Lijin Zhang

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Psychometrics, Bayesian Analysis, Structural Equation Models, Child Development

EDUCATION

Stanford University
· Ph.D. student in Development and Psychological Science   2022 - present
(Advisors: Prof. Ben Domingue & Prof. Jason Yeatman)

Sun Yat-sen University
· M.S. in Psychology, Department of Psychology   2019 - 2022
· B.S. in Psychology, Department of Psychology   2015 - 2019

RESEARCH EXPERIENCES

Note. [x] refers to the journal articles, working papers, and software packages the publication list.

Domingue Lab, Stanford University   09/2022 - present
Advisor: Prof. Ben Domingue
Research Topics: Model Fitting, Item Response Theory

Psychological Statistics and Modeling Lab, Sun Yat-sen University   09/2017 - 06/2022
Website: https://panlab.xyz
Advisor: Prof. Junhao Pan
Research Topics: Bayesian Lasso Confirmatory Factor Analysis [5,6,8,17,19,33]
                     Mediation and Moderation Analysis. [9,18,34]
                     Longitudinal Data Analysis [11]

Lab for Big Data Methodology, University of Notre Dame   Summer, 2021
Website: https://bigdatalab.nd.edu
Advisor: Prof. Zhiyong Johnny Zhang
Research Topics: Text Mining & Network Analysis [??,32]

Prof. Xinya Liang's Lab, University of Arkansas   Summer, 2020
Advisor: Prof. Xinya Liang
Research Topics: Bayesian Regularization, Structural Equation Modeling [??,??]

PUBLICATIONS ⓘ

Book Chapters

1. **Computational Neuroscience and Cognitive Modelling - Chinese Version (Anderson, 2014)**
   Translated chapters 9-13 (Neural Networks).

2. **Handbook of Quantitative Methods in Psychological and Behavioral Research (in Chinese)**
   Wrote the Bayesian Structural Equation Modeling chapter with Prof. Junhao Pan.

Journal Articles (* correspondent author, + co-first author)

3. Zheng, S., **Zhang, L.**, Jiang, Z., & Pan, J. (Accepted). The influence of inaccurate informative priors on Bayesian multilevel modeling: A simulation study. *Structural Eqaution Modeling*.

4. Wei, X.[+], Huang, J.[+], **Zhang, L.**, Pan, D.*, & Pan, J.* (2022). Evaluation and Comparison among SEM, ESEM and BSEM in Estimating Structural Models with Potentially Unknown Cross-loadings. *Structural Equation Modeling, 29* (3), 327-338. [pdf]

5. **Zhang, L.**, Pan, J.*, & Ip, E.H. (2021). Criteria for Parameter Identification in Bayesian Lasso Methods for Covariance Analysis: Comparing Rules for Thresholding, *p*-value, and Credible Interval. *Structural Equation Modeling, 28* (6), 941-950. [pdf]

6. **Zhang, L.**, Pan, J.*, Dubé, L., & Ip, E.H. (2021). blcfa: An R Package for Bayesian Model Modification in Confirmatory Factor Analysis. *Structural Equation Modeling, 28* (4), 649-658. [pdf]

7. Zeng, G., **Zhang, L.**, Fung, S.*, Li, J., Liu, Y-M., Xiong, K-Z., Jiang, Z-Q., Zhu, F-F., Chen, Z-T., Luo, S-D., Yu, P., & Huang, Q. (2021). Problematic Internet Usage and Self-Esteem in Chinese Undergraduate Students: The Mediation Effects of Individual Affect and Relationship Satisfaction. *International Journal of Environmental Research and Public Health, 18* (13), 6949. [pdf]

8. Chen, J.*, Guo, Z., **Zhang, L.**, & Pan, J.* (2021). A Partially Confirmatory Approach to Scale Development with the Bayesian Lasso. *Psychological Methods, 26* (2), 210-235. [pdf]

