

Curriculum Vitae

Zhehan Jiang, Ph.D.

Tenure-Track Associate Researcher / Assistant Professor
Peking University Health Science Center
National Center for Health Professions Education Development
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Education

- **Dec 2017 | Ph.D. in Educational Psychology** (Psychometrics & Statistics)
University of Kansas, USA
- **Jun 2014 | M.A. in Education** (Social Research Methodology)
University of California, Los Angeles (UCLA), USA
- **Dec 2012 | B.S. in Business Administration** (Finance)
University of San Francisco, USA

Research Areas

Measurement, Psychometrics modeling, AI-driven educational technology, large-scale assessment and statistics, applied machine learning, cost-effectiveness analysis in educational assessment.

Professional Appointments

- **Peking University (Ranked #25 in Best Global Universities of U.S. News)** | Tenure-Track Assistant Professor | Sep 2020 – Present
- **Tsinghua University (Ranked #11 in Best Global Universities of U.S. News)** | Lecturer | Jan 2023 – Present
- **National Administration of Traditional Chinese Medicine (NATCM)** | Deputy Division Director at TCM Test Center | Jan 2024 – Jan 2025
- **Baylor College of Medicine (USA)** | Tenure-Track Assistant Professor | Jan 2020 – Sep 2020 (Remote working due to COVID-19 Interruption)
- **The University of Alabama (USA)** | Tenure-Track Assistant Professor | Oct 2017 – Jan 2020

Funded Research Grants

Curriculum Vitae
【中文版见文末】

- **National Natural Science Foundation of China (NSFC)** General Program (72474004) | Jan 2025 – Dec 2028. Research on the Equating Method of National High-stakes Examinations in the Context of Digital Empowerment: Taking the National Undergraduate Medical Examination as a Test Field (PI)
- **Peking University** “Medicine+X” Pilot Program (MED0001) | Sep 2025 – Sep 2026. Special Project for Artificial Intelligence and Medical Development (PI).
- **Ministry of Education (MOE)** Special Target-Oriented Project (MOE202509x) | Jan 2026 – Jan 2027. Large Model for Ideological and Political Education in Medical Curriculum (PI)
- **National Administration of Traditional Chinese Medicine (NATCM) TCM Test Center** Entrusted Project (TA20250801) | Sep 2025 – Sep 2026. Key Technology Research on AI Item Generation Model for Traditional Chinese Medicine Examinations (PI)
- **Peking University** Key Research Management Project | Nov 2024 – Nov 2025. Annual Performance Evaluation Research for NSFC Projects (PI)
- **Ministry of Education (MOE)** Planning Foundation Project for Humanities and Social Sciences (20230412-02) | Jan 2024 – Dec 2026. Theory and Technology of Metacognitive Diagnosis Driven by Multimodal Learning Data (Co-PI)
- **Peking University** Key Research Management Project | Nov 2023 – Nov 2024. Annual Performance Evaluation Research for NSFC Projects (PI)
- **National Administration of Traditional Chinese Medicine (NATCM) TCM Test Center** Key Project (TA2022002) | Nov 2022 – Nov 2024. Score Interpretation and Application for Traditional Chinese Medicine Major Level Tests from a Cognitive Diagnostic Perspective (PI)
- **National Press and Publication Administration - People’s Education Press** General Project (RJB0623001) | Jan 2023 – Jan 2024. Construction, Extension, and Application of a Sequential Response Model for Process Data from the Perspective of Data-Supported Instructional Assessment (PI)
- **National Administration of Traditional Chinese Medicine (NATCM) TCM Test Center** Entrusted Project (TA202211) | Nov 2022 – May 2023. Research on the Standard-Setting for the National Theoretical Examination for the Completion of Standardized Training for TCM Physicians (PI)
- **National Medical Examination Center** The “14th Five-Year Plan” Key Reform Project (2022-21) | Feb 2022 – Feb 2023. Admission Standards and Content Design for the National Medical Licensing Examination (Co-PI)
- **National Natural Science Foundation of China (NSFC)** Young Scientists Fund (72104006) | Jan 2022 – Dec 2024. Cost-Effectiveness Analysis and Optimization of National Examinations Using Bayesian Methods: A Case Study of the Reform of the Medical Licensing Examination (PI)
- **National Health Commission of the People's Republic of China (NHC) Talent Exchange and Service Center** Entrusted Program, (202110-335) | Oct 2021 – Jun 2023. Research on Competency-Oriented Item Writing for the Completion Assessment of Standardized Residency Training (PI)
- **National Council on Measurement in Education (NCME)** Mission Grant (06-28-2019) | Jun 2019 – Jun 2020. Improving Library Instruction Assessment via Modern Measurement Practices (PI)
- **University of Alabama** Research Grants Committee (Box870266) | Mar 2018 – Mar 2019. Applying Particle Swarm Optimization to Log-Linear Cognitive Diagnosis Modeling (PI)

Awards & Honors

- 2022 | EM:IP Cover Graphic/Data Visualization Competition Award | National Council on Measurement in Education (NCME)
- 2021 | Reviewer Contribution Award | Psychonomic Society
- 2019 | Early Career Scholarship | Association of College and Research Libraries (ACRL)
- 2018 | Library Assessment Travel Award | Library Research Association
- 2017 | School of Education Recognition Scholarship | University of Kansas
- 2016 | Elizabeth J. Hyer Scholarship | University of Kansas
- 2011 | Dean’s Honor Roll | University of San Francisco

Teaching Experience

- **Spring 2025** | Machine Learning for Educational Research | Peking University
 - **Fall 2024** | Educational and Psychological Measurement | Peking University
 - **Fall 2024** | Educational Statistics and Measurement | Tsinghua University
 - **Spring 2024** | Machine Learning for Educational Research | Peking University
 - **Fall 2023** | Big Data in Education | Peking University
 - **Spring 2023** | Educational Statistics and Measurement | Tsinghua University
 - **Spring 2023** | Educational and Psychological Measurement | Peking University
 - **Fall 2022** | Big Data in Education | Peking University
 - **Spring 2022** | Machine Learning for Educational Research | Peking University
 - **Fall 2021** | Educational and Psychological Measurement | Peking University
 - **2019** | Data Analysis Workshop Series | The University of Alabama
 - **2016** | Multivariate Statistics | University of Kansas
 - **2015** | Regression Analysis | University of Kansas
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Scholarly Publications

As the First or Corresponding Author (Jiang's Students | Postdocs as the First Author)

