlands Organisation for Scientific Research (NWO)

2017 National Science Foundation, Natural Sciences and Engineering Research Council of Canada

2015 Natural Sciences and Engineering Research Council of Canada  
2013 National Security Agency, Templeton Foundation  
2012 National Science Foundation

*Manuscript reviewer (ad hoc, average 20-30 a year)*

Abstract and Applied Analysis  
Aging, Neuropsychology and Cognition  
American Education Research Journal  
Behavior Genetics  
Behavior Research Methods  
BMC Medical Research Methodology  
Brazilian Journal of Probability and Statistics  
British Journal of Mathematical and Statistical Psychology  
Child Development  
Communications in Statistics - Simulation and Computation  
Computational Statistics and Data Analysis  
Developmental Psychology  
Emotion  
Frontier in Quantitative Psychology  
International Journal of Behavioral Development  
International Journal of Osteoarchaeology  
Journal of Agricultural, Biological, and Environmental Statistics  
Journal of Applied Statistics  
Journal of Biopharmaceutical Statistics  
Journal of Early Adolescence  
Journal of Educational and Behavioral Statistics  
Journal of Experimental Education  
Journal of Statistical Software  
Journal of the Royal Statistical Society  
Methodology  
Multivariate Behavioral Research  
Nursing Research  
Personality and Social Psychology Bulletin  
Perspectives on Psychological Science  
Psychological Methods  
Psychological Science  
Psychometrika  
Psychonomic Bulletin & Review  
Public Health Nutrition  
Religious  
Research Synthesis Methods  
Sage Open  
Statistics and Probability Letters  
Statistics in Medicine  
Structural Equation Modeling  
Studies in Nonlinear Dynamics & Econometrics  
Technological Forecasting & Social Change

*Book reviewer*

Guilford

*Other services*

I have developed multiple online statistical software and R packages that are widely used. Each year, I provide consulting and answer questions regarding the software and packages from researchers all over the world. In the past year, the online program WebPower for statistical power analysis logged 275,796 unique visitors and 5.5 million page requests. WebSEM, an online program for structural equation modeling logged 78,484 unique visitors and 424,166 page requests.