QINYUN LIN 林沁筠

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Academic Appointments

2022–   **Senior Lecturer in Health Science Statistics**
School of Public Health and Community Medicine
Institute of Medicine, Sahlgrenska Academy
University of Gothenburg, Sweden

2020–2022   **Postdoctoral Scholar**
Center for Spatial Data Science, University of Chicago
Supervisors: Drs. Marynia Kolak and Luc Anselin

Education

2019   **Ph.D. in Measurement and Quantitative Methods**
College of Education
Michigan State University, MI, U. S. (with Erickson Research Fellow Award)
Committee: Drs. Kenneth A. Frank (chair), Spyros Konstantopoulos, Spiro J.
Maroulis (Arizona State University), Amy K. Nuttall, and Jeffrey M. Wooldridge
Dissertation: *Quantifying strength of evidence in education research: accounting for spillover, heterogeneity, and mediation*

2014   **M.S. in Welfare Policies and Management**
Lund University, Lund, Sweden (fully funded by EMEA scholarship)
Thesis: *Downward transfers from parents to adult children in contemporary China*

2012   **B.A. in International Politics**
Fudan University, Shanghai, China (National Scholarship of China)

Research Interests

Quantitative Methods & Computational Social Science, Causal Inference, Social Networks, Spatial Analysis, Mediation Analysis, Health and Education Disparity.

Publications

\# Equal Authorship

Peer-Reviewed Journal Articles

Dahlstrand, J., **Lin, Q.**, Friberg, P., Fridolfsson, J., & Chen, Y. (2025). Physical activity partially mediating the social gradient in adolescent mental health. *Frontiers in Public Health*, *13*, 1622080. https://doi.org/10.3389/fpubh.2025.1622080

Lin, Q., Hunsberger, M., Klingberg, S., Henauw, S., Hebestreit, A., Lauria, F., Mazur, A., Moreno, L., Noémi, K., Pigeot, I., Tornaritis, M., Veidebaum, T., & Lissner, L. (2025). Physical, mental and behavioral health indicators in relation to academic performance in European boys and girls: the I.Family study. *BMC Public Health* **25**, 2176. https://doi.org/10.1186/s12889-025-23578-3

Lyu, W., Chen, X., Miao, C., **Lin, Q.**, Xiang, X., Zhang, G., & Xu, R. (2025). Revisiting the modified Retail Food Environment Index (mRFEI): examining food access inequities over a decade in the United States. *Discover Public Health*, *22*(1), 1-10. https://doi.org/10.1186/s12982-025-00704-5

Lin, Q., Chen, X., Xiang, X., Lyu, W., Miao, C., Zhang, G., & Xu, R. (2025). Association of activity-based food environment index with obesity-related cancer mortality in the US. *BMC medicine*, *23*(1), 167. https://doi.org/10.1186/s12916-025-03967-6

Xue, Y., Poghosyan, L., & **Lin, Q.** (2024). Supply and Geographic Distribution of Geriatric Physicians and Geriatric Nurse Practitioners. *JAMA Network Open*, *7*(11), e2444659-e2444659. https://doi:10.1001/jamanetworkopen.2024.44659

Lindholm, A., **Lin, Q.**, Hebestreit, A., Lissner, L., Papoutsou, S., & Hunsberger, M. (2024). Early milk cereal drink consumption correlated with rapid weight gain but not with subsequent adiposity. *Acta Paediatrica*. https://doi.org/10.1111/apa.17515

Tatara, E., **Lin, Q.**, Ozik, J., Kolak, M., Collier, N., Halpern, D., Anselin, L., Dahari, H., Boodram, B., & Schneider, J. (2024). Spatial inequities in access to medications for treatment of opioid use disorder highlight scarcity of methadone providers under counterfactual scenarios. *PLoS computational biology*. https://doi.org/10.1371/journal.pcbi.1012307

Narvaiz., S. #, **Lin, Q.** #, Rosenburg, J. M. #, Frank, K. A., Maroulis, S. J., Wang, W., Xu, R. (2024). konfound: An R Sensitivity Analysis Package to Quantify the Robustness of Causal Inferences. *The Journal of Open Source Software*. https::/doi.org/10.21105/joss.05779

