

Jihong Zhang

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Education

- 2019–2022 **Ph.D.**, *Educational Measurement and Statistics*, University of Iowa, U.S.
2015–2018 **M.S.**, *Research, Evaluation, Measurement and Statistics*, University of Kansas, U.S.
2009–2013 **B.A.**, *Applied Psychology*, Soochow University, China
2011–2013 **B.A.**, *Law*, Soochow University, China

Employment

- 01/2024–Present **Tenure-track Assistant Professor of Educational Statistics and Research Methods**, *Department of Counseling, Leadership, and Research Methods*, College of Education and Health Professions (COEHP), University of Arkansas
12/2022–06/2023 **Postdoctoral Research Fellow**, *Department of Social Work, CLAP@JC Program*, The Chinese University of Hong Kong (CUHK)
06/2021–01/2022 **Associated Researcher**, *Stanford Research Institute (SRI) International*, California, United States
01/2019–12/2022 **Research Assistant**, *Educational Measurement and Statistics*, Supervisor: Prof. Jonathan Templin, University of Iowa
09/2016–12/2018 **Research Assistant**, *The Center for Educational Testing and Evaluation*, Kansas English Language Proficiency Assessment (KELPA), University of Kansas

Professional Service

- 2026–2027 **Review Committee Member**, *Scholarship Review and Selection Committee*, Department of Counseling, Leadership, and Research Methods (CLRM), University of Arkansas
2025–2027 **Secretary/Treasurer**, *SIG Cognition and Assessment*, American Educational Research Association (AERA)
2025–2027 **Review Committee Member**, *NCME Brenda Loyd Dissertation Award*, National Council on Measurement in Education (NCME)
2025–2027 **Review Committee Member**, *CLRM Scholarship Committee*, Department of Counseling, Leadership, and Research Methods, University of Arkansas
2025–2027 **Committee Member**, *College Course and Program Committee*, College of Education and Health Professions, University of Arkansas

Internship Experience

- 2021–2022 **Stanford Research Institute International, California**, *Process data analysis and data mining with NAEP data using machine learning*
The project uses statistical and machine learning techniques to understand the differences in test-taking processes for learners with and without disabilities. As a research scientist, I spent 80% of my working time conducting statistical analyses for this project and 20% writing manuscripts.
2018–2019 **Edmentum™ Test Packs, Kansas**, *Item exposure issues and item exposure strategies for Computerized Adaptive Testing*

Teaching Experience

- Fall 2026 **ESRM64503**, Applied Multivariate Analysis 📄, University of Arkansas
Fall 2024

- Fall 2026 **ESRM64103**, Experimental Design in Education , University of Arkansas
 Spring 2026
 Fall 2025
 Spring 2026 **ESRM6553**, Advanced (Bayesian) Multivariate Analysis , University of Arkansas
 Spring 2024
 Spring 2025 **ESRM6990V**, Introduction to R , University of Arkansas
 Spring 2018 **EPSY905**, Fundamentals of Multivariate Modeling, University of Kansas
 Fall 2017 **EPSY906**, Latent Trait Measurement and Structural Equation Modeling, University of Kansas

Grants & Fellowships

- 2025/3–2026/3 **NSF ACCESS Explore Allocation (MED260022)**, *PI: Jihong Zhang*, 200,000 ACCESS Credits / \$5,000 in CloudBank Research, National Science Foundation / ACCESS-CI
 TITLE: *AutoPsychDx*: Scalable LLM-Agent-Driven Psychometric Diagnosis Using Item Response Theory and Diagnostic Classification Models
- 2025–2026 **National Artificial Intelligence Research Resource (NAIRR) Pilot (NAIRR250360)**, *Co-PI: Jihong Zhang; PI: Xinya Liang*, \$1,000 OpenAI API + Anthropic API access, National Science Foundation, U.S.
 TITLE: Variability in LLM-Generated Personas: Method Comparison and Psychometric Assessment
- 2024–2026 **2024 WE CARE Team Up Grant**, *Co-PI: Jihong Zhang; PI: Anqi Deng*, \$19,338, College of Education & Health Professions, University of Arkansas
 TITLE: Mapping the Dynamics of Physical Literacy
- 2025/5–2025/8 **2025 WE CARE Summer Research Fellowship**, *PI: Jihong Zhang*, \$5,000, College of Education & Health Professions, University of Arkansas
 Accomplishments: submitted 2 conference proposals to AERA 2026 (LLM-driven psychometrics; network analysis of storytelling); 1 accepted ISSP 2025 presentation (physical literacy network analysis); co-authored journal manuscript accepted at *Network Neuroscience*: “Neural dynamics of mindfulness training: A longitudinal EEG network analysis of focused attention and open monitoring meditation.”
- 2022–2023 **CLAP@JC**, *Postdoctoral Fellow: Jihong Zhang; PI: Steven Sek-yum Ngai*, HK\$77,780,000, The Chinese University of Hong Kong
 TITLE: Career and Life Development Platform — a ten-year Trust-initiated project on career and life development for non-engaged youth
- 2021–2022 **NSF 1751309**, *Research Assistant: Jihong Zhang; PI: Yasemin Copur-Gencturk*, \$629,864, U.S. National Science Foundation
 TITLE: CAREER: Development of Pedagogical Content Knowledge in Mathematics Among Beginning Teachers
- 2021–2022 **IES R324P210005**, *Research Scientist: Jihong Zhang; PI: Wei Xin*, \$699,807, Institute of Education Sciences (IES)
 TITLE: Research Grants Focused on NAEP Process Data for Learners with Disabilities

