

Xu Qin

University of Pittsburgh, School of Education
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EDUCATION

University of Chicago

Ph.D., Quantitative Methods in Education and Human Development 2018
Dissertation: Causal mediation analysis in multisite trials with an evaluation of the Job Corps program
Dissertation Committee: Guanglei Hong (Chair), Stephen Raudenbush, Donald Hedeker,
Margaret Beale Spencer

Renmin University of China

M.S., Statistics 2012
B.S., Statistics 2010

EMPLOYMENT

University of Pittsburgh

Associate Professor of Research Methodology with tenure (Primary) 2024-present
Department of Health and Human Development

Associate Professor of Biostatistics with tenure (Secondary) 2024-present
Department of Biostatistics

Research Scientist 2025-present
Learning Research and Development Center, University of Pittsburgh

Assistant Professor of Biostatistics (Secondary) 2022-2024
Department of Biostatistics

Assistant Professor of Research Methodology (Primary) 2018-2024
Department of Health and Human Development

HONORS AND AWARDS

Fellowships

National Academy of Education/Spencer Postdoctoral Fellowship, *Spencer Foundation* 2022
National Study of Learning Mindsets Early Career Fellowship, *Bezos Family Foundation* 2018 - 2019
National Academy of Education/Spencer Dissertation Fellowship, *Spencer Foundation* 2017 - 2018
Social Science Division Fellowship, *University of Chicago* 2014 - 2017
Quantitative Methods in Education and Human Development Fellowship, *University of Chicago* 2012 - 2014
Social Sciences Summer Fellowship, *University of Chicago* 2013, 2015

Awards

Outstanding Reviewer

<i>Journal of Educational and Behavioral Statistics, American Educational Research Association</i>	2026
Early Career Award, <i>Society for Research on Educational Effectiveness</i>	2024
Faculty Early Career Development (CAREER) Award, <i>National Science Foundation</i>	2024
William E. Henry prize for the best PhD dissertation, <i>Department of Comparative Human Development, University of Chicago</i>	2019
Outstanding Dissertation Award, <i>American Educational Research Association, Division D</i>	2019
Joint Statistical Meetings Student Paper Award, <i>American Statistical Association</i>	2016
UChicagoGRAD Travel Fund Grant, <i>University of Chicago</i>	2016
Advanced Graduate Council Travel Fund Grant, <i>University of Chicago</i>	2016
Conference Travel Grant, <i>Giannino Graduate Research Fund</i>	2015
Travel Award for the 11th International Conference on Health Policy Statistics (ICHPS), <i>Health Policy Statistics Section of the American Statistical Association</i>	2015
Best Paper Award for the 7th Forum on International Competitiveness of China's Industries, <i>Ministry of Commerce of China</i>	2011
National Award for the College Student Innovative Project, <i>Ministry of Education of China</i>	2009
Excellence Award for the Chinese College Student Statistics Modeling Competition, <i>National Bureau of Statistics of China</i>	2009
Second Prize for the "Creativity Cup" College Student Academic Paper Competition, <i>Renmin University of China</i>	2008

RESEARCH FUNDING

As Principal Investigator/Co-Principal Investigator

MPI (Multiple Principal Investigator) (2024-2026), "Heterogeneous genetics effects and mediation in Alzheimer's disease", National Institute of Health (NIH) R21 Grant, \$418,794. (Two other Principal Investigators: Jiebiao Wang, Victor Talisa, University of Pittsburgh)

Principal Investigator (2024-2029), "CAREER: Complex Causal Moderated Mediation Analysis in Multisite Randomized Trials: Uncovering the Black Box Underlying the Impact of Educational Interventions on Math Performance", National Science Foundation, \$842,512.

Principal Investigator (2022-2023), "New Tools for Causal Investigations of for Whom and Where an Educational Intervention is Effective and Why", National Academy of Education/Spencer Postdoctoral Fellowship, Spencer Foundation, \$70,000.

Principal Investigator (2022-2023), "Causal Moderation and Mediation Analyses in Multisite Randomized Trials", Pitt Momentum Funds Priming Grants, \$25,000.

Principal Investigator (2021-2022), "Statistical Power Analysis for Causal Mediation Studies in Single-Site and Multi-Site Randomized Trials Using Monte Carlo Simulations", Spencer Foundation, \$50,000.

Principal Investigator (2019-2020), "Sensitivity Analysis for Causal Mediation Analysis in the Presence of Unmeasured Pretreatment or Posttreatment Confounding", Spencer Foundation, \$49,898.