1. Ouyang, J., **Jiang, Z.**, Shi, D., Pan, J., & Pan, S. (2025). Bivariate latent change score models in small sample contexts: comparison of maximum likelihood and Bayesian estimation. *Structural Equation Modeling: A Multidisciplinary Journal*, 1–13. Doi: 10.1080/10705511.2025.2450782
2. Liu, J., **Jiang, Z.**, Zheng, T., Han, Y., & Feng, S. (2025). Common persons design in score equating: A Monte Carlo investigation. *Educational and Psychological Measurement*, Online First. Doi: 10.1177/00131644251380585
3. Han, Y., Feng, J., & **Jiang, Z.** (2025). Two-stage polytomous attribute estimation for cognitive diagnostic models: overcoming computational challenges in large-scale assessments with many polytomous attributes. *Humanities and Social Sciences Communications*. Doi: 10.1057/s41599-025-04959-w.
4. **Jiang, Z.**, Zhang, J., Liu, Y., Ouyang, J., Sun, L., & Guo, H. (2025). ShinyDegSEM: An interactive application for pathway perturbation analysis in gene expression studies via structural equation modeling. *PeerJ*, 13, e20033. Doi:10.7717/peerj.20033
5. **Jiang, Z.**, & Feng, S. (2025). UsmlGPT: An AI application for developing MCQs via multi-agent system. *Software Impacts*. Doi: 10.1016/j.simpa.2025.100742.
6. Fu, Z., Wu, Y., Xu, L., Cai, F., Liu, R., & **Jiang, Z.** (2025). Optimizing cost-effectiveness in remote objective structured clinical examinations through targeted double scoring methodologies. *Medical Education Online*, 30(1). Doi: 10.1080/10872981.2025.2467477
7. Pan, S., Shang, S., Zhou, W., Liu, H., Feng, S., & **Jiang, Z.** (2025). A comparison of national nurse licensure examination in five countries and implications for China. *Chinese Journal of Medical Education*, 45(4), 315-320. Doi: 10.3760/cma.j.cn115259-20240219-00151 【In Chinese 潘姝丞, 尚少梅, 周伟娇, 刘涵予, 奉世聪, 江哲涵. 五国护士执业资格考试比较及对我国的启示[J]. 中华医学教育杂志, 2025, 45(4):315-320】
8. Lin, H., Xiang, S., & **Jiang, Z.** (2025). Empowering traditional Chinese medicine education with artificial intelligence: connotations, risks, and approaches. *Chinese Journal of ICT in Education*, 31(3):41-50. Doi: 10.3969/j.issn.1673-8454.2025.03.004 【In Chinese 林焕翔, 项莎特, 江哲涵. 人工智能赋能中医教育内涵式发展: 逻辑、风险与进路[J]. 中国教育信息化, 2025, 31(3): 41-50】

9. Xiang, S., Pan, S., & **Jiang, Z.** (2025). Evaluation of practical skills for traditional Chinese medicine physicians: characteristics, challenges, and optimization strategies. *Education of Chinese Medicine*, 44 (03), 41-50. Doi: 10.3969/j.issn.1003-305X.2025.03.555 【In Chinese 项莎特, 潘姝丞, 江哲涵. 面向中医师实践技能的评价: 特征、挑战与优化策略[J]. 中医教育. 2025, 44 (03): 41-50】
10. **Jiang, Z.**, Xu, L., Pan, S., & Jin, A. (2024). Analysis and assessment of a large-scale traditional Chinese medicine examination based on cognitive diagnostic. *Journal of Traditional Chinese Medicine*. 65(22): 2383-2388. Doi: 10.13288/j.11-2166/r.2024.22.017 【In Chinese 江哲涵, 徐玲玲, 潘姝丞, 金阿宁. 大规模中医师考试评价中认知诊断模型的构建及应用[J]. 中医杂志, 2024, 65(22): 2383-2388】
11. Xu, L., **Jiang, Z.**, Cai, F., Ouyang, J., Liu, H., & Cai, T. (2024). Optimizing a national examination for medical undergraduates via modern automated test assembly approaches. *BMC Medical Education*. 24, 919. Doi:10.1186/s12909-024-05905-1
12. **Jiang, Z.**, Ouyang, J., Shi, D., Shi, D., Zhang, J., Xu, L., & Cai, F. (2024). Customizing Bayesian multivariate generalizability theory to mixed-format tests. *Behavior Research Method*. 56, 8080–8090. Doi: 10.3758/s13428-024-02472-7
13. **Jiang, Z.**, Ouyang, J., Shi, D., Pan, J., Xu, L., & Cai, F. (2024). Forming intervals of predicted total scores for cut-off scores evaluation: a generalizability theory application with Bootstrapping. *Current Psychology*. Doi: 10.1007/s12144-024-06306-9
14. Hong, X., **Jiang, Z.**, Liu, H., & Cai, F. (2024). Weighting content specifications for the national medical licensing examination via group analytic hierarchy process. *Educational Measurement: Issues and Practice*. Doi: 10.1111/emip.12620
15. **Jiang, Z.**, Zhu, Z., & Pan, S. (2024). Data governance in multimodal behavioural research. *Multimodal Technologies and Interaction*. 2024, 8(7), 55. Doi:10.3390/mti8070055
16. Xu, L., **Jiang, Z.**, & Han, Y. (2024). Evaluating a national traditional Chinese medicine examination via cognitive diagnostic approaches. *Sustainability*. 16, 5400. Doi: 10.3390/su16135400
17. Li, S., Qi X., Li, H., Zhou, W., **Jiang, Z.**, & Qi, J. (2024). Exploration of validity evidence for core residency entrustable professional activities in Chinese pediatric residency. *Frontiers in Medicine*. 10, 1301356. Doi: 10.3389/fmed.2023.1301356
18. **Jiang, Z. H.**, Feng, S. C., & Wang, W. M. (2024). Application, challenges, and prospects of artificial intelligence generated content in medical education. *Chinese Journal of ICT in Education*, 30(8), 29-40. Doi: 10.3969/j.issn.1673-8454.2024.08.003 【In Chinese 江哲涵, 奉世聪, 王维民. 人工智能生成内容在医学教育中的应用、挑战与展望[J]. 中国教育信息化, 2024, 30(8):29-40】
19. **Jiang, Z. H.**, Feng, S. C., & Wang, W. M. (2024). Exploratory practice of generative large language models in the construction of medical item banks. *Chinese Journal of Medical Education*, 44(8), 561-569. Doi: 10.3760/cma.j.cn115259-20240524-00520 【In Chinese 江哲涵, 奉世聪, 王维民. 生成式大语言模型在医学考试题库建设中的实践探索[J]. 中华医学教育杂志, 2024, 44(8):561-569】
20. Xu, L., **Jiang, Z.**, Han, Y., Liang, H., & Ouyang, J. (2023). Developing computerized adaptive testing for a national health professionals exams: An attempt from psychometric simulations. *Perspectives on Medical Education*. 12(1), 462–471. Doi: 10.5334/pme.855.
21. Ouyang, J., **Jiang, Z.**, DiStefano, C., Pan, J., Han, Y., Xu, L., Shi, D., & Cai, F. (2023). Comparing methods for factor score estimation in structural equation modeling: the role of network analysis. *Structural Equation Modeling: A Multidisciplinary Journal*. 31(3), 385–403. Doi: 10.1080/107055112023.2253496
22. **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*. 19(2), 116-132. Doi: 10.5964/meth.10371
23. Shi, D., Zheng, Z., Liu, R., & **Jiang, Z.** (2023) Evaluating close fit in ordinal factor analysis models with multiply imputed data. *Educational and Psychological Measurement*. Doi: 10.1177/00131644231158854
24. **Jiang, Z.**, Han, Y., Xu, L., Shi, D., Liu, R., Ouyang, J., & Cai, F. (2023). The NEAT equating via chaining random forests in the context of small sample sizes: A machine-learning method. *Educational and Psychological Measurement*.