9. Feng, Q.[+], Song, Q.[+], **Zhang, L.**[+], Zheng, S., & Pan, J.* (2020). Integration of Moderation and Mediation in a Latent Variable Framework: A Comparison of Estimation Approaches for the Second-stage Moderated Mediation Model. *Frontiers in Psychology, 11*, 2167. [pdf]

10. Liu, S., Huang, Z., **Zhang, L.**, Pan, J., Lei, Q., Meng, Y., & Li, Z.* (2020). Plasma Neurofilament Light Chain may be a Biomarker for the Inverse Association between Cancers and Neurodegenerative Diseases. *Frontiers in Aging Neuroscience, 12* (10), 1-8. [pdf]

In Chinese:
Advances in Psychological Science was rated as one of the most influential Chinese journals.

11. Zheng, S., **Zhang, L.**, Qiao, X., & Pan, J.* (2021). Intensive Longitudinal Data Analysis: Models and Application. *Advances in Psychological Science*, *29* (11), 1948-1969. [pdf]

12. Zhang, X., **Zhang, L.**, Ding, Y., Qu, Z.* (2021). Behavioral Oscillations in Attention. *Advances in Psychological Science*, *29* (3): 461-471. [pdf]

13. **Zhang, L.**, Wei, X., Lu, J., & Pan, J.* (2020). Lasso Regression: From Explanation to Prediction. *Advances in Psychological Science*, *28* (10), 1777-1788. [pdf]

14. **Zhang, L.**, Lu, J., Wei, X., & Pan, J.* (2019). Bayesian Structural Equation Modeling and Its Current Research. *Advances in Psychological Science*, *27* (11), 1812-1825. [pdf]

Manuscripts under Review and in Preparation

15. **Zhang, L.**, & Liang, X.* (R&R). Bayesian Regularization in Multiple-Indicators Multiple-Causes Models.

16. **Zhang, L.**, Li, X., & Zhang, Z. (under review). Diversity and Mainstays of the R Developer Community.

17. Pan, J., **Zhang, L.**, & Ip, E.H.* (in preparation). Bayesian Covariance Adaptive Lasso Factor Analysis Models with Ordinal Data.

18. **Zhang, L.**, & Pan, J.* (in preparation). Latent Multiple Mediation Analysis with the Bayesian Lasso.

19. Ip, E.H., Sandberg, J., **Zhang, L.**, & Pan, J.* (in preparation). Matched-pair Binary Item Response Analysis Using Bayesian Adaptive Lasso Factor Model.

Invited Talk (underline: presenter)

20. **Zhang, L.**, & Pan, J.* (To be presented). *Latent Multiple Mediation Analysis with the Bayesian Lasso.* The 15th Chinese R Conference, Nov, Virtual.

21. **Zhang, L.**, Pan, J., & Ip, E.H., (2022). *Bayesian Lasso Confirmatory Factor Analysis.* Utrecht University, 23 May, Virtual. [abstract][slides]

22. **Zhang, L.**, Lu, J., Wei, X., & Pan, J.* (2019). *Bayesian Structural Equation Modeling and Its Current Research.* The 12th Chinese R Conference, 24-26 May, Beijing. [abstract][slides]

Contributed Conference Presentations

23. Ip, E.H., Sandberg, J., **Zhang, L.**, & Pan, J.* (2022). *Matched-pair Binary Item Response Analysis Using Bayesian Adaptive Lasso Factor Model.* International Meeting of Psychometric Society, 11-15 July, Bologna, Italy.

24. **Zhang, L.**, & Pan, J.* (2021). *How to Select Prior Variance in Bayesian Approximate Measurement Invariance?* The 6th Eastern Chapter of International Society for Bayesian Analysis Conference, 17 November, Virtual.