Co-Principal Investigator (2019-2023). “Student Engagement in Mathematics: A Longitudinal Study of Classroom and Psychosocial Processes”, National Science Foundation, \$1,744,513. (Principal Investigator: Ming-Te Wang, University of Pittsburgh)

Co-Principal Investigator (2020-2024), “Causal Mediation Analysis Under Partial Compliance in Single-Site and Multisite Randomized Trials”, the Institute of Education Sciences (IES) Statistical and Research Methodology in Education Grants. \$899,920. (Principal Investigator: Guanglei Hong, University of Chicago)

As Co-Investigator

Co-Investigator (2025-2028), “ONWARD: Optimizing Navigation for Wellness And Resource utilization in youth with prediabetes and type 2 Diabetes”, National Institute of Health (NIH) R01 Grant, \$1,013,017. (Principal Investigator: Mary Ellen Vajravelu)

Co-Investigator (2025-2029), “REFLECT2D: Real-time Engagement for Learning to Effectively Control Type 2 Diabetes”, National Institute of Health (NIH) R01 Grant, \$2,922,623. (Principal Investigator: Mary Ellen Vajravelu)

Co-Investigator (2024-2027), “Measuring the Role of Racial Literacy in Promoting Equitable Reading Instruction through the 3Rs”, William T. Grant Foundation, \$648,527. (Principal Investigator: Catlin Spear)

Co-Investigator (2023-2027), “Statistical methods for population-level cell-type-specific analyses of tissue omics data for Alzheimer’s disease”, National Institute of Health (NIH) R01 Grant, \$1,891,625. (Principal Investigator: Jiebiao Wang)

Co-Investigator (2023-2025), “Defining Social Risk Phenotypes in Young Adults with Prediabetes or Type 2 Diabetes”, Pittsburgh Foundation, \$60,000. (Principal Investigator: Mary Ellen Vajravelu)

Co-Investigator (2023-2025), “Examining Psychosocial Correlates of Loneliness Among Marginalized Youth”, Pitt Momentum Funds Scaling Grants, \$394,645. (Principal Investigator: César Escobar-Viera)

Co-Investigator (2021-2022), “Placental origins of phthalate-induced changes in fetal reproductive development”, National Institute of Health (NIH), \$25,912. (Principal Investigator: Jennifer Adibi)

PAPERS

(* indicates corresponding author; ** indicates alphabetical authorship; underline indicates student co-author; † indicates senior author)

Refereed Journal Papers

- 1 Guo, Y., Chen, D., Xu, X., Zhang, Z., Wen, Y., Liu, C., Zheng, X., Wu, Z., & **Qin, X.**[†] (in press). Sensitivity analysis to unmeasured confounding in causal mediation analysis with survival outcome. *Statistics in Medicine*.
- 2 Liu, C., **Qin, X.**^{*}, Talisa, V. B., Wang, J. (in press). Heterogeneous causal mediation analysis using Bayesian Additive Regression Trees. *Biometrics*.
- 3 Ru, T., **Qin, X.**[†], & Yue, A. (in press). Causal mediation mechanisms underlying early childhood development interventions in rural China. *Child Development*.
- 4 Yamada, T., **Qin, X.**[†], Scanlon, C., & Wang, M. (in press). How growth mindset shapes math achievement: the moderating role of classroom practices and the mediating role of engagement across adolescence. *Developmental Psychology*.