Lin, Q., Aguilera, J., Williams, L., Mackesy-Amiti, M., Latkin, C., Pineros, J., Kolak, M., & Boodram, B. (2023). Social-spatial network structures among young urban and suburban persons who inject drugs in a large metropolitan area. *International Journal of Drug Policy.* https://doi.org/10.1016/j.drugpo.2023.104217

Covitt, B. A., de los Santos, E. X., **Lin, Q.**, Morrison Thomas, C., & Anderson, C. W. (2023). Instructional practices in secondary science: How teachers achieve local and standards-based success. *Journal of Research in Science Teaching.* https://doi.org/10.1002/tea.21869

Joudrey, P. J., Halpern, D., **Lin, Q.**, Paykin, S., Mair, C., & Kolak, M. (2023). Methadone prescribing by addiction specialists likely to leave communities without available methadone treatment. *Health affairs scholar.* https://doi.org/10.1093/haschl/qxad061

Lin, Q., Nuttall, A. K., Zhang Q., & Frank, K. A. (2023). How do unobserved confounding mediators and measurement error impact estimated mediation effects and corresponding statistical inference? Introducing the R package ConMed for sensitivity analysis. *Psychological Methods.* https://doi.org/10.1037/met0000567.

Frank, K. A., **Lin, Q.**, Xu R., Maroulis S. J., & Mueller, A. (2022). Quantifying the robustness of causal inferences: Sensitivity analysis for pragmatic social science. *Social Science Research.* https://doi.org/10.1016/j.ssresearch.2022.102815

Kim, J., Salloum, S., **Lin, Q.**, Hu, S. (2022). Ambitious instruction and student achievement: evidence from early career teachers and the TRU Math observation instrument. *Teaching and Teacher Education.* https://doi.org/10.1016/j.tate.2022.103779

Lin, Q., Kolak, M., Watts, B., Anselin, L., Pollack, H., Schneider, J., & Taylor, B. (2022). Individual, interpersonal, and neighborhood measures associated with opioid use stigma: Evidence from a nationally representative survey. *Social Science & Medicine.* https://doi.org/10.1016/j.socscimed.2022.115034

Joudrey, P., Kolak, M., **Lin, Q.**, Paykin, S., Anguiano, V., & Wang, E. A. (2022). Assessment of community-level vulnerability and access to medications for opioid use disorder. *JAMA Network Open.* 5(4): e227028. https://doi.org/10.1001/jamanetworkopen.2022.7028

Lin, Q., Paykin, S., Halpern, D, Crucetta, A., & Kolak, M. (2022). Assessment of structural barriers and racial group disparities of COVID-19 mortality with spatial analysis. *JAMA Network Open.* 5(3): e220984. https://doi.org/10.1001/jamanetworkopen.2022.0984

Frank, K. A., **Lin, Q.**, Maroulis S. J., Strassman, A., Xu R., Rosenberg J., Hayter, C., Mahmoud, R., Kolak, M., & Dietz, T. (2022). Response to "Three Comments on the RIR method." *Journal of Clinical Epidemiology*. https://doi.org/10.1016/j.jclinepi.2022.01.020

Lin, Q., Frank, K. A., Bathia, S., Draney K., Thomas, J., & Anderson C. W. (2022). Factors affecting students' learning from a design-based implementation research project in diverse education systems. *Journal of Research in Science Teaching*, 1–33. https://doi.org/10.1002/tea.21745

Song, Y., **Lin, Q.**, Kwon, K. H., Choy, C. H. Y., & Xu, R. (2022). Contagion of offensive speech online: An interactional analysis of political swearing. *Computers in Human Behavior*.[1] https://doi.org/10.1016/j.chb.2021.107046

Schneider, J., Taylor, B., Hotton, A., Lamuda, P., Ozik, J., **Lin, Q.**, Flanagan, E., Pho, M., Kolak, M., Brewer, R., Bather, J., & Pollak, H. (2021). National variability in Americans' COVID-19 protective behaviors: Implications for vaccine roll-out. *PLOS ONE*. https://doi.org/10.1371/journal.pone.0259257