83(5), 984-1006. Doi: 10.1177/00131644221120899

25. **Jiang, Z.**, Ma, W., Flory, K., Zhang, D., Zhou, W., Shi, D., Hua, X., & Liu, R. (2023). Development of a computerized adaptive testing for ADHD using Bayesian networks: an attempt at classification. *Current Psychology*. 42, 19230–19240. Doi: 10.1007/s12144-022-03056-4
26. Liu, R., Heo, I., Liu, H., Shi, D., & **Jiang, Z.** (2023). Applying negative binomial distribution in diagnostic classification models for analyzing count data. *Applied Psychological Measurement*. 47(1):64-75. Doi: 10.1177/01466216221124604
27. **Jiang, Z.**, Ouyang, J., Li, L., Han, Y., Xu, L., Liu, R., & Sun, J. (2022). Cost-effectiveness analysis in performance assessments: A case study of the objective structured clinical examination. *Medical Education Online*. 27 (1), Doi: 10.1080/10872981.2022.2136559
28. Pan, Q., & **Jiang, Z.** (2022). Examining distractor qualities of pediatrics subject tests from a national assessment. *Frontiers in Medicine*. Doi: 10.3389/fmed.2022.921719
29. Han, Y., **Jiang, Z.**, Ouyang, J., Xu, L., & Cai, T. (2022). Psychometric evaluation of a national exam for clinical undergraduates. *Frontiers in Medicine*. Doi: 10.3389/fmed.2022.1037897
30. Ma, W., Chen, J., & **Jiang, Z.** (2022). Attribute continuity in cognitive diagnosis models: impact on parameter estimation and its detection. *Behaviormetrika*. Doi: 10.1007/s41237-022-00174-y
31. Liu, R., Liu, H., Shi, D., & **Jiang, Z.** (2022). Diagnostic classification models for a mixture of ordered and non-ordered response options in rating scales. *Applied Psychological Measurement*. 46(7). 622-639 Doi: 10.1177/01466216221108132
32. Han, Y., Zhang, J., **Jiang, Z.**, & Shi, D. (2023). Is the area under curve appropriate for evaluating the fit of psychometric models?. *Educational and Psychological Measurement*. 83(3), 586-608. Doi: 10.1177/00131644221098182
33. **Jiang, Z.**, Raymond, M., Shi, D., DiStefano, C., Liu, R., & Sun, J. (2022). A Monte Carlo study of confidence interval methods for generalizability coefficient. *Educational and Psychological Measurement*. 82 (4), 705–718. Doi: 10.1177/00131644211033899
34. **Jiang, Z.**, Shi, D., & DiStefano, C. (2021). A short note on optimizing cost-generalizability via a machine-learning approach. *Educational and Psychological Measurement*. 81(6), 1221–1233. Doi: 10.1177/0013164421992112
35. Liu, R., Liu, H., Shi, D., & **Jiang, Z.** (2021). Poisson diagnostic classification models: a framework and an exploratory example. *Educational and Psychological Measurement*. 82 (3), 506–516. Doi: 10.1177/00131644211017961
36. Liu, L., **Jiang, Z.**, Qi, X., Xie, A., Wu, H., Cheng, H., Wang, W., & Li, H. (2021). An update on current EPAs in graduate medical education: A scoping review. *Medical Education Online*. 26 (1), Doi: 10.1080/10872981.2021.1981198
37. Liu, L., **Jiang, Z.**, Xie, A., & Wang, W. (2021). Evaluation of eight-item vancomycin prescribing confidence questionnaire among junior doctors. *Frontiers in Medicine*. Doi: 10.3389/fmed.2021.677818
38. **Jiang, Z.**, Wu, H., Cheng, H., Wang, W., & Xie, A. (2021). Twelve tips for teaching medical students online under COVID-19. *Medical Education Online*. 26 (1), Doi: 10.1080/10872981.2020.1854 066
39. Shi, D., Distefano, C., Zheng, X., Liu, R., & **Jiang, Z.** (2021). Fitting latent growth models with small sample sizes and non-normal missing data. *International Journal of Behavioral Development*. 45(2):179-192. Doi: 10.1177/0165025420979365
40. Ma, W., & **Jiang, Z.** (2021). Estimating cognitive diagnosis models in small samples: Bayes modal estimation and monotonic constraints. *Applied Psychological Measurement*. 45(2):95-111 Doi: 10.1177/0146621620977681
41. **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. Doi: 10.1080/0142159X.2020.1832207
42. Liu, R., & **Jiang, Z.** (2020). A general diagnostic classification model for rating scales. *Behavior Research Methods*. 52 (1), 422–439. Doi: 10.3758/s13428-019-01239-9
43. **Jiang, Z.**, Raymond, M., Shi, D., & DiStefano, C. (2020). Using linear mixed-effect model framework to estimate multivariate generalizability theory in R. 52(6), 2383-2393. *Behavior Research Methods*. Doi: 10.3758/s13428-020-01399-z
44. **Jiang, Z.** (2019). Using the iterative latent class analysis approach to improve attribute accuracy in cognitive diagnosis models. *Behavior Research Methods*. 51 (3), 1075-1084. Doi: 10.3758/s13428-018-01191-0
45. **Jiang, Z.**, & Carter, R. (2019). Using Hamiltonian Monte Carlo to estimate the log-linear cognitive diagnosis model via Stan. *Behavior Research Methods*, 51 (2), 651-662. Doi: 10.3758/s13428-018-1069-9
46. Shi, D., Song, H., Distefano, C. Maydeu-Olivares, A., McDaniel, H., & **Jiang, Z.** (2019). Evaluating factorial