Submitted Grants

- January 2026 **NVIDIA Academic Hardware Grant**, *PI: Jihong Zhang*, 2x NVIDIA A100 GPUs (80GB each), NVIDIA Corporation
 TITLE: Scaling AI-Powered Q-Matrix Construction for Automated Psychometric Assessment
- December 2025 **National Artificial Intelligence Research Resource (NAIRR) Pilot**, *PI: Jihong Zhang*, \$3,000 in OpenAI and Anthropic credits, National Science Foundation
 TITLE: Leveraging LLM Tool Calling for Automating Q-Matrix Construction
- December 2025 **Spencer Foundation Small Research Grants**, *PI: Jihong Zhang*, \$35,329, Spencer Foundation
 TITLE: Scoring Individuals with Network Psychometrics: Methods, Reliability, and Applications
- July 2024 **Spencer Foundation Small Research Grants**, *PI: Jihong Zhang*, \$35,329, Spencer Foundation
 TITLE: Scoring Individuals with Network Psychometrics: Methods, Reliability, and Applications
- Fall 2024 **NSF: Methodology, Measurement, and Statistics**, *PI: Jihong Zhang*, \$468,178, U.S. National Science Foundation

Honors and Awards

- 2026 **Dean's Seminar Spring 2027 WE CARE Award**, *University of Arkansas*, College of Education and Health Professions
Seminar Title: *Second Opinion: Thinking Critically About AI*
- 2025 **CLRM Rising STAR Award 2024**, *University of Arkansas*, College of Education and Health Professions
- 2021 **Educational Measurement Statistics (EMS) Research Award**, *University of Iowa*
- 2021 **Blommers/Hieronymus/Feldt Fellowship**, *University of Iowa*
- 2013 **Excellent Graduate**, *University of Soochow*
- 2013 **Excellent Bachelor's Thesis**, *University of Soochow*
- 2012 **Scholarship for Outstanding Learning**, *University of Soochow*
- 2011 **People Fellowship Award**, *University of Soochow*

Publications

* First author, first co-author, or corresponding author

Summary of Publications & Software

Journal Papers

Peer-reviewed & accepted

Psychometric & Statistical Modeling	10
Network Psychometrics & Applications	7
AI & Large Language Models	1
Computational Tools	1
Educational & Developmental Psychology	12
Body Image, Eating Disorders & Health Behaviors	2
Physical Activity & Health Measurement	2

Subtotal (Journal Papers) 35

Preprints

AI & LLM Methods	4
Psychometric & Statistical Methodology	3

Subtotal (Preprints) 7

Software Development

Psychometric Tools	4
Bioinformatics & Network Tools	1
AI Tools	4

Subtotal (Software) 9

Total 50

Note. Counts are mutually exclusive; categories contain no overlapping entries.

Submitted Publications

- 2026 Zhang, L., **Zhang, J.** (2026), *Exploring Pre-Service Teachers' Metacognitive Processing Patterns When Interacting with a GenAI System: A Microgenetic Analysis*, *British Journal of Educational Technology*, Under Review
- 2026 Huang, J., **Zhang, J.**, & Chang, H.-H. (2026), *A Dual-Dimensional LLM Framework for Automated Item Incidental Content Similarity Analysis in Large-Scale Assessments*, Under Review

Peer-Reviewed Publications

- 2026 Christian, D., Arcana, D., **Zhang, J.**, & Miller, B. (2026), *Reducing Hyperactivity/Inattention in Middle School Students Through Adventure Therapy Groups*, *Journal of Child and Adolescent Counseling*, Accepted
- 2026 Deng, A., **Zhang, J.**, & Zarrett, N. (2026), *Unraveling Physical Literacy: A Psychological Network Approach to Understanding Youth Physical Activity*, *Journal of Behavioral Medicine*, Accepted
- 2026 Deng, A., Zarrett, N., Shi, D., & **Zhang, J.** (2026), *Rethinking Missing Data Handling in Accelerometer-Based Physical Activity Research: Barriers, Current Methods, and Future Directions*, *Kinesiology Review*, Accepted