Kolak, M., Chen, Y. T., **Lin, Q.**, & Schneider, J. (2021). Social-spatial network structures and community ties of egocentric sex and confidant networks: A Chicago case study. *Social Science and Medicine*. https://doi.org/10.1016/j.socscimed.2021.114462

Halpern, D., **Lin, Q.**, Wang, R., Yang, S., Goldstein, S., & Kolak, M. (2021). Dimensions of uncertainty: A spatialtemporal review of five COVID-19 datasets. *Cartography and Geographic Information Science*. https://doi.org/10.1080/15230406.2021.1975311

Kolak, M.[#], Li, X.[#], **Lin, Q.**[#], Wang, R., Menghaney, M., Yang, S., & Anguino, V. (2021). The US COVID atlas: A dynamic cyberinfrastructure surveillance for interactive exploration of the pandemic. *Transaction in GIS*. https://doi.org/10.1111/tgis.12786

Frank, K. A.[#], **Lin, Q.**[#], Maroulis S. J.[#], Strassman, A.[#], Xu R., Rosenberg J., Hayter, C., Mahmoud, R., Kolak, M., & Dietz, T. (2021). Hypothetical case replacement can be used to quantify the robustness of trial results. *Journal of Clinical Epidemiology*, *134*, 150–159. https://doi.org/10.1016/j.jclinepi.2021.01.025

Covitt, B. A., Parker, J. M., Kohn, C., Lee, M., **Lin, Q.**, & Anderson, C. W. (2021). Understanding and responding to challenges students face when engaging in carbon cycle pool-and-flux reasoning. *The Journal of Environmental Education*, *52*(2), 98–1117. https://doi.org/10.1080/00958964.2020.1847882

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[1] Awarded 2020 Top Conference Paper by the International Communication Association

Anderson, C. W., de los Santos, E. X., Bodbyl Roels, S., Covitt, B., Edwards, K. D., Hancock, J. B., **Lin, Q.**, Morrison Thomas, C., Penuel, W., & Welch, M. (2018). Designing educational systems to support enactment of the next generation science standards. *Journal of Research in Science Teaching*, *55(7)*, 1026–1052. https://doi.org/10.1002/tea.21484

Book Chapters, Reports & Preprints

Xu, R., & **Lin, Q.** (2026). A Social-Spatial Network Approach to Characterize Social Determinants of Health in Syndemics Research within an Intersectionality Framework. In: Kolak, M.A., Moise, I.K. (eds) *Place and the Social-Spatial Determinants of Health*. Global Perspectives on Health Geography. Springer, Cham. https://doi.org/10.1007/978-3-031-88463-4_15

Frank, K. A., **Lin, Q.**, & Maroulis, S. (2025). Causal Inferences From Observational Studies in Education Policy: Toward Pragmatic Social Science. In L. Cohen-Vogel, P. Youngs, & J. Scott (Eds.), *Handbook of Education Policy Research* (2nd edition, pp. 479–510). American Educational Research Association. https://doi.org/10.2307/jj.31510356.28

Lin, Q.[#], Maroulis, S.[#], Rosenberg, J. M.[#], Frank, K. A., Xu, R., Mueller, A. S., & Dietz, T. (2022). *Robustness of inference to replacement using the konfound R package.* https://10.13140/RG.2.2.29372.72329

Frank, K., **Lin, Q.**, Maroulis, S., Dai, S., Jess, N., Lin, H. C., Liu, Y., Maestrales, S., Searle., E., & Tait, J. (2022). Improving Oster's δ*: Exact Calculation for the Coefficient of Proportionality Without Subjective Specification of a Baseline Model. Available at SSRN: https://ssrn.com/abstract=4305243 or http://dx.doi.org/10.2139/ssrn.4305243

Paykin, S., Menghaney, M., **Lin, Q.**, & Kolak, M. (2021). *Rural, Suburban, Urban Classification for Small Area Analysis*. https://doi-org./10.13140/RG.2.2.25148.16009

