HOK CHIO (MARK) LAI

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EDUCATION

Ph.D. in Educational Psychology *Texas A&M University*, College Station, TX	2011–2015
Bachelor of Social Science in Psychology *University of Macau*, Macau	2007–2011

PROFESSIONAL APPOINTMENTS

Associate Professor (with tenure)	2023 Aug–Present
Assistant Professor (Tenure-Track)	2018 Aug–2023 Aug
Department of Psychology, *University of Southern California*, Los Angeles, CA	
Assistant Professor (Tenure-Track)	2015 Aug–2018 Aug
School of Education, *University of Cincinnati*, Cincinnati, OH	

RESEARCH INTERESTS

Effect size calculation for multilevel data
Best practices for multilevel modeling
Measurement invariance and its impact on statistical modeling
Integrative data analysis with measurement error and noninvariance

GRANT ACTIVITY

Current Funding

William T. Grant Foundation   2025 Jul 1–2028 Jun 30
"Empowering Latinx and Black Youth with School Discipline Referrals as Peer Coaches" (PI Huey, $599,997)
Role: Co-I

NIH/NIMH   2023 Jul 6–2028 Jun 30
"Ambulatory phenotyping with real-time indices of discordant affect regulation: Exploring opportunities for targeted intervention in depression" (PI Stange, R01MH133842, $3,996,992)
Role: Co-I

NIH/NIAAA, Understanding Processes of Recovery in the Treatment of Alcohol Use Disorder   2022 Sep 1–2024 Aug 31

"Examining the validity of the alcohol use disorder recovery construct using a between- and within-persons design" (PI Richardson, R21AA029762, $247,500)
Role: PI of Subcontract ($149,286)

National Science Foundation, **Methodology, Measurement, and Statistics**   2022 Aug 15–2027 Aug 14
"CAREER: Advancing Latent Variable Methods for Integrative Data Analysis" (SES-2141790, $400,001)
Role: PI

NIH/NIA, Research on Current Topics in Alzheimer's Disease and Its Related Dementias
2022 Apr 1–2027 Mar 31
"Inactivity, sedentary behavior, and the risk for Alzheimer's disease in middle aged to older adults" (PI Raichlen, $3,422,710)
Role: Co-I

NIH/NICHD, Research on biopsychosocial factors of social connectedness and isolation on health, wellbeing, illness, and recovery   2021 Jun 1–2026 Jan 31
"Prenatal Social Connection and Disruption During the COVID-19 Pandemic: Effects on Maternal and Infant Health" (PI Saxbe, $2,079,921)
Role: Co-I

NIH/NIA   2021 May 1–2026 April 30
"Finance, Cognition, and Default Network in Aging" (PI Han, $2,889,159)
Role: Co-I

Prior Funding

NIH/NIAAA, Epidemiology and Prevention in Alcohol Research
2021 May 1–2023 April 30
"Alcohol metabolism and disease risk in Asians: Examining the impact of personalized phenotypic/genotypic feedback and motivational processes on early drinking trajectories" (PI Luczak, R21AA028365, $278,438)
Role: Co-I

Spencer Foundation   2021 Jan 1–2022 June 30
"The Impact of Ignoring Parameter Uncertainty on Sample-Size Planning for Cluster-Randomized and Multisite Randomized Trials"
Role: PI ($49,796)

Department of Health and Human Services, Office of Population Affairs (Pregnancy Prevention Research Grants)   2020 Sep 30–2022 Sep 29
"Secondary Data Analysis of Effective TPP Programs: Setting, Youth Context, and Characteristics" (PI Clark, PHEPA000003, $2,200,490)
Role: PI of Subcontract ($149,049)

Department of Defense, Army Research Institute   2020 Aug 7–2022 Aug 6
"Developing a Multidimensional Psychometric Framework on the Impact of Item Bias on Classification"
Role: PI ($104,382)

National Institutes of Health, Promoting Research on Music and Health: Fundamentals and Applications (R21)   2019 Sep 15–2021 Aug 31

"Music Training, Bilingualism and Executive Functioning" (PI Assal Habibi, 1R21NS114592-01, $247,500)
Role: Co-I

McRel International 2018 Aug 1–2021 Jun 30
Evaluation of "Identity-Based Motivation Journey to Academic Success." (Original grant funded by Department of Education, Investing in Innovation Fund [i3] Development Grants, Co-PIs: Katie Anderson and Daphna Oyserman, Award No. U411C150011)
Role: PI (External Evaluator; Subaward $176,418)

National Science Foundation, Research on Learning in Formal and Informal Settings (1908630) 2019 July 15–2020 July 14
"Developing and Validating Early Assessments of College Readiness: Differential Effects for Underrepresented Groups, Optimal Timing of Assessments, and STEM-specific Indicators" (PI Gregory Palardy)
Role: PI for subaward ($6,000)

University Research Council
AHSS Faculty Research and Scholarship Stipend Awards 2017
University of Cincinnati
"Impact of Measurement Bias on the Validity of Intervention Studies" ($10,000)
Role: PI   Status: Funded

Vice President for Research Award 2016–2018
University of Cincinnati, $30,500

PUBLICATIONS

(* indicates student author)

72. Maltagliati, S., Sayre, M. K., Aslan, D. H., Bharadwaj, P. K., Ally, M., **Lai, M. H. C.**, Wilcox, R. R., Klimentidis, Y. C., & Alexander G. E., Raichlen, D. A. (accepted, March 25, 2025). Non-linear associations of accelerometer-based sedentary time with cognitive functions in the UK Biobank. *Journal of Gerontology: Psychological Sciences*. Manuscript accepted for publication.

71. **Lai, M. H. C.**, *Zhang, Y., *Ozcan, M., *Tse, W., & Miles, A. (accepted, March 23, 2025). fMACS: Generalizing dMACS effect size for measurement noninvariance with multiple groups and multiple grouping variables. *Structural Equation Modeling*. Manuscript accepted for publication.

70. Aslan, D. H., Sayre, M. K., Bharadwaj, P. K., Ally, M., Maltagliati, S., **Lai, M. H. C.**, Wilcox, R. R., Klimentidis, Y. C., & Alexander G. E., Raichlen, D. A. (accepted, 2025 January 3). Associations Between Walking Pace, APOE-ε4 Genotype, and Brain Health in Middle-Aged to Older Adults. *Medicine & Science in Sports & Exercise*. Advance online publication. https://doi.org/10.1249/MSS.0000000000003646 [ISI 2023 impact factor: 4.1]

69. **Lai, M. H. C.**, & *Tse, W. W. Y. (2024). Are factor scores measurement invariant? *Psychological Methods*. Advance online publication. https://doi.org/10.1037/met0000658 [ISI 2023 impact factor: 7.6]

68. **Lai, M. H. C.**, *Zhang, Y., & *Ji, F. (2024). Correcting for sampling error in between-cluster effects: An empirical Bayes cluster means approach with finite population corrections.