- 5 Hong, G., **Qin, X.** **, Xu, Z., & Yang, F. (conditionally accepted). Two-phase treatment with noncompliance: Identifying the cumulative average treatment effect via multisite instrumental variables. *Journal of the Royal Statistical Society, Series A (Statistics in Society)*.
- 6 Jankowski, M., Harrison, C., Apte, S., McCurley, J., **Qin, X.**, Mitchell, J. A., & Vajravelu, M. E. (in press). Social determinants of daily step count in young adults with and without prediabetes and type 2 diabetes. *Journal of Physical Activity and Health*.
- 7 Kelly, S., **Qin, X.**, & Shafiq, N. (in press). The false dichotomy of causal and non-causal research in the educational sciences. *Journal of Research on Educational Effectiveness*.
- 8 Wang, M., Scanlon, C., Yamada, T., & **Qin, X.** (in press). Using a robust moderated mediation approach to understand associations between classroom quality, mindset beliefs, engagement, and student achievement in math and science. *American Educational Research Journal*.
- 9 Chebli, M., Arslanian, S., Hoyek, K., Harrison, C., Libman, I., **Qin, X.**, & Vajravelu, M.E. (in press). Child opportunity index: Does it foretell future glycemic control and healthcare utilization in youth with Type 1 and Type 2 diabetes? *Clinical Diabetes*.
- 10 Harrison, C., Ragavan, M.I., Zupa, M.F., **Qin, X.**, Helgeson, V., & Vajravelu, M.E. (2025). Loneliness, discrimination, stress and Type 2 diabetes risk in young adults. *American Journal of Preventive Medicine*, 68(2), 217-226.
- 11 Yin, Q., Jeong, J.H., **Qin, X.**, Peddadda, S., & Adibi, J.J. (2024). Mediation analysis using semi-parametric shape-restricted regression with applications. *Sankhya B*, 86(2), 669-689.
- 12 Harrison, C., Peyyety, V., Gonzalez, A.R., Chivate, R., & **Qin, X.**, Zupa, M.F., Ragavan, M.I., & Vajravelu, M.E. (2024). Differences in prediabetes prevalence by race, ethnicity, and adverse social determinants of health in adolescents with overweight or obesity. *JAMA Network Open*, 97, 240-241.
- 13 **Qin, X.** * (2024). An introduction to causal mediation analysis. *Asia Pacific Education Review*, 25, 703–717. (Invited paper for a special issue on causal research designs and analysis in education.)
- 14 **Qin, X.** * (2024). Sample size and power calculations for causal mediation analysis: a tutorial and shiny app. *Behavior Research Methods*, 56(3), 1738-1769.
- 15 **Qin, X.** *, & Wang, L. (2024). Causal moderated mediation analysis: Methods and software. *Behavior Research Methods*, 56(3), 1314-1335.
- 16 Park, S., **Qin, X.**, & Lee, C. (2024). Estimation and sensitivity analysis for causal decomposition analysis in disparity research. *Sociological Methods and Research*, 53(2), 571-602.
- 17 Wang, M.-T., Scanlon, C., Del Toro, J., & **Qin, X.** (2023). Adolescent psychological adjustment and social supports during pandemic-onset remote learning: A national multi-wave daily-diary study. *Development and Psychopathology*, 35(5), 2533-2550.
- 18 Hong, G., Yang, F., & **Qin, X.** (2023). Post-treatment confounding in causal mediation studies: a cutting-edge problem and a novel solution via sensitivity analysis. *Biometrics*, 79(2), 1042-1056.
- 19 Xun, X., **Qin, X.**, Layden, A.J., Yin, Q., Swan, S.H., Barrett, E., Bush, N.R., Sathyanarayana, S., & Adibi, J.J. (2022). Application of 4-way decomposition to the analysis of placental hormones as intermediary variables between maternal body mass index and birthweight. *Frontiers in Reproductive Health*, 4, 994436.
- 20 **Qin, X.** * & Yang, F. (2022). Simulation-based sensitivity analysis for causal mediation studies. *Psychological*

- 21 Wang, M.-T., Zepeda, C., **Qin, X.**, Del Toro, J., & Binning, K. R. (2021). More than growth mindset: individual and interactive links among socioeconomically disadvantaged adolescents' ability mindsets, metacognitive skills, and math engagement. *Child Development*, 92(5), e957-e976.
- 22 **Qin, X.** *, Wormington, S., Guzman-Alvarez, A., & Wang, M.-T. (2021). Why does a growth mindset intervention impact achievement differently across secondary schools? Unpacking the mediation mechanism from a national multisite randomized experiment. *Journal of Research on Educational Effectiveness*, 14(3), 617-644.
- 23 Wang, M.-T., Binning, K. R., Del Toro, J., **Qin, X.**, & Zepeda, C. (2021). Skill, thrill, and will: The role of metacognition and motivation in predicting student engagement over time. *Child Development*, 92(4), 1369-1387. (Del Toro and Qin had equal intellectual contribution)
- 24 **Qin, X.** *, Deutsch, J., & Hong, G. (2021). Unpacking complex mediation mechanisms and their heterogeneity between sites in a Job Corps evaluation. *Journal of Policy Analysis and Management*, 40(1), 158-190.
- 25 Hong, G., Yang, F., & **Qin, X.** (2021). Did you conduct a sensitivity analysis? A new weighting-based approach for evaluations of the average treatment effect for the treated. *Journal of the Royal Statistical Society, Series A (Statistics in Society)*, 184(1), 227-254.
- 26 **Qin, X.** *, Hong, G., Deutsch, J., & Bein, E. (2019). Multisite causal mediation analysis in the presence of complex sample and survey designs and non-random nonresponse. *Journal of the Royal Statistical Society, Series A (Statistics in Society)*, 182(4), 1343-1370.
- 27 Hong, G., **Qin, X.**, & Yang, F. (2018). Weighting-based sensitivity analysis in causal mediation studies. *Journal of Educational and Behavioral Statistics*, 43(1), 32-56.
- 28 Bein, E., Deutsch, J., Hong, G., Porter, K., **Qin, X.** **, & Yang, C. (2018). Two-step estimation in rmpw analysis. *Statistics in Medicine*, 37(8), 1304-1324.
- 29 **Qin, X.** *, & Hong, G. (2017). A weighting method for assessing between-site heterogeneity in causal mediation mechanism. *Journal of Educational and Behavioral Statistics*, 42(3), 308-340.