Busenbark, J, Frank, A. K., Maroulis, S., Xu, R., & **Lin, Q.** Quantifying the robustness of empirical inferences in strategic management: The impact threshold of a confounding variable and robustness of inference to replacement. In Hill, A. D., Le, J. K., McKenny, A. F., O'Kane, P., Paroutis, S., and Smith, A. D. (Ed.) (2021). *Research in Times of Crisis (Research Methodology in Strategy and Management, Vol. 13)*. (123–150). Emerald Publishing Limited, Bingley. https://doi-org./10.1108/S1479-838720210000013010

Penuel, W. R., *****Lin, Q.**, *de los Santos, E. X., *Marshall, S. L., Anderson, C. W., & Frank, K. A. Building networks to support implementation of science curriculum in the *Carbon TIME* project. In Yoon, S. A., & Baker-Doyle, K. J. (Eds.). (2018). *Networked by design: Interventions for teachers to develop social capital* (196–214). Routledge.

Statistical Packages, Applications, and Web-based Publications

Lin, Q., Frank, K. A., Nuttall, A., Zhang Q. (2021). ConMed: R module to quantify robustness of causal mediation inferences to a confounding mediator. https://github.com/linqinyu/ConMed

Kolak, M., **Lin, Q.**, Paykin, S., Menghaney, M., & Li, A. (2021, May 11). GeoDaCenter/opioid-policy-scan: Opioid Environment Policy Scan Data Warehouse (Version v0.1-beta). Zenodo. http://doi.org/10.5281/zenodo.4747876

Li, X., **Lin, Q.**, Kolak, M., Martin, R., Yang, S., Menghaney, M., Israel, A., Wang, R., Anguiano V., Abbott, E., Halbern, D., & Mao, S. (2020, October 12). GeoDaCenter/covid: beta (Version beta). Zenodo. http://doi.org/10.5281/zenodo.4081869

Kolak, M., Menghaney, M., Li, A., **Lin, Q.** (2020). Opioid environment toolkit. Zenodo: http://doi.org/10.5281/zenodo.4248258

Rosenberg, J. M., Xu, R., **Lin, Q.,** & Frank, K. A. (2020). KONFOUND: R module to quantify robustness of causal inferences. https://github.com/konfound-project/konfound. http://konfound-it.com/.

Conference Presentations

+ *Virtual presentation*

Lin, Q. (2025, July). *Testing the Impossible? Advanced Sensitivity Analyses for Management Research.* Panelist presentation at the Academy of Management (AOM) Annual Meeting, Copenhagen, Denmark.

Xu, R., & **Lin, Q.** (2024, April). *A social-spatial network approach to characterize social determinants of health in syndemics research within an intersectionality framework.* Paper presented at the American Association of Geographers (AAG) Annual Meeting, Hawaii, HI.

Lin, Q., Frank, K. A., Xu, R. (2023, June) *Non-parametric sensitivity analysis for causal mediation analysis.* Paper presented at Society for Epidemiologic Research (SER) Conference, Portland, OR.

Lin, Q., Rojas, J., Mackesy-Amiti, M., Pineros, J., Williams, L., Kolak, M., & Boodram, B. (2022, June) *Social-spatial network structures among young urban and suburban persons who inject drugs: A case study in Chicago.* Paper presented at Society for Epidemiologic Research (SER) Conference, Chicago, IL.

Lin, Q., Paykin, S., & Halpern, D, Crucetta, A., & Kolak, M. (2021, November) S*patial and racial group disparities of COVID-19 mortality: an exploratory spatial analysis to understand dimensions of structural factors.* Paper presented at the Annual North American Meetings of the Regional Science Association International, Denver, CO.

+ **Lin, Q.**, Watts, B., Kolak, M., Anselin, L., Pollack, H., Schneider, J, & Taylor, B. (2021, June). *Association of opioid use disorder related stigma and access to OUD medication in a nationally represented survey.* Poster presented at Academy Health Annual Research Meeting.