Multivariate Behavior Research, 59(3), 584–598.
https://doi.org/10.1080/00273171.2024.2307034 [ISI 2023 impact factor: 5.3]

67. *Liu, Y., **Lai, M. H. C.**, & Kelcey, B. (2024). Comparing MIMIC and MIMIC-interaction to alignment methods for investigating measurement invariance concerning a continuous violator. *Structural Equation Modeling, 31*(2). 296–309.
https://doi.org/10.1080/10705511.2023.2240517 [ISI 2023 impact factor: 2.5]

65. Ozturk, E., *Zhang, Y., **Lai, M. H. C.**, Chanfreau, C., Sakamoto, M., & Merritt, V. (2024). Measurement Invariance of the Neurobehavioral Symptom Inventory (NSI) in Male and Female Million Veteran Program (MVP) Enrollees Completing the Comprehensive Traumatic Brain Injury Evaluation (CTBIE). *Assessment, 31*(5), 967–979.
https://doi.org/10.1177/10731911231198214 [ISI 2023 impact factor: 3.5]

64. Raichlen, D. A., Ally, M., Aslan, D. H., Sayre, M. K., Bharadwaj, P. K., Maltagliati, S., **Lai, M. H. C.**, Wilcox, R. R., Habeck, C. G., Klimentidis, Y. C., & Alexander G. E. (2024). Associations between accelerometer-derived sedentary behavior and physical activity with white matter hyperintensities in middle-aged to older adults. *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring, 16*(3), e70001. https://doi.org/10.1002/dad2.70001 [ISI 2023 impact factor: 4.0]

63. *Tse, W. W., **Lai, M. H. C.**, & *Zhang, Y. (2024). Does strict invariance matter? Valid group mean comparisons with ordered-categorical Items. *Behavior Research Methods, 56*, 3117–3139. https://doi.org/10.3758/s13428-023-02247-6 [ISI 2023 impact factor: 4.6]

62. *Zhang, Y., & **Lai, M. H. C.** (2024). Evaluating two small sample corrections for fixed-effects standard errors and inferences in multilevel models with heteroscedastic, unbalanced, clustered data. *Behavior Research Methods, 56*, 5930–5946.
https://doi.org/10.3758/s13428-023-02325-9 [ISI 2023 impact factor: 4.6]

61. *Beale, A., Ryjova, Y., *Gold, A. I., Kim, Y., Kazmierski, K. F. M., Daspe, M., **Lai, M. H. C.**, & Margolin, G. (2023). Parent aggression exposure and negative expectancies in couple conversation: Rejection sensitivity as a mediator. *Journal of Family Violence*. Advance online publication. https://doi.org/10.1007/s10896-023-00635-2 [ISI 2023 impact factor: 2.7]

60. *Cardenas, S. I., *Tse, W. W., *León, G., *Kim, A., *Tureson, K.; **Lai, M. H. C.**, Saxbe, D. E. (2023). Prenatal testosterone synchrony in first-time parents predicts fathers' postpartum relationship quality. *Hormones and Behavior, 156*, Article 105440.
https://doi.org/10.1016/j.yhbeh.2023.105440 [ISI 2023 impact factor: 2.5]

59. *Gonzalez, C., Simonell, J. R., **Lai, M. H. C.**, Lopez, S. R., & Tarbox, J. (2023). The impacts of the COVID-19 pandemic on therapy utilization among racially/ethnically and socio-economically diverse autistic children. *Journal of Autism and Developmental Disorders, 53*, 918–933. https://doi.org/10.1007/s10803-023-05905-y [ISI 2023 impact factor: 3.1]

58. **Lai, M. H. C.**, *Tse, W. W. Y., *Zhang, G., *Li, Y., & *Hsiao, Y. Y. (2023). Correcting for unreliability and partial invariance: A two-stage path analysis approach. *Structural Equation Modeling: A Multidisciplinary Journal, 30*(2), 258–271.
https://doi.org/10.1080/10705511.2022.2125397 [ISI 2023 impact factor: 2.5]

57. **Lai, M. H. C.** (2023). Adjusting for measurement noninvariance with alignment optimization in growth modeling. *Multivariate Behavioral Research, 58*(1), 30–47.
https://doi.org/10.1080/00273171.2021.1941730 [ISI 2023 impact factor: 5.3]

56. Mak, H. W., Lydon-Staley, D. M., Lunkenheimer, E., **Lai, M. H. C.**, & Fosco, G. M. (2023). The roles of parents and friends in adolescent daily emotion dynamics. *Social Development, 32*(1), 263–282. https://doi.org/10.1111/sode.12637 [ISI 2023 impact factor: 1.6]

55. Raichlen, D. A., Aslan, D. H., Sayre, M. K., Bharadwaj, P. K., Ally, M., Maltagliati, S., **Lai, M. H. C.**, Wilcox, R. R., Klimentidis, Y. C., & Alexander G. E. (2023). Sedentary behavior and incident dementia among older adults. *JAMA, 330*(10), 934-940. https://doi.org/10.1001/jama.2023.15231 [ISI 2023 impact factor: 63.5]

54. Sakamoto, M., Hanson, K. L., Chanfreau-Coffinier, C., **Lai, M. H. C.**, Román, C., Clark, A., Marquine, M., Delano-Wood, L., Merritt, V. (2023). An examination of racial/ethnic differences on the neurobehavioral symptom inventory among veterans completing the Comprehensive Traumatic Brain Injury Evaluation: a veterans affairs million veteran program study. *Archives of Clinical Neuropsychology, 38*(6), 929–943. https://doi.org/10.1093/arclin/acad005 [ISI 2023 impact factor: 2.1]

53. Yu, B. C. L., Chio, F. H. N., Chan, K. K. Y., Mak, W. W. S., *Zhang, G., Vogel, D., & **Lai, M. H. C.** (2023). Associations between public and self-stigma of help-seeking with help-seeking attitudes and intention: A meta-analytic structural equation modeling approach. *Journal of Counseling Psychology, 70*(1), 90–102. https://doi.org/10.1037/cou0000637 [ISI 2023 impact factor: 3.8]

52. *Zhang, Y., & **Lai, M. H. C.**, & Palardy, G. J. (2023). A Bayesian framework for establishing measurement invariance for observed test scores. *Psychological Methods, 28*(4), 993–1004. https://doi.org/10.1037/met0000455 [ISI 2023 impact factor: 7.6]

51. **Lai, M. H. C.**, & *Hsiao, Y.-Y. (2022). Two-stage path analysis with definition variables: An alternative framework to account for measurement error. *Psychological Methods, 27*(4), 568–588. https://doi.org/10.1037/met0000410 [ISI 2022 impact factor: 7.0]

50. **Lai, M. H. C.**, *Liu, Y., & *Tse, W. W. (2022). Adjusting for partial invariance in latent parameter estimation: Comparing forward specification search and approximate invariance methods. *Behavior Research Methods, 54*, 414–434. https://doi.org/10.3758/s13428-021-01560-2 [ISI 2022 impact factor: 5.4]

49. **Lai, M. H. C.**, & *Zhang, Y. (2022). Classification accuracy of multidimensional tests: Quantifying the impact of noninvariance. *Structural Equation Modeling: A Multidisciplinary Journal, 29*(4), 620–629. https://doi.org/10.1080/10705511.2021.1977936 [ISI 2022 impact factor: 6.0]

48. *Liu, M., Yegiyan, N. S., & **Lai, M. H. C.** (2022). Appetitive food, aversive warning: Interaction effects of visual and verbal cues on psychophysiological and attitudinal responses to PSAs. *Media Psychology, 25*(6), 851–872. https://doi.org/10.1080/15213269.2022.2082982 [ISI 2022 impact factor: 4.2]

47. Lopez, N. V., **Lai, M. H. C.**, Yang, C.-H., Dunton, G. F., Belcher, B, R. (2022). Associations of maternal and paternal parenting practices with children's fruit/vegetable intake and physical activity: Preliminary findings from an ecological momentary study. *JMIR Formative Research, 6*(8), e38326. https://doi.org/10.2196/38326 [ISI 2022 impact factor: 2.2]

46. Raichlen, D. A., Klimentidis, Y. C., Sayre, M. K., Bharadwaj, P. K., **Lai, M. H. C.**, Wilcox, R. R., & Alexander G. E. (2022). Leisure-time sedentary behaviors are differentially associated with all-cause dementia regardless of engagement in physical activity. *PNAS, 119*(35), e2206931119. https://doi.org/10.1073/pnas.2206931119 [ISI 2022 impact factor: 11.1]

45. Wu, A. M. S., **Lai, M. H. C.**, Zhang, M., Yogo, M., Yu, S., & Mao, S., & Chen, J. H. (2022). Effects of psychological distress and coping resources on Internet gaming disorder: Comparison between Chinese and Japanese university students. *International Journal of Environmental Research and Public Health, 19*(5), 2951. https://doi.org/10.3390/ijerph19052951 [ISI 2021 impact factor: 4.614]

