JIAHUI XU

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[Updated on 2024.08.01]

EDUCATION

Ph.D., Sociology, Pennsylvania State University, PA	Aug. 2019 - 2025 (expected)
M.A., Sociology, Pennsylvania State University, PA	Aug. 2019 - Aug. 2021
M.A., Applied Economics, University of California Los Angeles, CA	Sept. 2017 - June 2018
B.A., Economics, Peking University, China	Sept. 2013 - June 2017

AREAS OF INTEREST

Quantitative Methodology; Computational Social Science; Causal Inference; Social Stratification and Inequality; Health Disparities; Poverty.

PEER-REVIEWED PAPERS

Xu, Jiahui, Liying Luo, Alyssa Gamaldo, Ashton Verdery, Melissa Hardy, Orfeu M. Buxton, and Qian Xiao. "Trends in sleep duration in the US from 2004 to 2018: A decomposition analysis." *SSM-Population Health* 25 (2024): 101562.

Luo, Liying, Emma Zang, and **Jiahui Xu**. "Regional differences in intercohort and intracohort trends in obesity in the USA: evidence from the National Health Interview Survey, 1982–2018." *BMJ open* 12, no. 7 (2022): e060469.

Xu, Jiahui, and Liying Luo. "APCI: an R and Stata package for visualizing and analyzing age-period-cohort data." *The R Journal* 14, no. 2 (2022): 77.

Balcilar, Mehmet, Jeffrey B. Nugent, and **Jiahui Xu**. "Adversities in Syria and their relation to their physical and mental health conditions as Syrian refugees in Turkey." *Scottish Journal of Political Economy* 69.1 (2022): 37-59.

Brand, Jennie E., **Jiahui Xu**, Bernard Koch, and Pablo Geraldo. "Uncovering Sociological Effect Heterogeneity Using Tree-Based Machine Learning." *Sociological Methodology* 51, no. 2 (2021): 189-223.

- 2024 Mathematical Sociology's Outstanding Article Publication Award, American Sociological Association.

BOOK CHAPTERS

Brand, Jennie E., **Jiahui Xu**, and Bernard Koch. "Machine Learning." In *SAGE Research Methods Foundations*, edited by P. Atkinson, S. Delamont, A. Cernat, J.W. Sakshaug, and R.A. Williams. 2019. https://doi.org/10.4135/9781526421036883644 [Xu and Koch are of equal authorship]

WORK IN PROGRESS

Xu, Jiahui, "Counterfactual Decomposition of Racial/Ethnic Health Disparities: Insights from Medicaid Expansion in U.S."

Xu, Jiahui, Jennie E. Brand, Tanvi Shinkre, and Nanum Jeon. "Flexibly Detecting Effect Heterogeneity with an Application to the Benefits of College in Reducing Poverty."

Luo, Liying, **Jiahui Xu**, John Robert Warren, Kenneth Langa. "Increasing Child's Education Improves Parent's Dementia Risk and the Educational Gradients: A Two-Generation Approach"

Xu, Jiahui*, Hyeyun Jeong*, John Robert Warren, Liying Luo, Eric Grodsky, and Chandra Muller. "Social Status, Mobility, and Health in the United States." (* co-first author)

Laughlin, Lynda* , Xi Song* , Megan Wisniewski* , and **Jiahui Xu***. "From Job Descriptions to Occupations: New Natural Language Processing Models for Automated Coding" (* authorship is alphabetic)

Song, Xi and **Jiahui Xu**. "The Rise of Asian-Dominated Occupations Emerges as a Driver of Growing Earnings Inequality Between Asian and White Workers in the United States."

INVITED TALKS

2024	*University of Washington, Computational Demography Working Group;* *University of Macau, Computational Social Sciences Workshop.*
2023	*University of Pennsylvania, Methodology Working Group.*
2022	*University of Washington, Computational Demography Working Group.*
2021	*University of California Davis, Computational Text Analysis Working Group, "TextualiTea".*

PRESENTATIONS

"From Job Descriptions to Occupations: New Natural Language Processing Models for Automated Coding"

- PAA Annual Meeting 2024, Columbus, OH, April 2024
- Computational Demography Working Group (CDWG), University of Washington, May 2024
- RC28 Spring Meeting 2024, Shanghai, China, May 2024
- Inequality Data Science Lab (IDS-Lab), UCLA, June 2024
- IC2S2 2024, Philadelphia, PA, July 2024
- ASA Annual Meeting 2024, Montreal, Canada, August 2024
- RC28 Summer Meeting 2024, Providence, RI, August 2024