- invariance: an interval estimation approach using Bayesian structural equation modeling. *Multivariate Behavioral Research*. 54 (2), 224-245. Doi: 10.1080/00273171.2018.1514484
47. **Jiang, Z.**, & Templin, J. (2019). Gibbs samplers for logistic item response models via the Pólya-Gamma distribution: A computationally efficient data-augmentation strategy. *Psychometrika*, 84 (2), 358-374. Doi: 10.1007/s11336-018-9641-x
48. **Jiang, Z.**, Fitzgerald, S., & Walker, K. (2019). Modeling time-to-trigger in library demand-driven acquisitions via survival analysis. *Library and Information Science Research*. 41 (3), 100968. Doi: 10.1016/j.lisr.2019.100968
49. **Jiang, Z.**, Walker, K., & Shi, D. (2019). Applying AdaBoost to improve diagnostic accuracy: a simulation study. *Methodology*. 15 (2), 77-87. Doi: 10.1027/1614-2241/a000166
50. **Jiang, Z.**, & Fitzgerald, S. (2019). Promoting institutional repositories via visualizations: A changepoint study. *New Review of Academic Librarianship*. 25 (1), 95-112. Doi:10.1080/13614533.2018.1547775
51. **Jiang, Z.**, & Skorupski, W. (2018). A Bayesian approach to estimating variance components within a multivariate generalizability theory framework. *Behavior Research Methods*, 50 (6), 2193–2214. Doi: 10.3758/s13428-017-0986-3
52. **Jiang, Z.**, & Ma, W. (2018). Integrating differential evolution optimization to cognitive diagnosis model estimation. *Frontiers in Psychology*. Doi: 10.3389/fpsyg.2018.02142
53. **Jiang, Z.**, & Templin, J. (2018) Constructing Gibbs samplers for Bayesian logistic item response models. *Multivariate Behavior Research*. 53 (1), 132-133. Doi: 10.1080/00273171.2017.14048
54. **Jiang, Z.** (2018). Using linear mixed-effect model framework to estimate generalizability variance component in R: A lme4 package application. *Methodology*. 14 (3), 133-142. Doi: 10.1027/1614-2241/a000149
55. **Jiang, Z.**, & Raymond, M. (2018). The use of multivariate generalizability theory to evaluate the quality of subscores. *Applied Psychological Measurement*, 42 (8), 595–612. Doi: 10.1177/0146621618758698
56. Liu, R., & **Jiang, Z.** (2018). Diagnostic classification models for ordinal item responses. *Frontiers in Psychology*. Doi:10.3389/fpsyg.2018.02512
57. **Jiang, Z.**, Walker, K., Shi, D., & Cao, J. (2018). Improving generalizability coefficient estimate accuracy: A way to incorporate auxiliary information. *Methodological Innovations*. Doi: 10.1177/2059799118791397
58. **Jiang, Z.**, & Carter, R. (2018). Visualizing library data interactively: two demonstrations using R language, 35(5), 14-17. *Library Hi Tech News*. 35 (5),14-17. Doi: 10.1108/LHTN-01-2018-0003.

As a Collaboration Author

- Huo, Y., Wang, X., Lin, X., Yu, J., Li, B., Liu, Z., Guo, S., Wang, Y., Tang, R., Li, B., Zhang, S., Zhang, Y., **Jiang, Z.**, Fan, X., Ye, X., Li, Y., Zhang, X., Yao, Y., Song, S., Xu, M., Jiang, H., Xing, G., Wan, Y., Cui, C., & Sun, L. (In press). Corticotropin-Releasing Hormone Signaling from Piriform Cortex to Amygdala Mediates Social Homophily in Opioid Addiction. *Neuron*.
- Pan, S., **Jiang, Z.**, Huang, J., Xu, L., Shang, S. (2025). Technology transforming nursing education: Perspectives from healthcare simulation. *Interdisciplinary Nursing Research*. Doi:10.1097/NR9.0000000000000085
- Fitzgerald, S. R., Berube, S., **Jiang, Z.**, & Ting, C. (2025). Library Use and Student Success: Focus on First Generation Students. *New Review of Academic Librarianship*, 1–19. Doi:10.1080/13614533.2025.2466519
- Sun, J., Wan, Y., & **Jiang, Z.** (2023). Measuring inequality of high school educational opportunities from a differentiated track perspective: Based on an improved a priori parameter measurement method. *Review of Education Economics*, 8(5), 68-88 【In Chinese 孙俊华, 万洋, 江哲涵. 分轨视域下的高中教育机会不平等测度: 基于改进的事先参数测度法[J].教育经济评论, 2023, 8(5):68-88】.
- Choi, S., Choi, J., McDonough, I., **Jiang, Z.**, & Black, S. (2023). Aging alone and financial insecurity predict depression: a path analysis of objective and subjective indices. *Aging & Mental Health*. Doi: 10.1080/13607863.2023.2243446
- Wang, J., He, H., **Jiang, Z.**, Xu, L., Shi, T., & Xu, D. (2023). Construction of a critical technology evaluation scale for transurethral resection of the prostate based on the Delphi-AHP method. *Postgraduate Medical Education in China*, 7(7), 551-554. Doi: 10.3969/j.issn.2096-4293.2023.07.010 【In Chinese 王佳玉, 何耘超, 江哲涵, 徐玲玲, 史霆, 徐丹枫. 基于 Delphi-AHP 法构建经尿道前列腺切除手术关键技术评价量表[J].中国毕业后医学教育, 2023, 7(7): 551-554】
- Zhou, W., **Jiang, Z.**, Ouyang, J., & Wang, W. (2023). Quality analysis of clinical basic skills examination for undergraduate clinical medicine based on generalizability theory. *Chinese Journal of Medical Education*, 43(5), 391-