44. Guo, Y., Dynia, J. M., & **Lai, M. H. C.** (2021). Early childhood Special education teachers' self-efficacy in relation to individual children: Links to children's literacy learning. *Early Childhood Research Quarterly, 54*(1), 153–163. https://doi.org/10.1016/j.ecresq.2020.09.002 [ISI 2021 impact factor: 3.815]

43. *Hsiao, Y.-Y., Kwok, O., & **Lai, M. H. C.** (2021). Modeling measurement errors of the exogenous composites from congeneric measures in interaction models. *Structural Equation Modeling: A Multidisciplinary Journal, 28*(2), 250–260. https://doi.org/10.1080/10705511.2020.1782206 [ISI 2021 impact factor: 6.181]

42. *Ji, Y., Luo, W., **Lai, M. H. C.**, Yoon, M., Chen, L.-S., & Kwok. O. (2021). Model-selection-based approaches to identifying the optimal number of factors in multilevel exploratory factor analysis. *Structural Equation Modeling: A Multidisciplinary Journal, 28*(5), 763–777. https://doi.org/10.1080/10705511.2021.1916394 [ISI 2021 impact factor: 6.181]

41. **Lai, M. H. C.** (2021a). Bootstrap confidence interval for multilevel standardized effect size. *Multivariate Behavioral Research, 56*(4), 558–578. https://doi.org/10.1080/00273171.2020.1746902 [ISI 2021 impact factor: 3.085]

40. **Lai, M. H. C.** (2021b). Composite reliability of multilevel data: It's about observed scores and construct meanings. *Psychological Methods, 26*(1), 90–102. https://doi.org/10.1037/met0000287 [ISI 2021 impact factor: 10.929]

39. Luo, W. & **Lai, M. H. C.** (2021). A weighted residual bootstrap method for multilevel modeling with sampling weights. *Journal of Behavioral Data Science, 1*(2), 89–118. https://doi.org/10.35566/jbds/v1n2/p6

38. *Tilley, J. L., Huey, S. J., Jr., Farver, J. M., **Lai, M. H. C.**, & *Wang, C. X., & (2021). The immigrant paradox in the problem behaviors of youth in the United States: A meta-analysis. *Child Development, 92*(2), 502–516. https://doi.org/10.1111/cdev.13542 [ISI 2021 impact factor: 5.661]

37. Zhao, A., Guo, Y., Sun, S., **Lai, M. H. C.**, Breit-Smith, A., & Li, M. (2021). The contributions of language skills and comprehension monitoring to Chinese reading comprehension: A longitudinal investigation. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2021.625555 [ISI 2021 impact factor: 4.232]

36. *Atari, M., **Lai, M. H. C.**, & Dehghani, M. (2020). Sex differences in moral judgements across 67 countries. *Proceedings of the Royal Society B, 287*(1937). https://doi.org/10.1098/rspb.2020.1201 [ISI 2020 impact factor: 5.349]

35. Bae, C., & **Lai, M. H. C.** (2020). Opportunities to participate in science learning and student engagement: A mixed methods approach to examining person and context factors. *Journal of Educational Psychology, 112*(6), 1128–1153. https://doi.org/10.1037/edu0000410 [ISI 2020 impact factor: 5.805]

34. Li, N., Yong, J., Tsai, M.-H., **Lai, M. H. C.**, Lim, A. Y. Y., & Ackerman, J. M. (2020). Confidence is sexy and it can be trained: Examining male social confidence in initial, opposite-sex interactions. *Journal of Personality, 88*(6), 1235–1251. https://doi.org/10.1111/jopy.12568 [ISI 2020 impact factor: 5.117]

33. Landmark, L. J., Ju, S., Greene, G., & **Lai, M. H. C.** (2020). Evaluating special educator and transition personnel knowledge and skills for working with diverse families and students during the transition process: Preliminary development and validation of an assessment instrument. *Journal of Vocational Rehabilitation, 52*, 317–331. https://doi.org/10.3233/JVR-201080 [ISI 2020 impact factor: 0.41]

32. Wu, A. M. S., **Lai, M. H. C.**, Lau, J. T. F., & Walden, D. L. (2020). Incidence of probable depression and its predictors among Chinese secondary school students. *International Journal of Mental Health and Addiction, 18*, 1652–1667. https://doi.org/10.1007/s11469-020-00379-w [ISI 2020 impact factor: 3.836]

31. **Lai, M. H. C.** (2019). Correcting fixed effect standard errors when a crossed random effect was ignored for balanced and unbalanced designs. *Journal of Educational and Behavioral Statistics, 48*, 448–472. https://10.3102/1076998619843168 [ISI 2019 impact factor: 2.042]

30. **Lai, M. H. C.**, Richardson, G. B., & Mak, H. W. (2019). Quantifying the impact of partial measurement invariance for addiction research. *Addictive Behaviors, 94*, 50–56. https://doi.org/10.1016/j.addbeh.2018.11.029 [ISI 2019 impact factor: 3.645]

29. Nation, D. A., *Ho, J. K., Dutt, S., Han, S. D., & **Lai, M. H. C**. (2019). Neuropsychological decline improves prediction of dementia beyond AD biomarker and MCI diagnoses. *Journal of Alzheimer's Disease, 69*, 1171–1182. https://doi.org/10.3233/JAD-180525 [ISI 2019 impact factor: 3.909]

28. *Chen, C.-C., Richardson, G. B., **Lai, M. H. C.**, Dai, C.-L., & Hays, D. (2018). Development and cross-cultural validity of a Brief Measure of Separation-Individuation. *Journal of Child and Family Studies, 27*, 2797–2810. https://doi.org/10.1007/s10826-018-1140-2 [ISI 2018 impact factor: 1.556]

27. Chio, F. H. N., **Lai, M. H. C.**, & Mak, W. W. S. (2018). Development of Nonattachment Scale—Short Form (NAS-SF) using item response theory. *Mindfulness, 9*, 1299–1308. https://doi.org/10.1007/s12671-017-0874-z [ISI 2018 impact factor: 3.000]

26. *Hsiao, Y., & **Lai, M. H. C.** (2018). The impact of partial measurement invariance on testing moderation for single and multi-level data. *Frontiers in Psychology, 9*. https://doi.org/10.3389/fpsyg.2018.00740 [ISI 2018 impact factor: 2.129]

25. *Hsiao, Y., Kwok, O., & **Lai, M. H. C.** (2018). Evaluation of two methods for modeling measurement errors when testing interaction effects with observed composite scores. *Educational and Psychological Measurement, 78*, 181–202. https://doi.org/10.1177/0013164416679877 [ISI 2018 impact factor: 2.051]

24. Kwok, O., **Lai, M. H. C.**, Tong, F., Lara-Alecio, R., Irby, B. J., Yoon, M., & Yeh, Y.-C. (2018). Analyzing complex longitudinal data in educational research: A demonstration with Project English Language and Literacy Acquisition (ELLA) data using xxM. *Frontiers in Psychology, 9*. https://doi.org/10.3389/fpsyg.2018.00790 [ISI 2018 impact factor: 2.129]

23. **Lai, M. H. C.**, Kwok, O., *Hsiao, Y., & Qian, C. (2018). Finite population correction for two-level hierarchical linear modeling. *Psychological Methods, 23*, 94–112. https://doi.org/10.1037/met0000137 [ISI 2018 impact factor: 8.188]

22. Yoon, M., & **Lai, M. H. C.** (2018). Testing factorial invariance with unbalanced samples. *Structural Equation Modeling: A Multidisciplinary Journal, 25*, 201–213. https://doi.org/10.1080/10705511.2017.1387859 [ISI 2018 impact factor: 4.426]

21. Clemens, N. H., Lai, M. H. C., Burke, M. D., & Wu, J. (2017). Interrelations of growth in letter naming and sound fluency in kindergarten and implications for subsequent reading fluency.