Refereed Journal Abstract

- 30 Guzman-Alvarez, A., **Qin, X.**, & Scott, P. (2022). Deep neural networks for propensity score estimation (abstract), *Multivariate Behavioral Research*, 57 (1), 164-165.
(* Funded by 2021 NAEd/Spencer Dissertation Fellowship awarded to the first author, Ph.D. mentee)

Book Chapter

- 31 Chen, C.-C., **Qin, X.**, DeVlieger, S., & Farmer, T. W. (2022). Longitudinal research to support tailored interventions: Person- and process-oriented approaches (pp.245-256). In T.W. Farmer, E. Talbott, D. Lee, K. McMaster, & T. Aceves (Eds). *Handbook of special education research: Theory, methods, & developmental processes*. Routledge.

Conference Proceedings

- 32 **Qin, X.**, & Hong, G. (2016). Analyzing heterogeneous causal mediation effects in multi-site trials with application to the National Job Corps Study. In *JSM Proceedings*, Survey Research Methods Section. Alexandria, VA: American Statistical Association. pp.910-938.

(* Winner of 2016 Joint Statistical Meetings Student Paper Award, American Statistical Association)

- 33 **Qin, X.**, & Hong, G. (2014). Causal mediation analysis in multi-site trials: An application of ratio-of-mediator-probability weighting to the Head Start Impact Study. In *JSM Proceedings*, Social Statistics Section. Alexandria, VA: American Statistical Association, pp.912-926.

STATISTICAL SOFTWARE DEVELOPMENT

R shiny app for power analysis (<https://xuqin.shinyapps.io/CausalMediationPowerAnalysis>)

moderate.mediation (<https://cran.r-project.org/web/packages/moderate.mediation>)

mediationsens (<https://cran.r-project.org/web/packages/mediationsens>)

MultisiteMediation (<https://cran.r-project.org/web/packages/MultisiteMediation>)

rmpw (<https://cran.r-project.org/web/packages/rmpw>)

SELECTED PRESENTATIONS

Invited Presentations

Qin, X., Wang, J., & **Liu, C.** (2025). *Heterogeneous causal mediation analysis using Bayesian additive regression trees*. Invited presentation at the 19th International Joint Conference on Computational and Financial Econometrics (CFE) and Computational and Methodological Statistics (CMStatistics) (CFE-CMStatistics 2025), London, UK.

Qin, X. (2025). *Understanding Heterogeneity in Causal Mediation Mechanisms through Bayesian Additive Regression Trees*. Invited talk at the ASA Detroit Chapter meeting, Virtual.

Qin, X. (2025). *Multilevel causal moderated mediation analysis with multiple mediators: from the interventional perspective*. Invited presentation at the 2025 International Forum on Statistics, Beijing, China.

Qin, X. (2024). *Causal Mediation Analysis*. Invited presentation at the CAMEL (Community for Advanced Methodological Learning) at the University of Pittsburgh, Pittsburgh, Pennsylvania, U.S.

Qin, X. (2024). *A Journey of Explorations of Why, for Whom, and Where*. Invited presentation at the Learning Research & Development Center at the University of Pittsburgh, Pittsburgh, Pennsylvania, U.S.

Qin, X. (2024). *Assessing How Mediation Mechanisms Vary by Individuals and Contexts in Multisite Randomized Trials*. Invited presentation at the Society for Research on Educational Effectiveness Annual Conference, Baltimore, Maryland, U.S.

Qin, X. (2024). *A Causal Investigation of Heterogeneity in Mediation Mechanisms in Multisite Randomized Trials*. Invited presentation at the 7th International Conference on Econometrics and Statistics (EcoSta 2024), Beijing, China; the International Forum on Data Science (IFODS 2024), Beijing, China.