- 2026 Lin, Y., White, M. L., **Zhang, J.**, & Braver, T. S. (2026), *Neural Dynamics of Mindfulness Training: A Longitudinal EEG Network Analysis of Focused Attention and Open Monitoring Meditation*, *Network Neuroscience*, 10(3), 655–682. <https://doi.org/10.1162/NETN.a.555>
- 2026 Gao, X., **Zhang, J.***, Chen, Y., Wang, P., Barnhart, W. R., Yang, C., Ji, F., Yim, S. H., & He, J. (2026), *Associations of Negative, Positive, and Mixed Body Talk with Self-Objectification, Negative Affect, Body Appreciation, and Disordered Eating in Chinese Young Women: An Ecological Momentary Assessment Study*, *Body Image*, 56, 102047. <https://doi.org/10.1016/j.bodyim.2026.102047>
- 2026 **Zhang, J.***, Liang, X., Deng, A., Bonge, N., Tan, L., Zhang, L., & Zarret, N., *Leveraging Interview-Informed LLMs to Model Survey Responses: Comparative Insights from AI-Generated and Human Data*, *Journal of Educational Data Mining*, 18(1), 1-24. <https://doi.org/10.5281/zenodo.18247291>
- 2025 Zarrett, N., Deng, A., Yang, C., & **Zhang, J.** (2025), *Translation of the Connect Through PLAY Physical Activity Intervention for Underserved Youth from In-Person to Virtual Delivery: A Feasibility Study*, *Translational Behavioral Medicine*, 15(1), ibaf045. <https://doi.org/10.1093/tbm/ibaf045>
- 2025 Jiang, Z., **Zhang, J.**, Liu, Y., Ouyang, J., Sun, L., & Gu, H., *ShinyDegSEM: An Interactive Application for Pathway Perturbation Analysis in Gene Expression Studies via Structural Equation Modeling*, *PeerJ*, 13, e2003. <http://doi.org/10.7717/peerj.2003>
- 2025 He, J., Wang, Z., Chen, X., Barnhart, W. R., Pan, Z., Cui, S., Yim, S. H., **Zhang, J.**, Chen, G., & Ji, F. (2025), *Tripartite Influence and Social Comparison Theories for Explaining Eating Disorder Psychopathology in Chinese Boys and Girls: A Longitudinal Network Perspective*, *Body Image: An International Journal of Research*. <https://doi.org/10.1016/j.bodyim.2025.101952>
- 2025 Wang, Y., **Zhang, J.**, & Pellicioni, M. (2025), *Math Anxiety Is Associated with Skipping Problems and Less Help-Seeking Behavior After Error Commission*, *Learning and Individual Differences*. <https://doi.org/10.1016/j.lindif.2025.102681>
- 2025 Wang, Y., **Zhang, J.** (2025), *Fostering Autonomous Motivation in First-Year College Students: A Self-Determination Theory-Based Online Intervention*, *Learning and Motivation*, Accepted
- 2025 Zhao, M., Ai, J., **Zhang, J.**, & Peng, Y. (2025), *The Relationship Among Teachers' Characteristics, Self-Efficacy, and Attitudes Towards Inclusive Education Among Chinese Preschool Teachers*, *International Journal of Disability*. <https://doi.org/10.1080/1034912X.2025.2465280>
- 2025 Xin, W., Zhang, S., **Zhang, J.** (2025), *Digital Pencil Usage and Mathematics Performance Among Students with Learning Disabilities and Their General Education Peers*, *Journal of Special Education Technology*, Online first. <https://doi.org/10.1177/01626434251314041>
- 2024 **Zhang, J.***, Cui, S., Zickgraf, H. F., Barnhart, W. R., Xu, Y., Wang, Z., Ji, F., Chen, G., & He, J. (2024), *A Longitudinal Network Analysis of Emotion Regulation, Interpersonal Problems, and Eating Disorder Psychopathology in Chinese Adolescents*, *International Journal of Eating Disorders*, 57(12), 2415-2426. <https://doi.org/10.1002/eat.24292>
- 2024 Jiang, Z., Ouyang, J., Shi, D., **Zhang, J.**, Xu, L., Cai, F. (2024), *Customizing Bayesian Multivariate Generalizability Theory to Mixed-Format Tests*, *Behavior Research Methods*, 56(7), 8080-8090. <https://doi.org/10.3758/s13428-024-02472-7>
- 2024 Xin, W., Zhang, S., **Zhang, J.** (2024), *Identifying Student Profiles in a Digital Mental Rotation Task: Insights from the 2017 NAEP Math Assessment*, *Frontiers in Education*, 9, Article 1423602. <https://doi.org/10.3389/educ.2024.1423602>
- 2024 **Zhang, J.***, Templin, J., Liang, X. (2024), *Model Selection Posterior Predictive Model Checking via Limited-Information Indices for Bayesian Diagnostic Classification Modeling*, *Journal of Educational Measurement*, 61(4), 740-762. <https://doi.org/10.1111/jedm.12408>
- 2024 **Zhang, J.***, Cui, S., Xu, Y., Cui, T., Barnhart, W. R., Ji, F., Nagata, J. M., & He, J. (2024), *Introducing Diagnostic Classification Modeling as an Unsupervised Method for Screening Probable Eating Disorders*, *Assessment*, 32(3), 405-416. <https://doi.org/10.1177/10731911241247483>
- 2024 Ji, F., **Zhang, J.**, He, J. (2024), *Psychometric Network Analysis of the Intuitive Eating Scale-2 in Chinese General Adults*, *Journal of Clinical Psychology*, 80(5), 1098-1114. <https://doi.org/10.1002/jclp.23657>
- 2024 Li, J., **Zhang, J.** (2024), *Personality Traits and Depressive Symptoms Among Chinese Older People: A Network Approach*, *Journal of Affective Disorders*, 351, 74-81. <https://doi.org/10.1016/j.jad.2024.01.215>