School Psychology Review, 46, 272–287.
https://doi.org/10.17105/SPR-2017-0032.V46-3 [ISI 2017 impact factor: 1.521]

20. **Lai, M. H. C.**, & *Zhang, J. (2017). Evaluating fit indices for multivariate *t*-based structural equation modeling with data contamination. *Frontiers in Psychology, 8*. https://doi.org/10.3389/fpsyg.2017.01286 [ISI 2017 impact factor: 2.089]

19. **Lai, M. H. C.**, Kwok, O., Yoon, M., & *Hsiao, Y. (2017). Understanding the impact of partial factorial invariance on selection accuracy: An R script. *Structural Equation Modeling: A Multidisciplinary Journal, 24*, 783–799. https://doi.org/10.1080/10705511.2017.1318703 [ISI 2017 impact factor: 3.531]

18. Richardson, G. B., Dariotis, J. K., & **Lai, M. H. C.** (2017). From environment to mating competition and Super-K in a predominantly urban sample of young adults. *Evolutionary Psychology, 15*. https://doi.org/10.1177/1474704916670165 [ISI 2017 impact factor: 1.978]

17. Richardson, G. B., Sanning, B. K., **Lai, M. H. C.**, Copping, L., Hardesty, P. H., & Kruger, D. J. (2017). On the psychometric study of human life history strategies: State of the science and evidence of two independent dimensions. *Evolutionary Psychology, 15*. https://doi.org/10.1177/1474704916666840 [ISI 2017 impact factor: 1.978]

16. Wu, A. M. S., **Lai, M. H. C.**, Yu, S., Lau, J. T. F., & Lei, M.-w. (2017). Motives for Online Gaming Questionnaire: Its psychometric properties and correlation with Internet gaming disorder symptoms among Chinese people. *Journal of Behavioral Addictions, 6*, 11–20. https://doi.org/10.1556/2006.6.2017.007 [ISI 2017 impact factor: 3.628]

15. Kim, M., Kwok, O., Yoon, M., Willson, V. L., & **Lai, M. H. C.** (2016). Specification search for identifying the correct mean trajectory in polynomial latent growth models. *Journal of Experimental Education, 84*, 307–329. https://doi.org/10.1080/00220973.2014.984831 [ISI 2016 impact factor: 1.588]

14. **Lai, M. H. C.**, & Kwok, O. (2016). Estimating standardized effect sizes for two-and three-level partially nested data. *Multivariate Behavioral Research, 51*, 740–756. https://doi.org/10.1080/00273171.2016.1231606 [ISI 2016 impact factor: 2.593]

13. McCord, C. E., Elliott, T. R., Berry, J. W., Underhill, A. T., Fine, P. R., & **Lai, M. H. C.** (2016). Trajectories of happiness five years following medical discharge for traumatic disability: Differences between insider and outsider perspectives. *Journal of Happiness Studies, 17*, 553–567. https://doi.org/10.1007/s10902-014-9610-8 [ISI 2016 impact factor: 2.327]

12. Wu, A. M. S., & **Lai, M. H. C.**, Tong, K., & Yu, M. S. (2016). Psychological correlates of disordered gambling tendencies among Chinese high school and undergraduate students. *International Journal of Mental Health and Addiction, 14*, 322–336. https://doi.org/10.1007/s11469-016-9632-z [ISI 2016 impact factor: 1.179]

11. **Lai, M. H. C.** & Kwok, O. (2015). Examining the rule of thumb of not using multilevel modeling: The "design effect smaller than two rule". *Journal of Experimental Education, 83*, 423–438. https://doi.org/10.1080/00220973.2014.907229 [ISI 2015 impact factor: 1.638]

10. **Lai, M. H. C.**, Wu, A. M. S., & Tong, K. (2015). Validation of the Gambling Refusal Self-Efficacy Questionnaire for Chinese undergraduate students. *Journal of Gambling Studies, 31*, 243–256. https://doi.org/10.1007/s10899-013-9412-7 [ISI 2015 impact factor: 2.750]

9. **Lai, M. H. C.** & Yoon, M. (2015). A modified comparative fit index for factorial invariance studies. *Structural Equation Modeling: A Multidisciplinary Journal, 22*, 236–248. https://doi.org/10.1080/10705511.2014.935928 [ISI 2015 impact factor: 3.225]

8. Wu, A. M. S., **Lai, M. H. C.**, & Tong, K. (2015). Internet gambling among community adults and university students in Macao. *Journal of Gambling Studies, 31*, 643–657. https://doi.org/10.1007/s10899-014-9451-8 [ISI 2015 impact factor: 2.750]

7. Hernandez, C. L., Elliott, T. R., Berry, J. W., Underhill, A. T., Fine, P. R., & **Lai, M. H. C.** (2014). Trajectories of life satisfaction: Five years after medical discharge for traumatically acquired disability. *Rehabilitation Psychology, 59*, 183–192. https://doi.org/10.1037/a0035887 [ISI 2014 impact factor: 1.843]

6. **Lai, M. H. C.** & Kwok, O. (2014). Standardized mean differences in two-level cross-classified random effect models. *Journal of Educational and Behavioral Statistics, 39*, 282–302. https://doi.org/10.3102/1076998614532950 [ISI 2014 impact factor: 1.255]

5. Wu, A. M. S., **Lai, M. H. C.**, & Chan, I. T. (2014). Coaching behaviors, satisfaction of needs, and intrinsic motivation among Chinese university athletes. *Journal of Applied Sport Psychology, 26*, 334–348. https://doi.org/10.1080/10413200.2014.888107 [ISI 2014 impact factor: 1.062]

4. Wu, A. M. S., **Lai, M. H. C.**, & Tong, K. (2014). Gambling Disorder: Estimated prevalence rates and risk factors in Macao. *Psychology of Addictive Behaviors, 28*, 1190–1197. https://doi.org/10.1037/a0037603 [ISI 2014 impact factor: 2.747]

3. **Lai, M. H. C.**, Ren, M. Y. W., Wu, A. M. S., & Hung, E. P. W. (2013). Motivation as mediator between national identity and intention to volunteer. *Journal of Community and Applied Social Psychology, 23*, 128–142. https://doi.org/10.1002/casp.2108 [ISI 2013 impact factor: 0.880]

2. Wu, A. M. S., **Lai, M. H. C.**, Tong, K., & Tao, V. Y. K. (2013). Chinese attitudes, norms, behavioral control and gambling involvement in Macao. *Journal of Gambling Studies, 29*, 749–763. https://doi.org/10.1007/s10899-012-9344-7 [ISI 2013 impact factor: 1.753]

1. Chu, Y., **Lai, M. H. C.**, Xu, Y., & Zhou, Y. (2012). Test review: Advanced Clinical Solutions for the WAIS-IV and WMS-IV. *Journal of Psychoeducational Assessment, 30*, 520–524. https://doi.org/10.1177/0734282912442868 [ISI 2012 impact factor: 0.872]

BOOK CHAPTERS

3. *Zhang, Y., *Tse, W. W., & **Lai, M. H. C.** (2025). Bootstrap methods for multilevel data when asymptotic distributional assumptions are not tenable. In M. Stemmler, W. Wiedermann, & F. L. Huang (Eds.), *Dependent Data in Social Sciences Research: Forms, Issues, and Methods of Analysis* (2nd ed.). Springer.

2. **Lai, M. H. C.**, & Yoon, M. (2021). *Partial Factorial Invariance*. In B. B. Frey (Ed.), *The SAGE Encyclopedia of Research Design*.

1. **Lai, M. H. C.** & Tong, K. K. (2011). 媒體使用與評價 [Media usage and evaluation]. In F. M. Cheung, S. L. Wong, P. S. Wan, & V. Zheng (Eds.), *The new face of Macau: Ten years of development and changes* (pp. 285–308). Hong Kong, China: Hong Kong Institute of Asia-Pacific Studies, The Chinese University of Hong Kong.