Hong, G., **Qin, X.**, Xu, Z., & Yang, F. (2024). *Stochastic noncompliance and endogenous confounding in evaluating a multi-phase treatment: multi-site IV as a solution*. Invited presentation at the 7th International Conference on Econometrics and Statistics (EcoSta 2024), Beijing, China.

Qin, X. & Wang, L. (2023). *Causal Moderated Mediation Analysis: A Causal Investigation of Heterogeneity in Mediation*

Mechanisms. Invited presentation at the 16th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2023), Berlin, Germany.

Qin, X. & Wang, L. (2023). *Causal Moderated Mediation Analysis: Methods and Software*. 2023 Association for Psychological Science Annual Convention, Washington, DC, U.S.

Qin, X. & Yang, F. (2021). *Simulation-based sensitivity analysis for causal mediation studies*. Invited presentation at the Department of Biostatistics at the University of Pittsburgh, Pittsburgh, Pennsylvania, U.S.

Qin, X. (2021). *Causal mediation analysis in multisite trials*. Invited presentation at the Annual Meeting of the American Educational Research Association, Virtual.

Qin, X. (2017). *Evaluating Between-Site Variation of Mediation Mechanisms in the Job Corps Impact Using a Weighting Method*. Invited presentations at the University of Pittsburgh, Pittsburgh, Pennsylvania, U.S.; University of Florida, Gainesville, Florida, U.S.; University of Georgia, Athens, Georgia, U.S.; University of Miami, Miami, Florida, U.S.; University of California, Riverside, California, U.S.; University of Houston, Houston, Texas, U.S.

Qin, X. & Hong, G (2016). *Evaluating between-site variation of mediation mechanisms in the Job Corps impact using a weighting method*. Invited presentation at the University of Chicago Education Workshop, Chicago, Illinois, U.S.

Qin, X. (2016). *Using potential outcomes to assess heterogeneity of causal mediation mechanism in multi-site trials*. Invited presentation at the University of Notre Dame Quantitative Psychology Program, South Bend, Indiana, U.S.

Qin, X. (2016). *Multi-site causal mediation analysis*. Invited instructor (with Prof. Howard Bloom, Prof. Guanglei Hong, Prof. Lindsay Page, Prof. Stephen Raudenbush, and Prof. Sean Reardon) at the Stanford University Workshop on Learning About and From Variation in Treatment Effects, the Stanford Center for Education Policy Analysis, Stanford, California, U.S.

Qin, X. & Hong, G. (2014). *Causal mediation analysis in multi-site trials*. Invited presentation at the University of Chicago Workshop on Quantitative Research Methods in Education, Health, and Social Sciences, Chicago, Illinois, U.S.

Qin, X. & Wang, J. (2011). *An application of quantile regression model for examining the influence of Chinese innovation capacity on water use efficiency*. Invited presentation at the 58th World Statistics Congress of the International Statistical Institute, Dublin, Ireland.

Refereed Presentations (underline indicates student co-author)

Qin, X. (2026). *Beyond Averages: Modeling Individual Differences in Causal Mediation Mechanisms using BART*. 2026 Annual Meeting of the International Society for Data Science and Analytics (ISDSA), Beijing, China.

Qin, X., Liu, X., & Nguyen, T. (2025). *Multilevel causal moderated mediation analysis with multiple mediators: from the interventional perspective*. Paper presented at the Society for Research on Educational Effectiveness Annual Conference, Chicago, IL, U.S.

Yamada, T., **Qin, X.** (2025). *Exploring the Heterogeneity of the Mediating Role of Engagement Underlying the Impact of Growth Mindset on Math Achievement*. Paper presented at the Society for Research on Educational Effectiveness Annual Conference, Chicago, IL, U.S.