396. Doi: 10.3760/cma.j.cn115259-20221114-01427 【In Chinese 周文静, 江哲涵, 欧阳劲樱, 王维民. 基于概化理论的临床医学专业(本科)水平测试临床基本技能考试质量分析[J]. 中华医学教育杂志, 2023, 43(5): 391-396】
8. Xia, J., Wu, H., Cheng, H., & **Jiang, Z.** (2023). The impact of student engagement on satisfaction with medical education in china: a supplementary perspective. *Advances in Health Sciences Education*, 1-24.
9. Zheng, S., Zhang, L., **Jiang, Z.**, & Pan, J. (2023) The influence of inaccurate informative priors on Bayesian multilevel modeling: a simulation study. *Structural Equation Modeling: A Multidisciplinary Journal*. 30(3), 429-448. Doi: 10.1080/10705511.2022.2136185
10. Li, S., Zhou, W., Qi, X., **Jiang, Z.**, & Qi, J. (2022). A pilot study to implement entrustable professional activities in pediatric residency program in China. *Chinese Journal of Medical Education*, 42(3), 263-267. Doi: 10.3760/cma.j.cn115259-20210704-00839 【In Chinese 李珊, 周文静, 齐心, 江哲涵, 齐建光. 置信职业行为在儿科住院医师培训中的实践研究[J]. 中华医学教育杂志, 2022, 42(3): 263-267】
11. Qi, X., Jin, Z., Han, X., Zhang, H., Li, Y., Dong, A., Qi, J., Lu, Y., **Jiang, Z.**, Li, Y., Liu, J., Wang, Y., & Li, H. (2021). Establishment of the entrustable professional activities for the residents. *Chinese Journal of Medical Education*, 41(2), 104-108. Doi: 10.3760/cma.j.cn115259-20201117-01599 【In Chinese 齐心, 金哲, 韩晓宁, 张鸿, 李渊, 董爱梅, 齐建光, 陆叶, 江哲涵, 李岩, 刘佳帅, 王颖, 李海潮. 住院医师置信职业行为指标的构建研究[J]. 中华医学教育杂志, 2021, 41(2): 104-108】
12. Shi, D., Siceloff, E. R., Castellanos, R. E., Bridges, R. M., **Jiang, Z.**, Flory, K., & Benson, K. (2020). Revisiting the effect of varying the number of response alternatives in clinical assessment: evidence from measuring ADHD symptoms. *Assessment*. Doi: 10.1177/1073191120952885
13. Fitzgerald, S., & **Jiang, Z.** (2020). Higher education publication and institutional and national diversity. *Higher Education Research & Development*. 39(5), 953-967. Doi: 10.1080/07294360.2019.1699031
14. Fischer, R., Daugherty, A., Iglesias, A., & **Jiang, Z.** (2020). A transaction log analysis of EBSCO discovery service using google analytics: the methodology. 39(1), 249-262. *Library Hi Tech*. Doi: 10.1108/LHT-09-2019-0199
15. Fitzgerald, S., & **Jiang, Z.** (2020). Scholarly publishing at a crossroads: Scholarly perspectives on open access. *Innovative Higher Education*. 45, 457-469. Doi:10.1007/s10755-020-09508-8
16. Raymond, M., & **Jiang, Z.** (2020). Indices of subscore utility for individuals and subgroups. *Educational and Psychological Measurement*. 80(1), 67-90. Doi: 10.1177/0013164419846936
17. Song, S., Awolusi, I., & **Jiang, Z.** (2020, November). Work-related fatalities analysis through energy source recognition. In *Construction Research Congress 2020: Safety, Workforce, and Education* (pp. 279-288). Reston, VA: American Society of Civil Engineers. Doi: 10.1061/9780784482872.031
18. Chen, X., Wu, H., Jiang, Z., Cheng, H., Li, H., & Qi, X. (2020) The development of entrustable professional activities research in medical education and its implications. *Chinese Journal of Medical Education*, 40(12), 945-950. Doi: 10.3760/cma.j.cn115259-20201012-01447 【In Chinese 陈心航, 吴红斌, 江哲涵, 程化琴, 李海潮, 齐心. 国际置信职业行为研究在医学教育中的发展与启示, 中华医学教育杂志, 2020, 40(12): 945-950】
19. Walker, K., & **Jiang, Z.** (2019). Application of adaptive boosting (AdaBoost) in demand-driven acquisitions (DDA) prediction: A machine-learning approach. *The Journal of Academic Librarianship*. 45 (3), 203-212. Doi: 10.1016/j.acalib.2019.02.013
20. DiStefano, C., McDaniel, H., Zhang, Y., Shi, D., & **Jiang, Z.** (2019). Fitting large factor analysis models with ordinal data. *Educational and Psychological Measurement*. 79 (3), 417-436. Doi: 10.1177/0013164418818242
21. Shi, D., Distefano, C., Heather, M., & **Jiang, Z.** (2018). Examining Chi-Square test statistics under conditions of large model size and ordinal data. *Structural Equation Modeling: A Multidisciplinary Journal*. 25 (6), 924-945. Doi: 10.1080/10705511.2018.1449653

Conference Presentation (Jiang's Students & Postdocs are bolded)

1. **Wu, X., & Jiang, Z.** (2025). Methodological innovation in evaluating the cost-effectiveness of simulation training: an integrated approach combining transfer effectiveness and change-point analysis. Annual Meeting of the American Educational Research Association (AERA). Denver, USA.
2. **Feng, S., & Jiang, Z.** (2025). An embedding-based pre-validation tool for scale development. Annual Meeting of the American Educational Research Association (AERA). Denver, USA.