+ **Lin, Q.**, Kolak, M., & Liang, Y. (2021, April). *Mapping historical and ongoing spatial inequities in access to medications for opioid use disorder: A 40-year longitudinal analysis.* Paper presented at the American Association of Geographers.

+ Frank, K.[#], **Lin, Q.**[#], Maroulis, S.[#], Rosenberg, J.[#], Xu, R.[#] (2020, December). *Quantifying the Robustness of Causal Inference for Treatment Effects on Dichotomous Outcomes.* Poster presented at the Society of Epidemiologic Research.

+ Frank, K., **Lin, Q.** (2020, November). *Discussing the strength of evidence in terms of conditions and context of people and organizations: Special applications for K-12 education.* Invited talk at the 2020 Virtual Conference for Michigan Education Research Association.

+ Ozik, J., Kolak, M., **Lin, Q.,** Dahari, H., Boodram, B., Schneider, J., Tatara, E., & Collier, N. (2020, October). *Measuring spatial inequities in access to opioid use disorder treatment for reducing HCV transmissions.* Poster presented at the Addition Health Services Research Conference.

+ Frank, K., **Lin, Q.**, & Maroulis, S. (2020, August). *How many patients must have different outcomes to change your inference? Assessing clinical uncertainty in randomized controlled trials during COVID-19.* Paper presented at the R Medicine Conference. https://www.youtube.com/watch?v=W65PGQg5G1I&t=14s&ab_channel=RConsortium

Lin, Q., Frank, K. A., & Anderson, C. W. (2019, April). *What factors affect students' learning through Carbon TIME?* A paper presented as part of a paper set "*Achieving Three-dimensional Learning in Diverse Classrooms*" at the National Association for Research in Science Teaching Annual Conference, Baltimore, MD.

Lin, Q., & Frank, K. A. (2019, March). *Characterizing the potential bias due to peer effects in value-added.* Paper presented at the Association for Education Finance and Policy Annual Conference, Kansas City, MO.

Lin, Q., Nuttall, A., & Frank, K.A. (2018, September). *Sensitivity analysis for mediation effects in longitudinal designs.* Poster presented at the Developmental Methods Conference, Whitefish, MT.

Lin, Q., & Frank, K. A. (2018, March). *Characterizing the uncertainty of value-added.* Paper presented at the Association for Education Finance and Policy Annual Conference, Portland, OR.

Lin, Q., Frank, K. A. (2017, June). *How do "weights" affect clustering?* A paper presented at the XXXVII Sunbelt Conference of the International Network for Social Network Analysis, Beijing, China.

Lin, Q., Penuel, W. R., Frank, K. A. (2017, April). *Using survey data to measure teaching practices and network effects in Carbon TIME.* A poster presented at the National Association for Research in Science Teaching (NARST) Annual Conference in Baltimore, MD.

Grants, Fellowships, & Awards

Current & Previous External Grants

2020–2023	The U.S. COVID-19 Atlas: Assisting Vulnerable Communities to Detect and Respond to COVID-19 Hotspots (Phase I and II).
	Sponsor: Robert Wood Johnson Foundation.
	PI: Marynia Kolak
	Role: Co-PI
	Awarded: $800,000

Fellowships and Scholarships

2019	Dissertation Completion Fellowship
2019	The Anderson-Schwille Endowed Fellowship in International Education
2017	Summer Research Fellowship, College of Education, Michigan State University
2017	Fellowship to Enhance Global Understanding (FEGU): Cuba
2015–2019	Erickson Research Fellow Award, Michigan State University
2012–2014	Erasmus Mundus Europe Asia Scholarship (fully funded my master's degree)
2010	Leo KoGuan Scholarship (ranked No.2 out of 124), Fudan University, China
2009	National Scholarship of China (ranked No.2 out of 124), Fudan University, China

Honors and Awards

2021	Society for Research on Educational Effectiveness (SREE) Researchers of Color Mentor Travel Award
2021	American Association of Geographers Health Data Visualization Contest Award (received for "The US COVID Atlas" tool)