- Yamada, T., Qin, X., Scanlon, C., & Wang, M.-T. (2023). *Does Goal Setting Mediate the Growth Mindset's Impact on Math Engagement Differently Depending on Instructional Quality?* Paper presented at the Annual Meeting of the American Educational Research Association, Philadelphia, Pennsylvania, U.S.
- Yamada, T., Qin, X., Scanlon, C., & Wang, M.-T. (2023). *Unpacking Causal Moderated Mediation: Does the Mediating Role of Engagement In The Relation Between Adolescents' Growth Mindset And Math Achievement Vary By Teaching Quality And Biological Sex?* Poster presented at the Society for Research on Educational Effectiveness Annual Conference, Washington, DC, U.S.
- Qin, X.** & Wang, L. (2023). *Moderated Mediation Analysis: A Causal Perspective.* Paper presented at the Annual RAND Center for Causal Inference (CCI) Symposium. Virtual.
- Qin, X.** & Wang, L. (2022). *Causal Moderated Mediation Analysis.* Paper presented at the Society for Research on Educational Effectiveness Annual Conference, Washington, DC, U.S.
- Guzman-Alvarez, A., Qin, X., & Scott, P. (2021). *Deep Neural Networks for Propensity Score Estimation: A Simulation Study.* Paper presented at the Annual Meeting of the Society of Multivariate Experimental Psychology, Virtual.
- Qin, X.** & Wang, J. (2021). *Bayesian inference for causal investigations of mediation and moderation in multisite randomized trials.* Paper presented at the Society for Research on Educational Effectiveness Spring Conference, Virtual.
- Qin, X.** & Yang, F. (2020). *Simulation-Based Sensitivity Analysis for Causal Mediation Analysis.* Paper presented at the Society for Research on Educational Effectiveness Spring Conference, Virtual.
- Qin, X.,** Wormington, S., Guzman-Alvarez, A., & Wang, M.-T (2019). *Why does a growth mindset intervention impact achievement differently across secondary schools? Unpacking the mediation mechanism from a national multisite randomized experiment.* Paper presented at the Capstone event of the National Study of Learning Mindsets Early Career Fellowship, Seattle, WA, U.S.
- Qin, X.,** Yang, F. (2019). *Sensitivity Analysis for Causal Mediation Analysis in the Presence of Unmeasured Pretreatment Confounding.* Paper presented at the Joint Statistical Meetings, Denver, Colorado, U.S.
- Qin, X.,** Deutsch, J., Hong, G., & Bein, E. (2018). *Unpacking between-site heterogeneity in complex mediation mechanisms of the Job Corps impact: two concurrent mediators.* Paper presented at the Annual Meeting of the American Educational Research Association, New York city, New York, U.S.
- Qin, X.,** Hong, G., Deutsch, J., & Bein, E. (2018). *A template for multi-site causal mediation analysis.* Paper presented at the Society for Research on Educational Effectiveness spring conference, Washington, DC, U.S.
- Qin, X.,** Deutsch, J., & Hong, G. (2017). *Unpacking between-site heterogeneity in complex mediation mechanisms in the Job Corps impact.* Paper presented at the Association for Public Policy Analysis and Management Fall Research Conference, Washington, DC, U.S.
- Hong, G., & **Qin, X.** (2017). *Weighting-Based Sensitivity Analysis in Causal Mediation Studies.* Paper presented at the American Sociological Association Methodology Midyear Meeting, Chicago, Illinois, U.S.
- Qin, X.,** Bein, E., Deutsch, J., Hong, G., Porter, K., & Vigil, A. (2017). *Unpacking complex mediation mechanisms in the multisite Job Corps evaluation.* Paper presented at the Society for Research on Educational Effectiveness spring conference, Washington, DC, U.S.

Qin, X., & Hong, G. (2016). *Analyzing heterogeneous causal mediation effects in multi-site trials with application to the National Job Corps Study.* Topic-contributed paper presented at the Joint Statistical Meetings, Chicago, Illinois, U.S. (* Joint Statistical Meetings Student Paper Award, American Statistical Association)

Qin, X., & Hong, G. (2016). *Investigating heterogeneous causal mediation mechanisms in multi-site trials.* Poster presented at the Annual Meeting of the American Educational Research Association, Washington, DC, U.S.

Qin, X., & Hong, G. (2015). *Weighting methods for assessing mediation effect variation in multi-site trials.* Paper presented at the International Conference on Health Policy Statistics (ICHPS), Providence, Rhode Island, U.S. (* Travel Award, Health Policy Statistics Section of the American Statistical Association.)

Qin, X., & Hong, G. (2015). *Weighting methods for assessing mediation effect variation in multi-site trials with an application to the National Job Corps Study.* Topic-contributed paper presented at the Joint Statistical Meetings, Seattle, Washington, U.S.

Qin, X., & Hong, G. (2014). *Ratio-of-mediator-probability weighting for causal mediation analysis in multi-site trials.* Poster presented at the Atlantic Causal Inference Conference, Providence, Rhode Island, U.S.; paper presented at the VI European Congress of Methodology, Utrecht, Netherlands.

Qin, X., & Hong, G. (2014). *Causal mediation analysis in multi-site trials: an application of ratio-of-mediator-probability weighting to the Head Start Impacts Study.* Paper presented at the Society for Research on Educational Effectiveness spring conference, Washington, DC, U.S.; the Joint Statistical Meetings, Boston, Massachusetts, U.S.