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3. **Xu, L., Jiang, Z., & Ouyang, J.** (2025). The development of multidimensional graded testlet response model. Annual Meeting of the American Educational Research Association (AERA). Denver, USA.
4. **Wang, X., & Jiang, Z.** (2025). Integrating adaptive clinical trials into STEM education resource optimization. Annual Meeting of the American Educational Research Association (AERA). Denver, USA.
5. **Han, Y., Jiang, Z., Xu, L., & Cai, F.** (2024). Two-Stage polytomous attribute estimation methods: overcoming computational challenges in large-scale assessments with polytomous attributes. Annual Meeting of the American Educational Research Association (AERA). Philadelphia, USA.
6. **Ouyang, J., Jiang, Z., Xu, L., Cai, F., & Liang, H.** (2024). Network analysis for factor score estimation: supervised and unsupervised scenario. Annual Meeting of the American Educational Research Association (AERA). Philadelphia, USA.
7. **Cai, T., & Jiang, Z.** (2024). Assessing the validity of test scores in Chinese computer-based case simulations: An eye-tracking study. Annual Meeting of the American Educational Research Association (AERA). Philadelphia, USA.
8. **Jiang, Z., Pan, Q., Han, Y., Ouyang, J., Shi, D., & Liu, R.** (April 2023). Optimizing the number of distractors via advanced item analysis. Annual Meeting of the American Educational Research Association (AERA). Chicago, USA.
9. **Jiang, Z., Han, Y., Xu, L., Ouyang, J., Zhang, J., Liu, R., & Shi, D.** (April 2023). Empirical ensemble equating under the NEAT design inspired by machine learning ideology. Annual Meeting of the National Council on Measurement in Education (NCME). Chicago, USA.
10. **Han, Y., Jiang, Z., Xu, L., & Ouyang, J.** (April 2023). The NEAT equating via chaining random forests: a machine-learning method. Annual Meeting of the National Council on Measurement in Education (NCME). Chicago, USA.
11. **Xu, L., Jiang, Z., Han, Y., & Ouyang, J.** (April 2023). Testlet-based Multistage Adaptive Testing with Multidimensional Item Response Theory. Annual Meeting of the American Educational Research Association (AERA). Chicago, USA.
12. **Ouyang, J., Jiang, Z., Han, Y., & Xu, L.** (April 2023). Factor score estimation under model misspecification: network score using hybrid centrality. Annual Meeting of the American Educational Research Association (AERA). Chicago, USA.
13. **Jiang, Z.,** Raymond, M., Liu, R., Shi, D., Sun, J., & Liu, L. (April 2022). A Monte Carlo study of confidence interval methods for generalizability coefficient. Annual Meeting of the American Educational Research Association (AERA). San Diego, USA.
14. Liu, R., Liu, H., Shi, D., & **Jiang, Z.** (April 2022). Diagnostic classification models for analyzing examinees' responses to a large number of small and similar tasks. Annual Meeting of the American Educational Research Association (AERA). San Diego, USA.
15. Pan, Q., Zhang, Y., & **Jiang, Z.** (April 2022). Pros and cons of technology-enhanced items in a digital literacy assessment. Annual Meeting of the American Educational Research Association (AERA). San Diego, USA.
16. Hua, X., Wang, Y., & **Jiang, Z.** (March 2022). A Critical Study of Local Identity Construction in Taiwanese High School EFL Textbooks. Annual Meeting of the American Association for Applied Linguistics (AAAL).
17. **Jiang, Z.** (December 2020). Application of the latent change score model in longitudinal data. Academic Symposium on Family and Child Development in Social Change.
18. **Jiang, Z.** (April 2019). Applying AdaBoost to improve diagnostic accuracy: a simulation study. Annual Meeting of the American Educational Research Association (AERA).
19. Fitzgerald, S., & **Jiang, Z.** (April 2019). Higher education publication and institutional stratification. Annual Meeting of the American Educational Research Association (AERA).
20. **Jiang, Z.** (April 2019). Using the iterative latent class analysis approach to improve attribute accuracy. Annual Meeting of the National Council on Measurement in Education (NCME).
21. Liu, R., & **Jiang, Z.** (April 2019). A general diagnostic classification model for rating scales. Annual Meeting of the American Educational Research Association (AERA).
22. **Jiang, Z.,** & Walker, K. (February 2019). Application of adaptive boosting (AdaBoost) in demand-driven acquisitions (DDA) prediction: a machine-learning approach. Code4lib Annual Conference.
23. **Jiang, Z.** (April 2018). Applying particle swarm optimization to the log-linear cognitive diagnosis model estimation. Annual Meeting of the National Council on Measurement in Education (NCME).

24. **Jiang, Z.,** & Templin, J. (October 2017). Gibbs samplers for logistic item response models via the Pólya-Gamma distribution: A computationally efficient data-augmentation strategy. Annual Meeting of the Society for Multivariate Experimental Psychology.
 25. **Jiang, Z.,** & Raymond, M. (April 2017). Investigating the use of multivariate generalizability theory for evaluating subscores. Annual Meeting of the National Council on Measurement in Education (NCME).
 26. **Jiang, Z.,** & Raymond, M. (April 2017). Using multivariate generalizability theory to evaluate subscore utility for different subgroups of examinees. Annual Meeting of the National Council on Measurement in Education (NCME).
 27. **Jiang, Z.,** & Skorupski, W. (April 2016). A fully Bayesian approach to smoothing the linking function in equipercentile equating. Annual Meeting of the National Council on Measurement in Education (NCME).
-

Policy & Technical Adoption

- Software *Medical Exam Data Analysis and Modeling Platform* adopted by the NATCM.
 - Policy report *Content Weight Adjustment for the National Medical Licensing Examination via Group Analytic Hierarchy Process* adopted by the NMEC.
 - Policy report *Application of Generative Large Language Models in Medical Item Bank Construction* adopted by the NMEC.
 - Policy report *Standard Setting for the National Traditional Chinese Medicine Physician Standardized Training Exam* adopted by the NATCM.
 - Policy report *Modern Automated Test Assembly for Optimizing National Medical Exams* adopted by the NMEC.
-

Academic Service

Editorial Roles:

- Editorial Board Member: *BMC Medical Research Methodology*
- Editorial Board Member: *BMC Medical Education*
- Editorial Board Member: *Frontiers in Education*
- Editorial Board Member: *Chinese Journal of Medical Education*

Professional Memberships:

- American Educational Research Association (AERA)
- National Council on Measurement in Education (NCME)
- American Library Association (ALA)

Grant Review:

- Institute of Museum and Library Services (IMLS), USA

Peer Review for Journals (Selected):

- *Annals of Medicine*
- *Psychological Methods*
- *Behavior Research in Applied Linguistics*
- *Behavior Research Methods*
- *Structural Equation Modeling: A Multidisciplinary Journal*