Teaching & Mentoring Experience

Teaching

2022–Present   **Instructor,** Gothenburg University in health science statistics courses
SM00133 Regression methods 2: logistic and Cox regression
MGH311 Applied Epidemiology and Biostatistics
MGH102 Quantitative and qualitative methods
MPH221 Epidemiology and biostatistics
SFUOBL4 Introduction to research theory and quantitative and qualitative design
STA050 R programming with examples from health sciences

2023   **Co-Instructor,** Society for Epidemiologic Research Annual Meeting 2023
Workshop: Intro to Spatial Analysis & GIS for Spatial Epidemiology in R
Instruct with Dr. Marynia Kolak

2021   **Guest Lecturer**, Michigan State University
"How do unobserved confounding mediators and measurement error impact
estimated mediation effects and corresponding statistical inferences" for course:
Analytical Strategies for Observational Studies (Instructor: Dr. Zhehui Luo)

2021   **Instructor**, The University of Chicago
Workshop: Developing Spatial Access Metrics

2021   **Guest Lecturer**, The University of Chicago
"Package Development in R" for course: Geographic Information Science III
(Instructor: Dr. Marynia Kolak)

2020   **Certified Data Carpentry Instructor**
- [Instructor, Online Data Carpentry Workshop, Social Science with R, Spelman College jointly hosting with Morehouse College (Dec 2020)](#)
- [Helper, Online Data Carpentry Workshop, Institute for Tribal Environmental Professionals (Nov 2020)](#)

2020   **Co-Instructor,** University Consortium for Geographic Information Science (UCGIS)
Instruct with Dr. Marynia Kolak and Ms. Moksha Manghaney
"Intro to Spatial Analysis in R"

2019   **Teaching Assistant** for Dr. Kenneth A. Frank, University of Michigan
"An Introduction to Graphical Methods in Social Network Analysis"
- Prepared materials and presented on how to visualize networks in RStudio

2018	**Teaching Assistant** for Dr. Kenneth A. Frank, University of Michigan-Peking University Joint Institute
	"General Designs and Sensitivity Analysis for Causal Inference"

- Presented applications of sensitivity analyses and assisted the professor with lessons.
- Explained causal inference designs to 40 students in an introductory level course.
- Evaluated homework and papers and held lab sessions to ensure students understand concepts.

Mentor

2020–2022	**Mentor**, Healthy Regions & Policies Lab, Center for Spatial Data Science, University of Chicago

- Mentored 5 undergraduate and graduate research assistants on multiple projects
- Advised master thesis (Alana LaBelle-Hahn)

Professional Service

2021	Co-organizer, Symposium of Intersectionality & Public Health

PhD Examination

2024	Half-time PhD examination for Khin Thiri Maung, University of Gothenburg
2023	Half-time PhD examination for Johan Dahlstrand, University of Gothenburg

Editorial and Peer Review Activities

2024–	Early Career Editorial Board (ECEB) member, *Wellbeing, Space and Society*

Peer reviewer for *Journal of the International AIDS Society (1 paper), Educational Researcher (1), AERA Open (1), Social Science & Medicine, Journal of Data Science (1), PLoS Computational Biology (1), Transaction in GIS (1), International Journal of Environmental Research and Public Health (1), Journal of Racial and Ethnic Health Disparities (2), International Social Science Journal (1), Journal of Map (1), Health and Place (1), Journal of Medical Internet Research (1), Communications in Statistics (1), Computers in Human Behavior (1), JAMA Network Open (1), Journal of Sport and Health Science (1), Epidemiologic Methods (1), the British Journal of Mathematics and Statistical Psychology (1), Preventive Medicine Reports (1), Wellbeing, Space and Society (1), Theory & Psychology (1).*

Conference Review Activities

Society for Epidemiologic Research 2022, AcademyHealth 2022

Memberships

2020–Present	Society for Epidemiologic Research
2021–2022	Society for Research on Educational Effectiveness
2021–2022	Spatial Econometrics Association
2020–2024	American Association of Geographers
2017–2021	The National Association for Research in Science Teaching
2019–2020	American Education Research Association