CONFERENCE PRESENTATIONS

72. **Lai, M. H. C.** (2024, Sep 18-11). A new effect size statistic for measurement noninvariance with multiple groups and multiple grouping variables [Poster presentation]. Society for

Research on Educational Effectiveness 2024 Conference, Baltimore, MD, United States. https://sree.confex.com/sree/2024/meetingapp.cgi

71. *Ozcan, M., & **Lai, M. H. C.** (2024, Sep 18-11). Integrating data from multiple sources: Traditional invariance testing and alignment optimization [Poster presentation]. Society for Research on Educational Effectiveness 2024 Conference, Baltimore, MD, United States. https://sree.confex.com/sree/2024/meetingapp.cgi

70. *Ozcan, M., & **Lai, M. H. C.** (2024, July 16-19). Comparing traditional measurement invariance and alignment approaches to data harmonization [Poster presentation]. Annual Meeting of the Psychometric Society (IMPS), Prague, Czech Republic.

69. *Ozcan, M., & **Lai, M. H. C.** (2024, July 16-19). Does deleting biased items make selection fairer and more accurate? [Poster presentation]. Annual Meeting of the Psychometric Society (IMPS), Prague, Czech Republic.

68. *Zhang, G., & **Lai, M. H. C.** (2024, July 16-19). A Two-Stage Path Analysis Approach to Model Interaction Effects for Congeneric Measures [Oral presentation]. Annual Meeting of the Psychometric Society (IMPS), Prague, Czech Republic.

67. *Zhang, G., & **Lai, M. H. C.** (2023, July 25-28). *A Two-Stage Path Analysis Approach to Model Interaction Effects for Congeneric Measures* [Oral presentation]. European Congress of Methodology (EAM), Ghent, Belgium. https://eam2023.ugent.be/images/eam2023_abstracts_book.pdf

66. *Zhang, Y., & **Lai, M. H. C.** (2023, July 25-28). *Alignment with Bayesian Region of Measurement Equivalence (ABROME) approach for multiple groups comparisons* [Oral presentation]. Annual Meeting of the Psychometric Society (IMPS), College Park, Maryland, United States. https://www.psychometricsociety.org/sites/main/files/file-attachments/imps2023-abstracts.pdf

65. *Tse, W. W. Y., & **Lai, M. H. C.** (2023, July 25-28). *Addressing publication bias and uncertainty for power analysis: A hybrid classical-Bayesian approach* [Oral presentation]. Annual Meeting of the Psychometric Society (IMPS), College Park, Maryland, United States. https://www.psychometricsociety.org/sites/main/files/file-attachments/imps2023-abstracts.pdf

64. *Liu, Y., & **Lai, M. H. C.** (2023, July 25-28). *Examining SEM Trees for Investigating Measurement Invariance Concerning Multiple Violators* [Oral presentation]. Annual Meeting of the Psychometric Society (IMPS), College Park, Maryland, United States. https://www.psychometricsociety.org/sites/main/files/file-attachments/imps2023-abstracts.pdf

63. Blozis, S., & **Lai, M. H. C.** (2023, July 25-28). *A two-stage approach to a latent variable mixed-effects location scale model* [Oral presentation]. Annual Meeting of the Psychometric Society (IMPS), College Park, Maryland, United States. https://www.psychometricsociety.org/sites/main/files/file-attachments/imps2023-abstracts.pdf

62. *Liu, Y., & **Lai, M. H. C.** (2023, June 26-28). Examining SEM Trees for Investigating Measurement Invariance Concerning Multiple Violators [Paper session]. Modern Modeling Methods Conference, Storrs, CT, United States. https://modeling.uconn.edu/2023-preliminary-program/

61. Ji, Y.*, Luo, W., **Lai, M. H. C.**, Kwok. O., & Yoon, M. (2023, April 13-16). *An Eigenvalues-Based Approaches to Identifying the Optimal Number of Factors in Multilevel Exploratory Factor*

Analysis [Roundtable presentation]. AERA Annual Meeting, Chicago, IL, United States. https://convention2.allacademic.com/one/aera/aera23

60. **Lai, M. H. C.**, Zhang, Y., & Ji, F. (2023, April 13-16). *An Empirical Bayes Cluster-Mean Approach to Correct for Sampling Error in Between-Cluster Effects* [Poster presentation]. AERA Annual Meeting, Chicago, IL, United States. https://convention2.allacademic.com/one/aera/aera23

59. Tse, W. W. Y., & **Lai, M. H. C.** (2023, April 13-16). *Addressing Uncertainty in Power Analysis for Designing Cluster Randomized Trials*. [Paper session]. AERA Annual Meeting, Chicago, IL, United States. https://convention2.allacademic.com/one/aera/aera23

58. **Lai, M. H. C.**, *Tse, W. W. Y., *Zhang, G., *Li, Y., & *Hsiao, Y. Y. (2022, September 21-24). *Correcting for unreliability and partial invariance: A two-stage path analysis approach* [Symposium presentation]. Society for Research on Educational Effectiveness 2022 Conference, Arlington, VA, United States. https://www.psychometricsociety.org/sites/main/files/file-attachments/imps2022-version-7-abstract.pdf

57. *Zhang, G., & **Lai, M. H. C.** (2022, July 11-15). *A systematic review of measurement invariance research of the CES-D across gender: calculation and report of effect size* [Oral presentation]. Annual Meeting of the Psychometric Society (IMPS), Bologna, Italy. https://www.psychometricsociety.org/sites/main/files/file-attachments/2022_imps_saag_v6.pdf

56. *Tse, W. W., & **Lai, M. H. C.** (2022, July 11-15). *Incorporating information from historical data for power analysis: A hybrid classical-Bayesian approach for multilevel studies* [Oral presentation]. Annual Meeting of the Psychometric Society (IMPS), Bologna, Italy. https://www.psychometricsociety.org/sites/main/files/file-attachments/2022_imps_saag_v6.pdf

55. *Zhang, Y., & **Lai, M. H. C.** (2022, July 11-15). *Bayesian region of measurement equivalence (ROME) approach with alignment* [Oral presentation]. Annual Meeting of the Psychometric Society (IMPS), Bologna, Italy. https://www.psychometricsociety.org/sites/main/files/file-attachments/2022_imps_saag_v6.pdf

54. *Tse, W. W., & **Lai, M. H. C.** (2022, June 27-29). *Incorporating Uncertainty in power analysis to more realistically determine sample size* [Workshop]. Meeting of the Society for the Improvement of Psychological Science (SIPS), Victoria, B. C., Canada. https://docs.google.com/document/d/1Rka3f0ZY9BBZVIlZoVINrpyaJYeitpq1yKXBLukeMng

53. Zhang, Y., & **Lai, M. H. C.** (2022, April 21-26). *Evaluating standard error estimators and resampling method for multilevel models on small samples with heteroscedasticity and unbalanced cluster sizes* [Poster presentation]. AERA Annual Meeting, San Diego, CA, United States. https://convention2.allacademic.com/one/aera/aera22

52. Palardy, G. J., *Zhang, Y., & **Lai, M. H. C.** (2022, April 21-26). *Measurement invariance testing via the alignment method: Intersectional grouping and multiple cohorts* [oral presentation]. AERA Annual Meeting, San Diego, CA, United States. https://convention2.allacademic.com/one/aera/aera22

51. *Zhang, G., *Yue, H., & **Lai, M. H. C.** (2021, July 19-23). *A systematic review of measurement invariance research of the CES-D across gender* [Poster presentation]. Virtual conference of the Psychometric Society (IMPS) due to covid-19.

https://www.psychometricsociety.org/sites/main/files/file-attachments/imps_2021_virtual_schedule.pdf

50. *Zhang, Y. & **Lai, M. H. C.** (2021, July 19-23). *Classification Accuracy of multidimensional tests: Quantifying the impact of noninvariance* [Oral presentation]. Virtual conference of the Psychometric Society (IMPS) due to covid-19. https://www.psychometricsociety.org/sites/main/files/file-attachments/imps_2021_virtual_schedule.pdf

49. *Tse, W. W. & **Lai, M. H. C.** (2021, July 19-23). *Incorporating uncertainty in design parameters: A hybrid classical-Bayesian power analysis approach for two-level cluster randomized trials* [Oral presentation]. Virtual conference of the Psychometric Society (IMPS) due to covid-19. https://www.psychometricsociety.org/sites/main/files/file-attachments/imps_2021_virtual_schedule.pdf

48. **Lai, M. H. C.**, Ji, F., & Chen, S. (2021, July 19-23). *Obtaining reliability for daily diary data using multilevel factor analysis* [Oral presentation]. Virtual conference of the Psychometric Society (IMPS) due to covid-19. https://www.psychometricsociety.org/sites/main/files/file-attachments/imps_2021_virtual_schedule.pdf

47. Lopez, N. V., **Lai, M. H. C.**, Yang C.-H., Dunton G. F., Belcher B. R. (2021, April 12-16). *Associations of maternal and paternal parenting practices with children's fruit/vegetable intake and physical activity* [oral presentation/research talk]. Society of Behavioral Medicine 2021. Virtual conference due to covid-19.