- 2023 Lin, Y., Ren, Y., Barnhart, W., Cui, T., **Zhang, J.**, He, J. (2023), *The Connections Among Eating Disorder Symptomatology, Problematic Usage of the Internet, and Psychological Distress: A Longitudinal Network Analysis in Chinese Adolescents*, International Journal of Mental Health and Addiction, 23(3), 1991-2003. <https://doi.org/10.1007/s11469-023-01212-w>
- 2023 Ngai, S. S., Cheung, C.-K., Zhou, Q., **Zhang, J.**, Ng, Y., Yu, E. N., Zhang, X., & Wong, L. (2023), *Hope, Career Competency, and Social Well-Being Among Non-Engaged Youth in Hong Kong: A Longitudinal Network Analysis*, Current Psychology, 43, 8947-8962. <https://doi.org/10.1007/s12144-023-05055-5>
- 2023 Jiang, Z., Han, Y., **Zhang, J.**, Xu, L., Shi, D., Liang, H., Ouyang, J. (2023), *Empirical Ensemble Equating under the NEAT Design Inspired by Machine Learning Ideology*, Methodology. European Journal of Research Methods for the Behavioral and Social Sciences, Methodology, 19(2), 116-132. <https://doi.org/10.5964/meth.10371>
- 2023 Xin, W., Zhang, S., **Zhang, J.**, Jennifer, Y. (2023), *Mathematics Performance, Response Time, and Enjoyment of Eighth-Grade Autistic Students and Their General Education Peers*, Autism, 27(8), 2518-2529. <https://doi.org/10.1177/13623613231168241>
- 2022 Kazuhiro, Y., **Zhang, J.*** (2022), *Fully Gibbs Sampling Algorithms for Bayesian Variable Selection in Latent Regression Models*, Journal of Educational Measurement, 60(2), 202-234. <https://doi.org/10.1111/jedm.12348>
- 2022 Han, Y., **Zhang, J.**, Jiang, Z., & Shi, D. (2022), *Is the Area Under Curve Appropriate for Evaluating the Fit of Psychometric Models?*, Educational and Psychological Measurement, 83(3), 586-608. <http://doi.org/10.1177/00131644221098182>
- 2022 **Zhang, J.***, Templin, J., & Mintz, C. E. (2022), *A Model Comparison Approach to Posterior Predictive Model Checks in Bayesian Confirmatory Factor Analysis*, Structural Equation Modeling: A Multidisciplinary Journal, 29(3), 339-349. <https://doi.org/10.1080/10705511.2021.2012682>
- 2022 Ai, J., **Zhang, J.**, Horn, E., Liu, H., Huang, J., & Ma, Y. (2022), *Examination of Chinese Teachers' Attitudes Towards Inclusive Education*, Journal of International Special Needs Education, 25(2), 75-86. <https://doi.org/10.9782/JISNE-D-21-00004>
- 2021 Wang, Y., **Zhang, J.**, & Lee, H. (2021), *An Online Experiment During COVID-19: Testing the Influences of Autonomy Support Towards Emotions and Academic Persistence*, Frontiers in Psychology, 12, 4585. <https://doi.org/10.3389/fpsyg.2021.747209>
- 2021 Wang, Y., **Zhang, J.** (2021), *Examining the Relation Between Cultural Intelligence and International Students' Academic Performance: A Structure Equation Modeling Analysis*, SCIREA Journal of Sociology, 5(1), 25-52. <https://doi.org/10.54647/sociology84488>
- 2021 Zhang, L., Carter Jr, Richard A., **Zhang, J.**, et al. (2021), *Teacher Perceptions of Effective Professional Development: Insights for Design*, Professional Development in Education, 50(4), 611-624. <https://doi.org/10.1080/19415257.2021.1879236>
- 2021 Zhang, L., Basham, J. D., Carter Jr, R. A., & **Zhang, J.** (2021), *Exploring Factors Associated with the Implementation of Student-Centered Instructional Practices in US Classrooms*, Teaching and Teacher Education, 99, 103273. <https://doi.org/10.1016/j.tate.2020.103273>
- 2021 Qin, Lu, **Zhang, J.** & Liang, X. & Pan, Q. (2021), *R-Squared of a Latent Interaction in Structural Equation Model: A Tutorial of Using R*, International Journal of Statistics and Probability, 10(3), 69. <https://doi.org/10.5539/ijsp.v10n3p69>
- 2021 Jiang, Z., Ma, W., Liu, R., Shi, D., & **Zhang, J.** (2021), *Comment on: How Sure Can We Be That a Student Really Failed? On the Measurement Precision of Individual Pass-Fail Decisions from the Perspective of Item Response Theory*, Medical Teacher, 43(5), 607-608. <https://doi.org/10.1080/0142159X.2020.1832207>
- 2018 Jiang, Z., **Zhang, J.**, & Shi, D. (2018), *Particle Swarm Optimization for Diagnosis Task: An Exploratory Study*, International Journal of Intelligent Computing Research, 9(2), 921-927. <https://doi.org/10.20533/ijicr.2042.4655.2018.0111>

Preprints

- 2026 Huang, J., **Zhang, J.**, & Chang, H.-H. (2026), *A Dual-Dimensional LLM Framework for Automated Item Incidental Content Similarity Analysis in Large-Scale Assessments*, arXiv, <https://arxiv.org/abs/2608.24825>
- 2026 **Zhang, J.*** (2026), *Two Paths of AI in Social Science Research: Super Agent and Human Mirror*, PsyArXiv, https://osf.io/preprints/psyarxiv/ukmzp_v1