Curriculum Vitae
【中文版见文末】

- *Scientific Reports*
 - *PeerJ*
 - *Journal of Educational Measurement*
 - *Teaching and Learning in Medicine*
 - *Psychometrika*
 - *BMC Medical Research Methodology*
 - *Psychological Science*
 - *Applied Psychological Measurement*
 - *International Journal of Social Research Methods*
 - *Journal of Mathematical and Statistical Analysis*
 - *Behaviormetrika*
 - *Frontiers in Psychology*
 - *Frontiers in Education*
 - *The Canadian Journal of Statistics*
 - *Methods in Psychology*
 - *Remedial and Special Education*
 - *Journal of Mathematical and Statistical Analysis*
 - *Journal of Academic Librarianship*
 - *Personality and Individual Differences*
 - *Educational and Psychological Measurement*
 - *Computational Statistics and Data Analysis...and others*
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Curriculum Vitae
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北京大学医学部/全国医学教育发展中心

(Tenure-Track)副研究员

博士研究生导师

九三学社成员

Email: jiangzhehan@gmail.com

教育背景

-2017.12 堪萨斯大学 教育心理学博士-心理计量与统计方向

-2014.06 加州大学洛杉矶 教育学硕士-社会研究方法学方向

-2012.12 旧金山大学 商业管理学士-金融方向

研究领域

AI 驱动的研究方法, 教育心理数据挖掘与建模, 大规模评价与统计, 应用机器学习, 计算机自适应诊断与测验, 教育评价成本效益分析等

工作经历

-北京大学 【副研究员/Tenure-track 助理教授】 2020 年 9 月- 至今

-清华大学 【外聘讲师】 2023 年 1 月- 至今

-国家中医药管理局中医师资格认证中心 【副处长】 2024 年 1 月- 2025 年 1 月

-(美国)贝勒医学院 【Tenure-track 助理教授】 2020 年 1 月-2020 年 9 月 (Interrupted Due to Covid-19)

-(美国)阿拉巴马大学 【Tenure-track 助理教授】 2017 年 10 月-2020 年 1 月

-(美国)堪萨斯大学 【博士研究生助理】 2014 年 8 月-2017 年 6 月

-(美国)国家医学考核委员会 【实习分析员】 2016 年 6 月-2016 年 8 月

科研项目

-**课题主持人:** 数字化赋能背景下国家高利害考试的等值方法研究: 以医学考试为试验田 (2025 年 1 月-2028 年 12 月). 面上科学基金项目. 72474004. 国家自然科学基金委员会.

-**课题主持人:** “医学+X”领航计划 (2025 年 9 月-2026 年 9 月). 人工智能与医学发展专项. MED0001. 北京大学.

-**首席专家:** “厚道 (MedSeek^{AI}) 医学教育大模型”研发及教育应用. 生成式人工智能教育应用重点项目. 20256501. 教育部.

-**课题主持人:** 医学课程思政大模型 (2026 年 1 月-2028 年 1 月). 特定目标类项目. MOE202509x. 教育部.

-**课题主持人:** 国家自然科学基金项目年度绩效评价研究 (2024 年 11 月-2025 年 11 月). 科研管理重点项目. 北京大学.

-**课题主持人:** 中医药考试 AI 命题模型关键技术研究(2025 年 9 月-2026 年 9 月). 委托课题. TA20250801. 国家中医药管理局中医师资格认证中心.

-**课题主持人:** 国家自然科学基金项目年度绩效评价研究 (2023 年 11 月-2024 年 11 月). 科研管理重点项目. 北京大学.

-**课题参与人:** 多模态学习数据驱动的元认知诊断理论与技术研究 (2024 年 1 月-2026 年 12 月). 规划基金项目. 20230412-02. 教育部人文社科.

-**课题主持人:** 认知诊断视角下中医学类专业水平测试的分数解释和应用方案 (2022 年 11 月-2024 年 11 月). 重点课题.

TA2022002. 国家中医药管理局中医师资格认证中心.

-**课题主持人:** 数据支持的教学评价视角下过程数据的序列反应模型的构建、拓展及其应用 (2023 年 1 月-2024 年 1 月). 一般课题. RJB0623001. 国家新闻出版署—人民教育出版社

-**课题主持人:** 全国中医医师规范化培训结业理论考核分数线划定研究(2022 年 11 月-2023 年 5 月). 委托课题. TA202211. 国家中医药管理局—中医师资格认证中心.

-**课题共同主持人:** 临床执业医师资格考试准入标准与内容设计 (2022 年 2 月-2023 年 2 月).“十四五”改革重点项目. 2022-21. 国家卫生健康委员会—国家医学考试中心.

-**课题主持人:** 基于贝叶斯法的国家级考试成本-效果分析及优化: 以执业医师资格考试的改革为例(2022 年 1 月-2024 年 12 月). 青年科学基金项目. 72104006. 国家自然科学基金委员会.

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-**课题主持人:** 以胜任力为导向的住院医师规范化培训结业考核命题研究 (2021 年 10 月-2023 年 6 月). 人才交流服务中心项目. 202110-335. 国家卫生健康委员会—人才交流服务中心.

课题主持人: Improving Library Instruction Assessment via Modern Measurement Practices (2019.6-2020.6). 06-28-2019. Mission Grant. 美国教育测量协会,.

-**课题主持人:** Applying Particle Swarm Optimization to Log-Linear Cognitive Diagnosis Modeling (2018.3-2019.3). University's Research Grants Committee. Box870266. 阿拉巴马大学.

-**共同课题主持人:** Innovative Challenge. EBSCO FOLIO. 18-0442. (2018.6-2019.6). EBSCO 组织.

政咨与技术采纳

软件技术《医考数据分析与建模平台》被国家中医药管理局中医师资格认证中心采纳

政策报告《基于群组层次分析法的国家执业医师资格考试内容权重调整》被国家医学考试中心采纳

政策报告《生成式大语言模型在医学考试题库建设》被国家医学考试中心采纳

政策报告《基于概化理论的合格分数线评估法》被国家医学考试中心采纳

政策报告《基于概化理论的临床医学专业（本科）水平测试临床基本技能考试质量分析》被国家医学考试中心采纳

政策报告《认证中心考官数值化评价与认证系统建设项目》被国家中医药管理局中医师资格认证中心采纳

政策报告《全国中医医师规范培训结业理论考核锚题设计方案》被国家中医药管理局中医师资格认证中心采纳

政策报告《现代自动化组卷方法优化国家医学考试》被国家医学考试中心采纳

获奖情况

-2022 EM:IP Cover Graphic/Data Visualization Competition Award, National Council of Educational Measurement 美国国家教育测量协会

-2021 Reviewer Contribution, Psychonomic Society 实验心理学研究者协会

-2019 Early Career Scholarship, Association of College and Research Libraries 大学与研究图书协会