46. *Hsiao, Y., Kwok, O., & **Lai, M. H. C.** (2021, April 8-12). *Improving estimation accuracy of the tnteraction effects in models with composite scores* [Structured poster session]. AERA Annual Meeting, Orlando, FL, United States. https://convention2.allacademic.com/one/aera/aera21

45. **Lai, M. H. C.** & *Hsiao, Y. (2021, April 8-12). *Two-stage path analysis with definition variables: A general framework for modeling with categorical indicators* [Structured poster session]. AERA Annual Meeting, Orlando, FL, United States. https://convention2.allacademic.com/one/aera/aera21

44. Wen, L., & **Lai, M. H. C.** (2021, April 8-12). *A multilevel weighted bootstrap procedure to handle sampling weights* [Paper session]. AERA Annual Meeting, Orlando, FL, United States. https://convention2.allacademic.com/one/aera/aera21

43. **Lai, M. H. C.** (2020, July 14-17). *Multilevel bootstrap confidence intervals for standardized effect size* [Paper session]. Annual Meeting of the Psychometric Society (IMPS), College Park, MD, United States. https://www.psychometricsociety.org/sites/main/files/file-attachments/imps_2020_virtual_schedule_g1.pdf

42. *Tse, W. W. & **Lai, M. H. C.** (2020, July 14-17). *Measurement invariance for ordered categorical variables: The necessity of strict invariance for valid group comparisons* [Poster session]. Annual Meeting of the Psychometric Society (IMPS), College Park, MD, United States. https://www.psychometricsociety.org/sites/main/files/file-attachments/imps_2020_virtual_schedule_g1.pdf

41. *Zhang, Y. & **Lai, M. H. C.** (2020, July 14-17). *A Bayesian framework for establishing measurement invariance for observed test scores* [Poster session]. Annual Meeting of the Psychometric Society (IMPS), College Park, MD, United States. https://www.psychometricsociety.org/sites/main/files/file-attachments/imps_2020_virtual_schedule_g1.pdf

40. *Tse, W. W. & **Lai, M. H. C.** (2020, June 25-26). *Measurement invariance for ordered categorical variables: The necessity of strict invariance for valid group comparisons* [Conference Session]. A 0Meeting of Methodologies (AMOM), Vancouver, BC, Canada. http://www.sfu.ca/content/dam/sfu/psychology/research/mml/AMOM_2020_program.pdf

39. **Lai, M. H. C.** (2020, June). *Constructing bootstrap confidence intervals for standardized effect size in cluster-randomized trials* [Poster session]. Modern Modeling Methods Conference, Storrs, CT. https://modeling.uconn.edu/wp-content/uploads/sites/1188/2020/02/M3_2020_Preliminary_Schedule.pdf (Conference canceled)

38. *Tse, W. W., & **Lai, M. H. C.** (2020, June). *Path to valid means comparisons: The necessity of strict measurement invariance for ordered categorical variables* [Paper session]. Modern Modeling Methods Conference, Storrs, CT, United States. (Conference canceled)

37. *Zhang, Y., & **Lai, M. H. C.** (2020, June). *A Bayesian framework for establishing measurement invariance for observed test scores* [Poster session]. Modern Modeling Methods Conference, Storrs, CT, United States. (Conference canceled)

36. *Liu, Y., **Lai, M. H. C.**, & Kelcey, B. (2020, April 17 - 21). *Comparing multiple indicators multiple causes (MIMIC) and alignment method for investigating measurement invariance with respect to a continuous variable* [Paper Session]. AERA Annual Meeting San Francisco, CA, United States. http://tinyurl.com/u5mhnmn (Conference Canceled)

35. *Gold, A.I., **Lai, M. H. C.**, *Tureson, K., & Thames, A.D. (2020, February). *Analysis of educational bias of the Montreal Cognitive Assessment (MoCA) using differential item functioning* [Conference presentation]. Annual meeting of the International Neuropsychological Society, Denver, CO, United States. https://www.the-ins.org/meetings/denver2020/

34. Hsiao, Y., Kwok, O., & , **Lai, M. H. C.** (2019, April). *Comparisons of reliability estimates for correcting measurement errors of the exogenous composites in interaction models*. Paper presented at the annual meeting of the American Educational Research Association, Toronto, ON.

33. Wu, A. M. S., **Lai, M. H. C.**, Yogo, M., & Yu, S. (2018, Nov). Being mindful or flexible? Investigation of associated factors with problematic online gaming among Asian university students. Paper presented at the International Congress of Behavioral Medicine, Santiago, Chile.

32. *Liu, Y, & **Lai, M. H. C.** (2018, July). *Examining Bayesian approaches for investigating measurement invariance across two groups*. Poster presented at the annual meeting of the Psychometric Society, New York, NY.

31. Atari, M., Dehghani, M., Lai, M. H. C., & Graham, J. (2018, May). *Sex Differences in Moral Foundations: Evidence from 67 Countries*. Poster presented at the Association for Psychological Science Annual Convention, San Francisco, CA.

30. Kwok, O., **Lai, M. H. C.**, Tong, F., Lara-Alecio, R., Irby, B. J., Yoon, M., & Yeh, Y. (2018, April). *Analyzing complex longitudinal data in educational research: A demonstration with the project English language and literacy acquisition (ELLA) data using xxM*. Paper presented at the annual meeting of the American Educational Research Association, New York, NY.

29. **Lai, M. H. C.** (2018, April). *Confidence interval for standardized effect size in cluster-randomized trials: Comparing analytic and bootstrap methods.* Paper presented at the annual meeting of the American Educational Research Association, New York, NY.

28. **Lai, M. H. C.** & Kwok, O. (2018, March). Growth m*odels for time-varying cumulative classroom/teacher effects.* Paper presented at the Texas Universities' Educational Statistics and Psychometrics Meeting, College Station, TX.

27. **Lai, M. H. C.** & Kwok, O. (2018, March). *A Model for Time-Varying Cumulative Classroom/Teacher Effects on Students' Growth.* Paper presented at the Spring Conference of the Society for Research on Educational Effectiveness, Washington, DC.

26. Wu, A. M. S., Lai, M. H. C., & Yu, S. (2017, September). *Psychological need satisfaction, gaming motives, and Internet gaming disorder.* Paper presented at the 31st Conference of the European Health Psychology Society, Padova, Italy.

25. **Lai, M. H. C.**, & Zhang, J. (2017, April). *Evaluating fit-indexes for multivariate* t*-based structural equation modeling.* Paper presented at the annual meeting of the American Educational Research Association, San Antonio, TX.

24. **Lai, M. H. C.**, & Kwok, O. (2017, April). *Standardized mean difference for three-level partially nested data.* Paper presented at the annual meeting of the American Educational Research Association, San Antonio, TX.