- 2026 **Zhang, J.*** (2026), *AutoPsychDx: An LLM Agent Framework for Automated Psychometric Diagnosis Using Multi-Method Classification*, PsyArXiv, https://osf.io/preprints/psyarxiv/6fw74_v2
- 2025 **Zhang, J.***, Liang, X., Deng, A., Bonge, N., Tan, L., Zhang, L., & Zarrett, N. (2025), *Leveraging Interview-Informed LLMs to Model Survey Responses: Comparative Insights from AI-Generated and Human Data*, arXiv, <https://arxiv.org/pdf/2505.21997>
- 2022 **Zhang, J.***, Jiang, Z. (2022), *gTheoryShiny: An Online Application for Interactive G-Theory Inference*, PsyArXiv, <https://doi.org/10.31234/osf.io/d6mtk>
- 2021 Yamaguchi, K., & **Zhang, J.** (2021), *Fully Gibbs Sampling Algorithms for Bayesian Variable Selection in Latent Regression Models*, PsyArXiv, <https://doi.org/10.31234/osf.io/dfrxj>
- 2021 **Zhang, J.***, Ackerman, T., & Wang, Y. (2021), *2PL Model: Compare Generalized Linear Mixed Model with Latent Variable Model-Based IRT Framework*, PsyArXiv, <https://doi.org/10.31234/osf.io/p6wuz>

Dissertation

- 2022 **Zhang, J.***, *Model Selection Posterior Predictive Model Checking via Limited-Information Indices for Bayesian Diagnostic Classification Modeling*, University of Iowa, <https://doi.org/10.25820/etd.006749>

Publication Abstracts

- 2019 **Zhang, J.***, Templin, J., Mintz, C., *A Bayesian Saturated Model Approach to Posterior Predictive Model Checks in Confirmatory Factor Analysis*, Multivariate Behavioral Research. <https://doi.org/10.1080/00273171.2019.1700773>
- 2019 Mintz, C., **Zhang, J.**, & Templin, J., *Assessment of Item Response Model-Data Fit via Bayesian Limited-Information Model Comparison Posterior Predictive Checks*, Multivariate Behavioral Research. <https://doi.org/10.1080/00273171.2019.1700772>

Talks & Conference Presentations

- 2027 Niu, Y., **Zhang, J.**, Baker, R., Hughes, C., Ning, H., & Huang, X. (submitted, Feb 10–12), *Emerging Technology Skill Requirements in Human Resource Development*, The 2026 Academy of Human Resource Development International Conference in the Americas, Houston, Texas
Submitted
- 2026 Chen, J., Liang, X., & **Zhang, J.** (2026, July 21–24), *Comparing Item Selection in Regularized Factor Analysis and Network Models*, International Meeting of the Psychometric Society (IMPS) 2026, Yonsei University, Seoul, Republic of Korea
- 2026 Deng, A., **Zhang, J.**, Zarrett, N., (2026, June 21), *Unraveling Physical Literacy: A Psychological Network Approach to Understanding Youth Physical Activity*, 28th Biennial Meeting of the International Society for the Study of Behavioural Development (ISSB 2026), Incheon, South Korea, Poster, Accepted
- 2026 Shang, M., **Zhang, J.**, Cao, Y., & Mai, Z. (2026, April 18), *A Network Analysis of Maternal Input Through Preschooler-Oriented Storytelling*, 62nd Annual Meeting of the Chicago Linguistic Society, University of Chicago
- 2026 **Zhang, J.**, Liang, X., Jiao, H., & Huang, J. (2026, April 09), *LLM-Driven Innovations in Psychometric Evaluation and Modeling*, 2026 AERA Annual Meeting, Los Angeles, CA, Symposium, Accepted
Presentations: (1) *Leveraging Interview-Informed LLMs to Model Survey Responses: Comparative Insights from AI-Generated and Human Data*; (2) *A Multi-Agent Large Language Model Framework for Automated Q-Matrix Generation*
- 2025 **Zhang, J.** (2025, Dec 02), *Why Network Analysis? A Longitudinal Eating Disorders Case Study*, Quantitative Brown Bag at the Department of Psychology, University of South Carolina, Online
- 2025 **Zhang, J.**, Nicole, B. (2025, Oct 27–29), *Prompt Engineering for LLM-Generated Likert-Scale Survey Responses (Accepted)*, 2025 Artificial Intelligence in Measurement and Education Conference (AIME-Con): Poster Session, Pittsburgh, Pennsylvania
- 2025 Zhang, L., **Zhang, J.**, (2025, April 23–26), *Prototyping a Multi-Agent System to Enhance AI-Human Collaboration in IEP Development*, 2025 AERA Annual Meeting: SIG-Technology as an Agent of Change in Teaching and Learning, Denver, CO.