Qin, X., Wang, J., Zhao, Y., Wang, L., & Lu, X. (2013). *A comparison study on creativity of college students in China and USA.* Paper presented at the Annual Meeting of the Midwestern Psychological Association, Chicago, Illinois, U.S.

TEACHING EXPERIENCE

Workshop Instructor

“Causal Moderated Mediation Analysis – A Causal Investigation of Heterogeneity in Mediation Mechanisms: Methods and Software”. Presented at American Institutes for Research (AIR), 2024 American Educational Research Association (AERA) Professional Development Course (116 attendees), and the 2024 Annual Meeting of the International Society for Data Science and Analytics (ISDSA), Virtual.

Instructor at the University of Pittsburgh

Causal Moderation and Mediation Analysis (EDUC 3418)	Spring 2024, Fall 2025
Hierarchical Linear Modeling (EFOP 3408)	Spring 2019, Spring 2020, Spring 2021, Spring 2022
Applied Regression Analysis (EFOP 2410)	Fall 2018, Fall 2019, Fall 2020, Fall 2021, Fall 2023
Statistics I (EFOP 2018)	Spring 2018, Fall 2019, Fall 2020, Fall 2023

Guest Lecturer at the University of Pittsburgh

Introduction to Causal Inference (BIOST 2068)	Fall 2021, Fall 2022, Fall 2023
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Guest Lecturer at the Carnegie Mellon University

Graduate Research Methods in Psychology (85-715)	Spring 2025
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Teaching Assistant/ Lab Instructor at the University of Chicago

Applications of Hierarchical Models in Longitudinal and Multilevel Research (SOC1 20112)

Instructor: Prof. Stephen Raudenbush Spring 2016

Mediation, Moderation, and Spillover Effects (CHDV 32411)

Instructor: Prof. Guanglei Hong

Spring 2016

Causal Inference (CHDV 30102)

Instructor: Prof. Guanglei Hong

Spring 2015

Applied Statistics in Human Development Research (CHDV 30101)

Instructor: Prof. Guanglei Hong

Winter 2015; Fall 2017

GRADUATE STUDENT SUPERVISION

Doctoral Theses (advisor)

Jinyu Wang (Biostatistics, 2025 - 2026)

Doctoral Theses (co-advisor)

Liu Chen (Biostatistics, Expected 2027)

Award: 2025 Joint Statistical Meetings Student Paper Award, American Statistical Association

Tong Ru (Education, Graduated 2026)

Thesis: Promoting Human Capital Development of Children in Rural China: Three Empirical Studies within the Education Production Function Framework

Tetsuya Yamada (Education, Graduated 2025)

Thesis: How Growth Mindset Shapes Math Achievement: The Moderating Role of Classroom Practices and the Mediating Role of Multidimensional Engagement Across Adolescence

Award: 2023 SREE summer fellowship

Current position: Postdoc at the University of Tübingen, Germany

Alberto Guzman-Alvarez (Education, Graduated 2023)

Thesis: Deep learning for investigating causal effects with high-dimensional data: analytic tools and applications to educational interventions.

Award: 2021 National Academy of Education/Spencer Dissertation Fellowship

2024 Outstanding Dissertation Award, American Educational Research Association, Division D

2024 University of Pittsburgh School of Education Outstanding PhD Dissertation Alumni Award

Current position: Research Data Scientist, American Institute for Research

Doctoral Theses (committee member)

Cameron McCann (Quantitative methods in educational psychology, University of Texas, Austin, Expected 2028)

Ahana Biswas (Information Science, Expected 2028)

Ai Shao (Education, Expected 2028)

Qianjin Guo (Psychology, second-year project, Expected 2028)

Siyu Lyu (Public and International Affairs, Expected 2027)

Yuan Gao (Education, Expected 2027)

Kanoko Kamata (Sociology, Graduated 2025)

Thesis: Overcoming Low Social Movement Participation in Japan: A Mixed-Method Study

Current position: Assistant Professor, Keio University

Kharlya Carpio (Epidemiology, Graduated 2025)

Thesis: Measuring the effects of social, physical, and chemical environments in pregnancy: a biomarker approach to reduce disparities in maternal cardiovascular health

Conor Brown (Business, Graduated 2023)

Thesis: What Are You Hiding? The Strategic Use of Pay Secrecy to Affect Managerial Honesty.

Current position: Assistant Professor of Business, Grand Valley State University

Xiaoshuang Xun (Epidemiology, Graduated 2022)

Thesis: Prenatal Phthalate Exposure and Infant Anogenital Distance: infant size adjustment, evaluating phthalate mixture effects, and exposure patterns.