23. **Lai, M. H. C.**, & Zhang, J. (2016, June). *The use of multivariate-t-based maximum likelihood for robust SEM.* Paper presented at the 4th Institute of Mathematical Statistics Asia Pacific Rim Meeting, Hong Kong.

22. Yoon, M., & **Lai, M. H. C.** (2016, June). *Testing factorial invariance with severely unbalanced samples.* Paper presented at the 4th Institute of Mathematical Statistics Asia Pacific Rim Meeting, Hong Kong.

21. Hsiao, Y. Y., Kwok, O., & **Lai, M. H. C.** (2016, April). *Modeling measurement error on interaction effect with items mean scores using structural equation modeling.* Paper presented at the annual meeting of the American Educational Research Association, Washington, DC.

20. **Lai, M. H. C.**, & Kwok, O. (2016, April). *Using design effects to determine the necessity of applying cross-classified random effects models.* Paper presented at the annual meeting of the American Educational Research Association, Washington, DC.

19. **Lai, M. H. C.**, & Kwok, O. (2016, March). *Design effects in cross-classified random effects models.* Paper presented at the Texas Universities' Educational Statistics and Psychometrics Meeting, College Station, TX.

18. Kwok, O., Yoon, M., **Lai, M. H. C.**, & Hsiao, Y. Y. (2015, July). *Partial measurement invariance then and now: Methodological aspects and practical implications.* Paper presented at the annual meeting of the Psychometric Society, Beijing, China.

17. **Lai, M. H. C.**, Kwok, O., Hsiao, Y. Y., & Cao, Q. (2015, April). *Finite population correction for two-level hierarchical linear modeling.* Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

16. Wu, A. M. S., **Lai, M. H. C.**, & Tong, K. K. (2015, April). *Gambling refusal self-efficacy, attitude, injunctive norm and youth gambling in Macao.* Paper presented in The Third Asia Pacific Conference on Gambling & Commercial Gaming Research, Beijing, China.

15. Lara-Alecio, R., Tong, F., Irby, B. J., Guerrero, C. L., Lopez, T., **Lai, M. H. C.**, & Jimenez, D. D. (2015, April). *Third grade bilingual teachers' pedagogical differences during ESL block in a randomized control trial study.* Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

14. **Lai, M. H. C.**, Kwok, O., Hsiao, Y. Y., & Cao, Q. (2015, March). *Finite population correction for two-level hierarchical linear modeling*. Paper presented at the Texas Universities' Educational Statistics and Psychometrics Meeting, Austin, TX.

13. **Lai, M. H. C.** (2014, November). *Bootstrap Confidence Intervals for Multilevel Effect Size*. Poster presented at the Conference "Advances in Multilevel Modeling for Educational Research", College Park, MD.

12. Cao, Q. & **Lai, M. H. C.** (2014, July). *Sensitivity of fit indices to test for cluster bias in multilevel data*. Paper presented at the 79th Annual Meeting of the Psychometric Society, Madison, WI.

11. Hsiao, Y. Y. & **Lai, M. H. C.** (2014, April). *The impact of partial measurement invariance on tests of moderation for single and multi-level data*. Paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.

10. **Lai, M. H. C.** & Kwok, O. (2014, April). *Standardized mean difference in partially nested data*. Paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.

9. **Lai, M. H. C.**, Tong, F., Yoon, M., Lara-Alecio, R., Irby, B. J., & Kwok, O. (2014, April). *Modeling cross-classified data with adequate within-subject variance-covariance structures: A lesson from the Project ELLA data*. Poster presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.

8. Wu, A. M. S., **Lai, M. H. C.**, & Tong, K.-k. (2014, February). *Internet gambling: Participation and addiction in Macao*. Paper presented at the 5th International Gambling Conference (IGC2014), Auckland, New Zealand.

7. Wu, A. M. S., **Lai, M. H. C.**, & Tong, K. (2013, December). *Prevalence of gambling involvement and gambling disorder in Macao*. Paper presented at the Second Asia Pacific Conference on Gambling & Commercial Gaming Research (APCG2013), Kaohsiung, Taiwan.

6. **Lai, M. H. C.** & Kwok, O. (2013a, August). *Standardized mean difference in cross-classified random effect models*. Poster presented at the American Psychological Association annual convention, Honolulu, HI.

5. Wu, A. M. S., **Lai, M. H. C.**, Tong, K. K., & Tao, V. Y. K. (2013, July). *Application of the theory of planned behavior on gambling involvement among Chinese people*. Paper presented at the 13th European Congress of Psychology, Stockholm, Sweden.

4. **Lai, M. H. C.** & Kwok, O. (2013b, May). *The excuse of not using multilevel modeling: An investigation of the "design effect larger than two" rule*. Poster presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

3. **Lai, M. H. C.** (2013, April). *Comparing Pearl's partial coefficient test with the other global- and local-fit measures in SEM*. Paper presented at the Texas Universities' Educational Statistics and Psychometrics Meeting, Austin, TX.

2. **Lai, M. H. C.** (2012, February). *A review of the panoply of univariate and multivariate effect size choices*. Paper presented at the annual meeting of the Southwest Educational Research Association, New Orleans, LA.

1. **Lai, M. H. C.** & Tong, K. (2010, June). *澳門市民的媒體使用及對傳媒公信力的評價 [Macao citizen's habit of using mass media and evaluation on media credibility]*. Paper presented at the Conference on Macau's Ten-Year Development, Macau, China.

INVITED PRESENTATIONS

Integrating Data from Multiple Sources: A Practical Introduction to Data Harmonization Using Latent Variable Modeling
Society for Research on Educational Effectiveness Conference, Baltimore, MD
                                                            2024 Sep

Using Two-Stage Path Analysis to Account for Measurement Error and Noninvariance
American Institute of Research Psychometrics Group   2024 Mar

Unlocking the multilevel equation: Multicollinearity, effect size, design effects, and power analysis
Keynote presentation at the 10th Texas Universities Educational Statistics and Psychometrics (TUESAP X)   2024 Mar

Correcting for unreliability and partial invariance: A two-stage path analysis approach
Texas A&M University, TX   2022 Mar

Addressing Race/Ethnicity in Statistical Analyses and Interpreting Data
Mini-Summit, Best Practices for Addressing Racial and Ethnic Diversity in Research Studies: Real World Examples and Practical "How Tos,"
University of California at Sandiego   2021 Oct

What to Do If Measurement Invariance Does Not Hold? Let's Look at the Practical Significance
University of Missouri   2021 Sep

Advancing Quantitative Science with Monte Carlo Simulation
Simulation Summer School, Psychology Postgraduate Affairs Group, the British Psychological Society   2021 June

Reliability of Composite Scores With Multilevel Data
Fordham University, NY   2021 May

Internal Consistency of Multilevel Data: Cluster Means, Centering, and Construct Meanings
Arizona State University, AZ   2020 Nov

Measurement Invariance Does Not Hold. Then What?
University of California at Davis, CA   2020 Mar

Advancing Quantitative Science with Monte Carlo Simulation
Texas A&M University, TX   2019 May

Using multilevel modeling with R
University of Macau, Macau SAR   2018 Dec

Multilevel modeling: Introduction and recent advances for behavioral research,
University of Macau, Macau SAR   2018 Dec

Introduction to Bayesian data analysis,
Texas A&M University, TX   2017 May

Practical understanding on application of structural equation modeling,
City University of Hong Kong, Hong Kong   2016 Jun
- A 2.5-hour workshop invited by the Hong Kong Society of Behavioral Health

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DEPARTMENTAL TALKS

A two-stage approach to account for measurement error when using random slopes as predictors
                                                            2025 Feb

- Presentation at the Quantitative Methods Speaker Series, University of Southern California, CA

Can we trust test scores? A methodological discussion on the impact of measurement invariance 2017 Nov
- Presentation at Power Friday, University of Cincinnati, OH

Standardized mean difference in partially nested data 2016 Nov
- Presentation at the Data Analytics Showcase & Networking Event, University of Cincinnati, OH