- 2025 Ji, L., **Zhang, J.**, Liang, X. (2025, April 23-26), *Rank Factor Score as a Robust Scoring Method in Factor Analysis*, National Council for Measurement in Education (NCME) 2025, Denver, CO.
- 2024 Chen, J., **Zhang, J.**, Liang, X. (2024, July 21–24), *Variable Selection via Regularized Psychometric Factor and Network Models in Multidimensional Context*, International Society for Data Science and Analytics (ISDSA) 2024, Vienna, Austria
- 2024 Chen, J., **Zhang, J.**, Liang, X. (2024, July 15–19), *Comparing Item Selection of Regularized Factor Analysis and Network Models*, International Meeting of the Psychometric Society (IMPS) 2024, Prague, Czech Republic
- 2024 **Zhang, J.***, & He, J. (2024, June 24–26), *Estimating the Group Differences of Longitudinal Network Analysis: An Example of Eating Disorder Psychopathology*, Modern Modeling Methods Conference (MMM) 2024, Storrs, CT, United States
- 2024 Edeh, E., Liang, X., & **Zhang, J.** (2024, April 11–14), *Ordinal Bayesian SEM with Varied Priors*, National Council for Measurement in Education (NCME) 2024, Philadelphia, PA, United States
- 2023 **Zhang, J.**, & Yurou, W. (2023, May 31 – June 3), *Exploring College Students' Internalization Dynamics During COVID-19: A Network Analysis*, 8th International Self Determination Theory Conference (SDT), Orlando, Florida, United States
<https://co2.memberclicks.net/>
- 2022 Yamaguchi, K., & **Zhang, J.** (2022, July 11-15), *Efficient Gibbs Sampling-Based Variable Selection Algorithms for Latent Regression Models*, International Meeting of the Psychometric Society (IMPS) 2022, Bologna, Italy
- 2022 Zhang, S., Xin, W., & **Zhang, J.**, *A Tale of Two Disabilities: Findings from NAEP Response and Process Data*, National Council for Measurement in Education (NCME) 2022, San Diego, April 21–24, 2022
- 2022 Wang, Y., & **Zhang, J.**, *How Math Anxiety Influences Challenging Math Problem-Solving Behaviors Under Different Autonomy Support Conditions: An Experiment*, American Educational Research Association (AERA) 2022 Annual Meeting, May, April 21–26, 2022
- 2021 **Zhang, J.**, Ackerman, T., Wang, Y., *2PL Model: Compare Generalized Linear Mixed Model with Latent Variable Model-Based IRT Framework*, National Council for Measurement in Education (NCME) 2021, May, Virtual
- 2020 **Zhang, J.**, Templin, J., Mintz, C., *A Bayesian Saturated Model Approach to Posterior Predictive Model Checks in Confirmatory Factor Analysis*, National Council for Measurement in Education (NCME) 2020, Virtual
- 2019 Xu G., **Zhang J.**, Zhang M., Zhao Z., Zhao K., *Using LASSO to Identify PISA 2015 Student and Teacher Predictors for Science Achievement*, 2019 Iowa Educational Research and Evaluation Association annual conference, Ankeny, Iowa
- 2019 **Zhang J.**, Templin, J., Mintz, C., *A Bayesian Saturated Model Approach of Posterior Predictive Model Checks in Confirmatory Factor Analysis*, SMEP 2019, Baltimore
- 2019 Mintz, C., Templin, J., & **Zhang J.**, *Assessment of Item Response Model-Data Fit via Bayesian Limited-Information Model Comparison Posterior Predictive Checks*, SMEP 2019, Baltimore
- 2019 Wang, Y., **Zhang, J.**, *Discovering the Relationship Between Cultural Intelligence and International Students' Academic Performance Using Multi-Group CFA Model*, American Educational Research Association (AERA) 2019, Toronto
- 2017 Ai, J., **Zhang, J.**, Liu, H., Huang, J., Horn, E. , *Examining Chinese Professors' Attitudes to Inclusion on the Multidimensional Attitudes Towards Inclusive Education Scale-Chinese Translation: A Pilot Study*

Manuscripts in Preparation or Under Review

- 2024 **Zhang, J.***, Liang, X., *Rank Factor Scores for Factor Analysis (TBD)*
- 2024 **Zhang, J.***, Liang, X., *Simulation Study of Network Scores for Psychometric Network (TBD)*
- 2024 Jiang, Z., **Zhang, J.***, *A Shiny App for Structural Equation Model and Network Analysis for Genes (TBD)*
- 2024 **Zhang, J.***, Liang, X., *Reliability Analysis for Psychometric Network (TBD)*

- 2024 He J., **Zhang, J.***, *Longitudinal Network Analysis for Tripartite Model Based on Ecological Momentary Assessment (TBD)*
- 2024 Shi, D., **Zhang, J.**, *The Performance of Bayesian Variable Selection in Linear Regression: Comparing Different Prior Settings (TBD)*

AI Development

- 2026 **Zhang, J.***, *AutoPsychDx: An LLM Agent Framework for Automated Psychometric Diagnosis Using Multi-Method Classification*, [GitHub Link](#)
- 2025 **Zhang, J.***, *Custom GPT AI Assessment for Experimental Design (Validity Unit)*, Custom GPT AI Quiz for ESRM64103: Experimental Design, Masked for Privacy
- 2025 **Zhang, J.***, *AppliedMA Mentor*, Custom GPT AI Tutor for ESRM64503: Applied Multivariate Analysis, [Link](#)
- 2025 **Zhang, J.***, *Experimental Design Tutor*, Custom GPT AI Tutor for ESRM64103: Experimental Design, [Link](#)