"APCI Package: Visualizing and Analyzing Trends in Sociodemographic Outcomes"

- Methodology Working Group, University of Pennsylvania, April 2023

"Determining Treatment Prioritization Rules: An Application to the Benefits of College in Reducing Poverty"

- ASA Annual Meeting 2023, Philadelphia, PA, August 2023
- Inequality Data Science Lab (IDS-Lab), UCLA, February 2023

"Trends in Sleep Duration in the US from 2004 to 2018: A Decomposition Analysis"

- Computational Demography Working Group (CDWG), University of Washington, November 2022

- The Gerontological Society of America (GSA) 2021 Annual Scientific Meeting (Poster), virtual, November 2021

"htetree Package: Tree-based Machine Learning Approaches for Causal Inference"

- Sociology Seminar Series, University of California, Davis, December 2021

"Visualization in R"

- PRI Coding Workshops, Pennsylvania State University, October 2021

  Three students emailed me saying that that one-hour workshop is their favorite one.

PAA Annual Meeting 2022 (Poster presentation), April 2022

ASA Annual Meeting 2022 (Poster presentation), August 2022

PAA Annual Meeting 2021 (Paper presentation), May 2021

SOFTWARE DEVELOPMENT

R packages

- **OccRank** for calculating occupational ranks (available by request, project website for interactive use)

- **APCI** for implementing age-period-cohort analysis (available on CRAN and GitHub)

- **MCM** for implementing mobility contrast model (available on CRAN and GitHub)

- **htetree** for causal inference with tree-based machine learning approaches (available on CRAN and GitHub)

  htetree has been presented at the following workshops by Jennie E. Brand:

  - GESIS Leibniz Institute for the Social Sciences, Mannheim, Germany October 2021

  - Northwestern University, Applied Quantitative Methods Workshop, May 2021

  - Ohio State University, Institute for Population Research, March 2021

  - University of California, Berkeley, Demography Department, March 2021

  - University of Texas, Austin, Population Research Center, February 2021

  - University of Chicago, Department of Comparative Human Development, October 2020

  - Max Planck Institute for Demographic Research, Suessmilch Lecture, September 2020

  - Duke University, Population Research Center Seminar, September 2020

STATA commands

- **apci** for implementing age-period-cohort analysis (available on GitHub)

- **mcm** for implementing mobility contrast model (available on GitHub)

REVIEWER EXPERIENCE

Population Research and Policy Review, Nature - Scientific Reports, Sociology of Education, Sociological Methods & Research, BMC Medical Research Methodology, BMC Medical Informatics and Decision Making, IC2S2, GSA.

TEACHING

SOC 470: Intermediate Social Statistics (undergraduate), guest lecture, 2022

Penn State Population Research Institute (PRI) Coding Workshops, 2021

SOC 83: First-Year Seminar in Sociology (undergraduate), teaching assistant, 2020

SERVICE

Sociology paper competition committee, Pennsylvania State University, 2020-present

PAA Applied Demography Conference, 2024

Interdisciplinary Association for Population Health Science (IAPHS) Annual Meeting, 2024

Mini-PAA 2021 organization committee, Pennsylvania State University, 2021

HONORS AND AWARDS

Mathematical Sociology's Outstanding Article Publication Award, American Sociological Association, 2024

Student Representative, Methodology Section, American Sociological Association. (2024-2026)

Faculty-Alumni Enrichment Award, Pennsylvania State University, 2024 ($1,000)

PRI Travel Award, Pennsylvania State University, 2024 ($500)

PRI Travel Award, Pennsylvania State University, 2023 ($1,300)

PRI Travel Award, Pennsylvania State University, 2022 ($1,100)

Liberal Arts Teaching and Research Scholarship, Pennsylvania State University, 2020 ($2,500)

Excellent Interviewer, Institute of Social Science Survey, Peking University, Beijing, China, 2015

WOORI BANK Scholarship, Peking University, Beijing, China, 2014 (RMB 5,000)

SKILLS

Programming: R, STATA, Python, SQL, C++/C, SAS, Linux, HTML/CSS, JavaScript

Languages: Chinese, English, Korean