-2018 Library Assessment Travel Award, Library Research Association 图书研究协会

-2017 School of Education Recognition Scholarship, University of Kansas 堪萨斯大学

-2016 Elizabeth J. Hyer Scholarship, University of Kansas 堪萨斯大学

-2011 Dean's Honor Roll, University of San Francisco 旧金山大学

教学经验

-2025 春季 北京大学 教育学院--教育研究方法之机器学习

-2024 秋季 北京大学 教育学院-教育与心理测量

-2024 秋季 清华大学 教育研究院-教育统计与测量

-2024 春季 北京大学 教育学院--教育研究方法之机器学习

-2023 秋季 北京大学 教育学院--教育大数据

-2023 春季 清华大学 教育研究院-教育统计与测量

-2023 春季 北京大学 教育学院-教育与心理测量

-2022 秋季 北京大学 教育学院-教育大数据

-2022 春季 北京大学 教育学院-教育研究方法之机器学习

-2021 秋季 北京大学 教育学院-教育与心理测量

-2019 春/秋季 阿拉巴马大学 图书管-数据分析讲座系列

-2016 春季 堪萨斯大学 教育学院-多元统计

-2015 秋季 堪萨斯大学 教育学院-回归分析

发表论文(第一/通讯作者).

59. Liu, J., **Jiang, Z.**, Zheng, T., Han, Y., & Feng, S. (2025). Common persons design in score equating: A Monte Carlo investigation. *Educational and Psychological Measurement*, Online First. Doi: 10.1177/00131644251380585

60. Han, Y., Feng, J., & **Jiang, Z.** (2025). Two-stage polytomous attribute estimation for cognitive diagnostic models: overcoming computational challenges in large-scale assessments with many polytomous attributes. *Humanities and Social Sciences Communications*. Doi: 10.1057/s41599-025-04959-w.

61. **Jiang, Z.**, Zhang, J., Liu, Y., Ouyang, J., Sun, L., & Guo, H. (2025). ShinyDegSEM: An interactive application for

- pathway perturbation analysis in gene expression studies via structural equation modeling. *PeerJ*, 13, e20033. Doi:10.7717/peerj.20033
62. **Jiang, Z.**, & Feng, S. (2025). UsmlGPT: An AI application for developing MCQs via multi-agent system. *Software Impacts*. Doi: 10.1016/j.simpa.2025.100742.
63. Fu, Z., Wu, Y., Xu, L., Cai, F., Liu, R., & **Jiang, Z.** (2025). Optimizing cost-effectiveness in remote objective structured clinical examinations through targeted double scoring methodologies. *Medical Education Online*, 30(1). Doi: 10.1080/10872981.2025.2467477
64. Ouyang, J., **Jiang, Z.**, Shi, D., Pan, J., & Pan, S. (2025). Bivariate latent change score models in small sample contexts: comparison of maximum likelihood and Bayesian estimation. *Structural Equation Modeling: A Multidisciplinary Journal*, 1–13. Doi: 10.1080/10705511.2025.2450782
65. Pan, S., Shang, S., Zhou, W., Liu, H., Feng, S., & **Jiang, Z.** (2025). A comparison of national nurse licensure examination in five countries and implications for China. *Chinese Journal of Medical Education*, 45(4), 315-320. Doi: 10.3760/cma.j.cn115259-20240219-00151 【In Chinese 潘姝丞, 尚少梅, 周伟娇, 刘涵予, 奉世聪, 江哲涵. 五国护士执业资格考试比较及对我国的启示[J]. 中华医学教育杂志, 2025, 45(4):315-320】
66. Lin, H., Xiang, S., & **Jiang, Z.** (2025). Empowering traditional Chinese medicine education with artificial intelligence: connotations, risks, and approaches. *Chinese Journal of ICT in Education*, 31(3):41-50. Doi: 10.3969/j.issn.1673-8454.2025.03.004 【In Chinese 林焕翔, 项莎特, 江哲涵. 人工智能赋能中医教育内涵式发展: 逻辑、风险与进路[J]. 中国教育信息化, 2025, 31(3): 41-50】
67. Xiang, S., Pan, S., & **Jiang, Z.** (2025). Evaluation of practical skills for traditional Chinese medicine physicians: characteristics, challenges, and optimization strategies. *Education of Chinese Medicine*, 44 (03), 41-50. Doi: 10.3969/j.issn.1003-305X.2025.03.555 【In Chinese 项莎特, 潘姝丞, 江哲涵. 面向中医师实践技能的评价: 特征、挑战与优化策略[J]. 中医教育. 2025, 44 (03): 41-50】
68. **Jiang, Z.**, Xu, L., Pan, S., & Jin, A. (2024). Analysis and assessment of a large-scale traditional Chinese medicine examination based on cognitive diagnostic. *Journal of Traditional Chinese Medicine*. 65(22): 2383-2388. Doi: 10.13288/j.11-2166/r.2024.22.017 【In Chinese 江哲涵, 徐玲玲, 潘姝丞, 金阿宁. 大规模中医师考试评价中认知诊断模型的构建及应用[J]. 中医杂志, 2024, 65(22): 2383-2388】
69. Xu, L., **Jiang, Z.**, Cai, F., Ouyang, J., Liu, H., & Cai, T. (2024). Optimizing a national examination for medical undergraduates via modern automated test assembly approaches. *BMC Medical Education*. 24, 919. Doi:10.1186/s12909-024-05905-1
70. **Jiang, Z.**, Ouyang, J., Shi, D., Shi, D., Zhang, J., Xu, L., & Cai, F. (2024). Customizing Bayesian multivariate generalizability theory to mixed-format tests. *Behavior Research Method*. 56, 8080–8090. Doi: 10.3758/s13428-024-02472-7
71. **Jiang, Z.**, Ouyang, J., Shi, D., Pan, J., Xu, L., & Cai, F. (2024). Forming intervals of predicted total scores for cut-off scores evaluation: a generalizability theory application with Bootstrapping. *Current Psychology*. Doi: 10.1007/s12144-024-06306-9
72. Hong, X., **Jiang, Z.**, Liu, H., & Cai, F. (2024). Weighting content specifications for the national medical licensing examination via group analytic hierarchy process. *Educational Measurement: Issues and Practice*. Doi: 10.1111/emip.12620
73. **Jiang, Z.**, Zhu, Z., & Pan, S. (2024). Data governance in multimodal behavioural research. *Multimodal Technologies and Interaction*. 2024, 8(7), 55. Doi:10.3390/mti8070055
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