Software Development

- 2024 **Zhang, J.***, Jiang, Z., *shinyDegSEM*, <https://github.com/JihongZ/shinyDegSEM>, shinyDegSEM: An online application for interactive network modeling and structural equation modeling for gene data
- 2022 **Zhang, J.***, Jiang, Z., *gtheoryShiny*, <https://psyarxiv.com/d6mtk/>, gTheoryShiny: An online application for interactive G-theory inference
Web app link: <https://jihongz.shinyapps.io/gTheoryShiny>
- 2020 **Zhang, J.***, *ggdcm*, <https://github.com/JihongZ/ggdcm>, A package for visualizing DCM models based on ggplot2 package
- 2020 **Zhang, J.***, Jiang, Z., *BayesNetShiny*, <https://github.com/JihongZ/bayesnetgo>, Interactive BayesNet modeling and visualization
- 2019 **Zhang, J.***, Jiang, Z., *StanDCM*, <https://github.com/JihongZ/StanDCM>, A package for DCM modeling via Stan

Advising and Directed Student Learning

Master Students

- 2026 Sophia Stanzo, *Master Thesis: Sensory and Emotional Responses to Seasoned Roasted Seaweed Products*, Defended: April 22, 2026, Master of Science in Food Science
University of Arkansas. Committee: Han-Seok Seo (Chair), Suzanne Jervis
- 2025 Eniola Ola, *Master Thesis: Comparisons between Traditional and Gluten-free Cookies in Sensory Attributes, Acceptance, and Evoked Emotions*, 2025, Master of Science in Food Science
University of Arkansas

Ph.D. Students

- 2026 Lei Chen, *Dissertation: Development and Optimization of a Voice-Assisted Robotic Methodology for Sensory Testing and Feeding Assistance in Individuals with Vision Loss*, 2026, Ph.D. in Food Science
University of Arkansas
- 2026 Ray Urbina, *Dissertation: Identifying Muscle Health Deficits Among Older Adults with and Without Cognitive Impairment*, Proposal Defence: January 6, 2026, Ph.D. in Exercise Science
Committee: Michelle Gray (Chair), Cory Butts, Erin Hickey, Jihong Zhang
- 2026 Nicole Bonge, *Dissertation: Parameter Recovery with the Generalized Graded Unfolding Model under Realistic Data and Test Conditions*, Proposal Defended: April 20, 2026, Educational Statistics and Research Methods
Committee: Ronna Turner (Chair), Samantha Robinson, Shannon Dingman
- 2026 Jiaying Chen, *Dissertation: Comparing Item Selection Methods in Regularized Factor Analysis and Network Models*, Proposal Defence: May 7, 2026, Educational Statistics and Research Methods
Committee: Jihong Zhang (Co-Chair), Xinya Liang (Co-Chair), Ronna Turner, Wen-Juo Lo, Samantha Robinson

- 2024 Ethan Harris, *Dissertation: Exploring Latent Mediation through Bayesian Regularization Methods of Lasso, Ridge, Horseshoe, Spike-and-Slab*
University of Arkansas

Workshops & Seminars

- 2022 Cassondra Griger, **Jihong Zhang**, *Professional Website Workshop*, <https://github.com/JihongZ/ggdcn>, This session walks through terminology and various resources for building an academic professional website. A step-by-step guide for getting started with Github pages will be presented.

Peer Review

- 2026–Present **PLOS**
2026–Present **Multivariate Behavioral Research**
2024–Present **Reviewer of the 2025 AERA Annual Meeting, Division D - Section 1: Educational Measurement, Psychometrics, and Assessment; SIG-Educational Statisticians**
2023–Present **The Annals of Applied Statistics**
2023–Present **Children and Youth Services Review**
2022–Present **Structural Equation Modeling: A Multidisciplinary Journal**
2022–Present **Behaviormetrika (BHMK)**
2022–Present **Applied Psychological Measurement (APM)**
2022–Present **Behavior Research Methods (BRM), 2023 Outstanding Contributor**

Theses

- 2022 **Zhang, J.**, *Dissertation: Model Selection Posterior Predictive Model Checking via Limited-Information Indices for Bayesian Diagnostic Classification Models*, Ph.D., University of Iowa
2019 **Zhang, J.**, *Thesis: Multidimensional Item Response Theory: Validation study of the Social Capital Rating Scale Among High School Students*, Master, University of Kansas