Current position: Senior Biostatistician, Johns Hopkins Bloomberg School of Public Health

Xiao Liu (Quantitative Psychology, Notre Dame University, Graduated 2022)

Thesis: Causal Mediation Analysis with The Latent Growth Curve Mediation Model.

Award: 2023 Outstanding Dissertation Award, American Educational Research Association, Division D

Current position: Assistant Professor of Quantitative Psychology, University of Texas Austin

Master's Theses (advisor)

Kimberly Abraham (Education, Graduated 2023)

David Manning (Education, Graduated 2021)

Thesis: Science Growth: The Role of Time, Student, and School Level Factors in a Longitudinal 3-Level Hierarchical Linear Growth Model.

Current position: Data Analyst, Niche

Master's Theses (committee member)

Fajer Shamsaldeen (Education, Graduated 2019)

Thesis: Predictive Validity Evidence for the Kuwait University Aptitude Test in STEM Colleges.

Current position: Ph.D. Student, University of Miami

PROFESSIONAL AFFILIATIONS

American Psychological Association	2023-present
Western North American Region of the International Biometric Society	2023-present
Society for Causal Inference	2021-present
American Sociological Association	2021-present
American Educational Research Association	2015-present
Society for Research on Educational Effectiveness	2014-present
American Statistical Association	2013-present

PROFESSIONAL SERVICES

Editorial Board

British Journal of Mathematical and Statistical Psychology (consulting editor) 2024-Present

Journal of Research on Educational Effectiveness 2021-Present

Sociological Methodology 2022-2025

Grant Review

Research Grants Council of Hong Kong, Reviewer 2026

<i>National Science Foundation, Panelist</i>	2024
<i>National Science Foundation, Reviewer</i>	2022-2023
<i>Spencer Small Research, Reviewer</i>	2023
<i>Pitt Momentum Funds, Reviewer</i>	2022

Referee Service

Journal of the American Statistical Association
Journal of the Royal Statistical Society: Series B (Statistical Methodology)
Annals of Applied Statistics
Journal of Causal Inference
Statistics in Medicine
BMC Medical Research Methodology
Statistical Methods in Medical Research
Journal of Educational and Behavioral Statistics
Journal of Research on Educational Effectiveness
Educational Evaluation and Policy Analysis
Educational Researcher
AERA Open
Psychological Methods
Multivariate Behavioral Research
Structural Equation Modeling: A Multidisciplinary Journal
British Journal of Mathematical and Statistical Psychology
Psychometrika
Educational and Psychological Measurement
Advances in Methods and Practices in Psychological Science
Sociological Methodology
American Journal of Sociology
Research in Social Stratification and Mobility
SAGE Open
Psychological Trauma: Theory, Research, Practice, and Policy
Journal of Community Psychology
Scientific Reports
Data Science in Science
Nature Communications
Journal of Financial Services Marketing
Journal of Data Science
Zeitschrift für Psychologie

Conference

Reviewer, <i>Society for Research on Educational Effectiveness Annual Conference</i>	2021-2026
Facilitator, Women in Quantitative Methods Event at SREE	2025
Session Organizer and Chair, <i>2025 International Forum on Statistics</i>	2025
Session Organizer and Chair, <i>2024 International Forum on Data Science</i>	2024
Session Organizer, <i>7th International Conference on Econometrics and Statistics (EcoSta 2024)</i>	2024
Session Chair, <i>Joint Statistical Meetings, American Statistical Association</i>	2021
Session Chair, <i>Applied Statistics Symposium, International Chinese Statistical Association</i>	2017

University of Pittsburgh

University of Pittsburgh

Member, <i>Research Strategy Group of the Student Success Action Research Collaborative, LRDC & Pitt</i>	2026
Member, <i>Faculty Development Committee, Learning Research and Development Center</i>	2026
Member, <i>Research Methods Certificate Planning Group</i>	2024
Member, <i>Academic Integrity Hearing Pool</i>	2024
Member, <i>Global Working Group</i>	2024
Member, <i>Human Development and Learning Sciences Ph.D. Planning Group</i>	2024
Committee Member, <i>Research Division Committee, School of Education</i>	2020-Present
Committee Member, <i>Quant Policy Search Committee, School of Education</i>	2021-2022
Committee Member, <i>Online Teaching Committee, School of Education</i>	2019 - 2020
Committee Member, <i>Research Methodology Committee, School of Education</i>	2018 – 2020
Mentor, <i>Biostatistics Journal Club (Causal Inference Reading Group), Department of Biostatistics</i>	2022