25. **Zhang, L.**, & Liang, X.* (2021). *Bayesian Regularization in Multiple Indicators Multiple Causes Models.* International Meeting of Psychometric Society, 19-23 July, Virtual. [abstract][slides]

26. **Zhang, L.**, Pan, J.*, & Ip, E.H. (2021). *Comparison between Different Parameter Identification Criteria using the Bayesian Lasso.* International Meeting of Psychometric Society, 19-23 July, Virtual. [abstract][slides]

27. Pan. J, **Zhang, L.**, & Ip, E.H.* (2021). *Bayesian Covariance Adaptive Lasso Factor Analysis Models with Ordinal Data.* International Meeting of Psychometric Society, 19-23 July, Virtual. [abstract]

28. **Zhang, L.**, Pan, J.*, & Ip, E.H. (2020). *blcfa: An R package for Bayesian Model Modification in Confirmatory Factor Analysis.* International Meeting of Psychometric Society, 14-17 July, Virtual. [abstract][slides]

29. **Zhang, L.**, Lu, J., Zhang, Y., & Pan, J.* (2019). *The Influence of Social Support on Career Decision-Making Difficulty: Bayesian Modeling Based on Longitudinal Data.* The 22nd National Academic Conference of Psychology, 18-20 Oct, Hangzhou. [abstract][poster]

30. Pan, J., **Zhang, L.**, & Ip, E.H.* (2018). *Bayesian Lasso Factor Analysis Models with Ordered Categorical Data.* The 13th Cross-Straits Conference on Educational and Psychological Testing, 22-25 Oct, Taiwan. [abstract][slides]

31. Pan, J., **Zhang, L.**, Ip, E.H.* (2017). *Bayesian Lasso Factor Analysis Models with Ordered Categorical Data.* The 20th Chinese Academic Conference of Psychology, 3-5 November, Chongqing.

Software Development

32. **Zhang, L.** (2021). *wordRG: An R Function for Extracting Abstracts from ResearchGate and Generating A Personal Research Word Cloud.* Retrievable from https://github.com/zhanglj37/wordRG.

33. **Zhang, L.**, Pan, J., & Ip, E.H. (2020). *blcfa: An R Package for Bayesian Model Modification in Confirmatory Factor Analysis.* Retrievable from https://github.com/zhanglj37/blcfa.

34. **Zhang, L.**, Sun, R., & Pan, J. (2020). *sampleMplus: An R Package for Sample Size Determination in Structural Equation Modeling.* Retrievable from https://github.com/zhanglj37/sampleMplus.

GRANTS

National Innovation Training Program for Undergraduates, China (about $1,500)	2018
Climbing Plan for Undergraduate and Graduate Students, Guangdong Province (about $2,300)	2018

HONORS & AWARDS

EDGE Fellowship, Stanford University	2022
Outstanding Graduates, Sun Yat-sen University	2022
First Prize Scholarship of Outstanding Students, Sun Yat-sen University	2017 - 2021
National Scholarship, Minister of Education of China	2020
Third Prize, Outstanding Graduate Thesis Award, Chinese Psychological Society	2019
Outstanding Undergraduate Thesis, Sun Yat-sen University	2019
Outstanding Presenter, Undergraduate Psychology Forum, Peking University	2018
Honorable Mention in American Mathematical Contest in Modeling	2018

PROFESSIONAL EXPERIENCES

Teaching Assistant

· Experience Sampling Method Workshop	2022
· Advanced Structural Equation Modeling, Sun Yat-sen University	2021
· Structural Equation Modeling, Sun Yat-sen University	2020
· Psychological Statistics, Sun Yat-sen University	2020

Data Analyst & Statistical Consultant

· Data Analyst, Chariot Lab, Lucile Packard Children's Hospital, Stanford University	2022 - present
· Data Analyst, The Science of Well-being Research Institute, Guangdong, China [7]	2021 - 2022
· Statistical Consultant, Ni Lab, Tsinghua Shenzhen International Graduate School	2020
· Statistical Consultant, Pang Lab, School of International Relations, Sun Yat-sen University	2019 - 2020

Ad-hoc Reviewer

· Structural Equation Modeling
· Journal of Behavioral Data Science
· Science Progress

Memberships

· Psychometric Society
· Capital of Statistics, China

SKILLS

Programming	Proficient: R, LaTeX, Mplus; Basic: flexMIRT, HTML, C++
Data Analysis	Bayesian analysis, Structural Equation Modeling, Text Mining