Research Projects

- 2022–2022 **Compare Bayesian variable selection and Bayesian shrinkage in Regression Model**
This project aims to compare the performance of variable selection with the bayesian shrinkage approach such as horseshoe priors and spike-and-slab method.
- 2022–2022 **Fully Gibbs Sampling Algorithms for Bayesian Variable Selection in Latent Regression Model**
Our team proposed a Bayesian variable selection method with horseshoe and horseshoe+ priors for the latent regression modeling with item response theory. Simulation study and empirical data analysis were provided.
- 2021–2022 **Process data analysis: Using Sequential Clustering to identify behavioral patterns of students**
The project aims to explore the test-taking behavioral pattern for students during math assessment. We particularly focus on the differences of problem-solving skills among varied disability groups from log data in computerized adaptive testing.
- 2019–2020 **Bayesian Logistic Growth Curve Modeling: Study of Headache Predicted by Emotional States Using Kansas City Hospital Data**
This project aimed to Bayesian logistic growth curve modeling to predict the frequency of patients' headache and risk factors. The data were collected from the smartphones of participants.
- 2019–2020 **Using LASSO to Identify PISA 2015 Student and Teacher Predictors Science Achievement**
In this project, we employed regularized regression approach for variables selection which aims to find out the important non-cognitive predictors of students' science achievement. The results were presented on 2019 Iowa Educational Research and Evaluation Association Conference.
- 2018–2019 **Use Tweet Data Mining Method to evaluate educational program**
With Tweet Data Mining Method, this project aims to analyze students' opinions about lectures, online courses. The programming language would be python.
- 2018–2019 **R Shiny App for the Decision Consistency**
I built a shiny app aimed to interactively visualize the decision consistency of cut score and Kappa coefficients. See detail at <https://jihongz.shinyapps.io/Cutscore-1>

- 2018–2019 **Longitudinal Hierarchical Linear Model to identify Side Effect of Parental Monitoring on Academic Motivation**
This proposal aims to use a longitudinal hierarchical linear model to identify Side Effects of Parental Monitoring on Academic Motivation. It was accepted by the 14th Annual KU Professionals for Inclusion and Social Justice Graduate Student Research Conference, February 2, 2018.
- 2017–2018 **TIMSS 2015 Multilevel Confirmatory Factor Analysis and Measurement Invariance Study**
In this project, I proposed a multilevel CFA model for Trends In Math And Statistics study (TIMSS) science assessment.
- 2016–2017 **Kansas Assessment Program (KAP)**
The Kansas Assessment Program (KAP) includes a variety of tests aligned to Kansas' content standards, which help educators and policymakers evaluate student learning and meet the requirements for federal and state accountability. My job in this program is to calculate the CTT and make summary reports using R
- 2016–2017 **FlexmirtAutomation Package for R**
Within this project, I developed a R package called FlexmirtAutomation to run IRT models based on Flexmirt software.
- 2015–2017 **Kansas English Language Proficiency Assessment (KELPA)**
This project deals with the assessment of English language learners in Kansas using Multidimensional IRT model.
- 2012–2013 **Project Coding of Working Memory supported by National University Undergraduate Student Innovation Foundation, University of Kansas**
In this project, I led a cognitive psychological research on revealing the relationship between coding of working memory and selective attention.

Professional Activities

- 2026 **AERA Award Luncheon**, *Los Angeles Convention Center, Level One, Concourse Hall*, Thursday, April 9, 2026
- 2026 **AERA Cognition and Assessment SIG Business Meeting & Reception**, *InterContinental Los Angeles Downtown, 5th Floor, Los Feliz*, Thursday, April 9, 6:15–7:15 p.m. PDT
- 2019 **Society of Multivariate Experimental Psychology (SMEP) Poster Session**, *Baltimore*, Oct 9-12
- 2017 **Attended NCME and AERA**, *San Antonio*, April 28-30
- 2017 **Attended the Bayesian workshop from CRMDA**, *University Of Kansas*
- 2016 **Attended the LaTeX workshop from CRMDA**, *University Of Kansas*
- 2016 **Attended NCME and AERA, Annual Meeting**, April 7-11
- 2016 **Attended APA Conference, Annual Meeting**, May 14-18

Relevant Coursework

- Spring 2020 **PSQF7455**, *Generalizability Theory*, Won-Chan Lee, University of Iowa
- Fall 2019 **STAT4540**, *Statistical Learning*, Sanvesh Srivastava, University of Iowa
PSQF7375, *Diagnostic Assessment*, Jonathan Templin, University of Iowa
- Spring 2019 **PSQF7375**, *Bayesian Psychometric Models*, Jonathan Templin, University of Iowa
BIOS7240, *High-Dimensional Data Analysis*, Patrick Breheny, University of Iowa
- Spring 2018 **CLDP944**, *Advanced Multilevel Models*, Paul Johnson, University of Kansas
- Fall 2017 **CLDP944**, *Multilevel Modeling, Longitudinal & Repeated Measure Data*, Lesa Hoffman, University of Kansas
EDUC800, *Latent Trait Measure and Structural Equation Modeling*, Jonathan Templin, University of Kansas
EDUC906, *Item Response Theory*, William P. Skorupski, University of Kansas
- Spring 2017 **EPSY905**, *Multivariate Analysis*, William P. Skorupski, University of Kansas
- Fall 2016 **PSYC887**, *Factor Analysis*, Lesa Hoffman, University of Kansas
PSYC896, *Structural Equation Modeling I*, Wei Wu, University of Kansas

Certificates

2026 OpenAI ChatGPT Foundations for Teachers, *OpenAI*, Coursera
 2026 Foundations: Data, Data, Everywhere, *Google Data Analytics*, Coursera

Computer Skills



R



Claude Code



Codex



Mplus



Python



NVIDIA NIM



Julia



flexMIRT



SPSS

Other Software



Microsoft Office



LaTeX



Stata



Excel



SAS

Languages

Mandarin Native speaker

English Proficient