Quantitative methods for interdisciplinary research 2016 April
- Presentation at the Best Practices in Research Meeting, University of Cincinnati, OH

Standardized mean difference in partially nested data 2015 Oct
- Research presentation at the Quantitative and Mixed Methods Research Methodologies (QMRM) Brown Bag, University of Cincinnati, OH

Doing Monte Carlo simulation studies with Mplus 2013 Jan & 2014 Jan
- Presentation at Texas A&M University, TX

HONORS AND AWARDS

Outstanding Reviewer 2020
Journal of Educational and Behavioral Statistics

American Educational Research Association, Division D 2019
Nominated for Early Career Award

Distinguished Honor Graduate 2015
College of Education and Human Development, Texas A&M University

Travel Award to present at the Conference "Advances in Multilevel Modeling for Educational Research" at University of Maryland 2014
The Society for Multivariate Experimental Psychology

Graduate Research Grant 2014
College of Education and Human Development, Texas A&M University, for the project "Bootstrap Confidence Intervals for Multilevel Effect Size"

Graduate Travel Grant 2013, 2014, & 2015
College of Education and Human Development, Texas A&M University

Outstanding Academic Paper Award 2011
University of Macau

Jorge Alvares Foundation Academic Prize 2011
University of Macau

Rector's Honor List 2011
University of Macau

TEACHING EXPERIENCE

University of Southern California, Los Angeles, CA
Instructor
PSYC 314L – Experimental Research Methods (Evaluation: 3.45 / 4)
PSYC 621L – Seminar in Quantitative Psychology (Multilevel Modeling) (Evaluation: 3.93 / 4)

PSYC 621L – Seminar in Quantitative Psychology (Bayesian Data Analysis) (Evaluation: 3.84 / 4)
PSYC 575L – Multilevel Modeling (Evaluation: 3.94 / 4)
PSYC 573L – Bayesian Data Analysis (Evaluation: 3.90 / 4)
PSYC 520 – Fundamentals of Psychological Measurement (3.99 / 4)

University of Cincinnati, Cincinnati, OH
Instructor (Instructor evaluation: 4.61 / 5)
EDST 8087 – Multilevel Models for Educational Studies
EDST 8075 – Bayesian Data Analysis
EDST 7082 – Getting Started With Multilevel Modeling
EDST 7011 – Statistical Data Analysis II
EDST 7010 – Statistical Data Analysis I

Texas A&M University, College Station, TX
Teaching Assistant
EPSY 635 - Educational Statistics (Online)
EPSY 651 - Theory of Structural Equation Modeling (Teaching Evaluation: 4.83 / 5.00)
EPSY 652 - Hierarchical Linear Modeling
EPSY 653 - Advanced Structural Equation Modeling

MENTORING EXPERIENCE

Current Ph.D. Students, Committee Chair
Ozcan, Meltem, University of Southern California
Zhang, Gengrui (Jimmy), University of Southern California

Current Post doctoral scholars
Lohman, Trevor, University of Southern California
- USC Mentored Career Development Award in Clinical and Translational Science

Current Ph.D. Students, Committee Member
Aviv, Elizabeth (Lizzie), University of Southern California
Haque, Ony, University of Southern California
Hernandez, Alexis, University of Southern California
Kapadia, Kevin, University of Southern California
Lai, Xu, University of Southern California
Molinare, Cassidy, University of Southern California
Saldich, Emily, University of Southern California
Xu, Ellie, University of Southern California
- NIMH F31 Mentee (1F31MH136739-01A1, Neural Mechanisms of Emotion Regulation Flexibility and Success in Everyday Life in Depression)
Zhang, Sherry, University of Southern California

Past Ph.D. Students, Committee Chair (Initial job placement)
Liu, Yuanfang, University of Cincinnati (Post doc at Purdue University, IN, United States)

Sunny, Cijy, University of Cincinnati (Lecturer [equivalent to Assistant Professor in US], Murdoch University, Murdoch, Western Australia)

Tse, Wing Yee (Winnie), University of Southern California (Psychometrician, Vretta Inc.)

Zhang, Yichi, University of Southern California (Researcher, American Institute of Research)

Past Post doctoral scholars (Initial job placement)

Odejimi, Omolola A., Children's Hospital Los Angeles (Assistant Professor, Educational Psychology, University of Nevada, Las Vegas)

Past Ph.D. Students, Committee Member

Arya, Pragya, University of Southern California

Atari, Mohammad, University of Southern California (Postdoctoral fellow, Harvard University, Cambridge, 2021)

Bello, Mariel, University of Southern California (Postdoctoral Research Fellow, Brown University, 2022)

Byrd, Katie, University of Southern California

Chen, Ching-Chen, University of Cincinnati (Assistant Professor, University of Nevada, Las Vegas, 2016)

Christie, Nina, University of Southern California

Gold, Alaina, University of Southern California

Ho, Jean, University of Southern California

Hoover, Joe, University of Southern California (Postdoctoral fellow, Northwestern University, Evanston, 2019)

Hsiao, Yu-Yu, Texas A&M University (Postdoctoral fellow, University of New Mexico, Albuquerque, 2017)

Jhaveri, Nina, University of Southern California (2022)

Ji, Yuhong, Texas A&M University (Data Analyst, Texas Education Agency, Austin, 2020)

Khaled, Mona, University of Southern California (2020)

McGee, Nathan, University of Cincinnati (2024)

O'Donnell, S. Casey, University of Southern California (Postdoctoral fellow, University of Southern California, Los Angeles, 2021)

Zhang, Lin (Lynn), University of Southern California (UX Researcher, Google, 2022)

Zhao, Mengtian, University of Southern California (2020)

Past Master Students, Committee Member

McGee, Nathan, University of Cincinnati

COMPUTER SKILLS

Statistics:	R, SAS, SPSS, Stata
SEM:	AMOS, LISREL, Mplus, R (lavaan, OpenMx, xxM)
Multilevel:	HLM, R (lme4, nlme, brms), SAS (PROC MIXED), SPSS (MIXED), Stata (xtmixed)
Psychometrics:	IRTPRO, R (ltm, mirt), WinSteps
Bayesian:	JAGS, Stan, WinBUGS

Others:	Ci3 CATI, C++, HTML & CSS, Julia, LaTeX, Linux, Markdown, Mathematica, Octave, Python, SQL, TeleForm, Visual Basic

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PROFESSIONAL SERVICE

Editorial Board/Consulting Editor

Behavior Research Methods	2020–Present
Journal of Behavioral Data Science	2021
Journal of Educational and Behavioral Statistics	2021–Present
Psychological Methods	2022–Present

Ad Hoc Reviewer
Advances in Methods and Practices in Psychological Science, Alcohol and Alcoholism, Asian American Journal of Psychology, Assessment, Behavior Research Methods, British Journal of Mathematical and Statistical Psychology, Educational and Psychological Measurement, Evaluation Review, Evolutionary Psychology, Frontiers in Psychology, International Journal of Clinical and Health Psychology, Journal of Consulting and Clinical Psychology, Journal of Educational and Behavioral Statistics, Journal of Experimental Education, Journal of Mixed Methods Research, Journal of Modern Applied Statistical Methods, Journal of Personality, Journal of School Psychology, Methodology, Multivariate Behavioral Research, Psychological Methods, Psychometrika, Research Synthesis Methods, Reviews of Educational Research, School Psychology Review, Sociological Methods & Research, Structural Equation Modeling: A Multidisciplinary Journal

Ad Hoc Grant Reviewer
National Science Foundation

PROFESSIONAL MEMBERSHIPS

American Educational Research Association (Member; Chair for the multilevel SIG for 2020/2021)
American Psychological Association Division 5 (Member)
American Statistical Association (Member)
Hong Kong Society of Behavioral Health (Advisor, Methodology Advisor Group)
Psychometric Society (Member)
Society for Research in Educational Effectiveness (Member)