Jayati Sharma, ScM

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EDUCATION AND TRAINING

Johns Hopkins University Bloomberg School of Public Health (BSPH)	PhD in Genetic Epidemiology *Advisor: Dr. Genevieve Wojcik* *GPA: 4.0*	Expected May 2025
Johns Hopkins University Bloomberg School of Public Health	ScM in Genetic Epidemiology *GPA: 4.0*	May 2022
University of Arizona	B.S. Public Health, Quantitative Methods, Honors; B.S. Molecular & Cellular Biology Magna Cum Laude *GPA: 3.7*	May 2020

GRANT FUNDING

NIH NHGRI F31: **"Evaluation of Polygenic Risk Scores as a Valid Instrument to Conduct Mendelian Randomization in Diverse Ancestry Populations"**
F31HG013440-01; October 2024 - Present

RESEARCH EXPERIENCE

Johns Hopkins University:
Graduate Researcher, **Research on Ancestry in Genetic Epidemiology (RAGE) Lab**   **Feb 2021-Present**
PI: Genevieve Wojcik, PhD, MHS
- Examining causal inference and risk prediction methods in the All of Us Research Program and Population Architecture Using Genomics and Epidemiology (PAGE) Study, specifically incorporating gene-environment interactions of smoking behavior and air pollution exposure on LDL cholesterol -- Dissertation Work
- Exploring the presence, extent, and mechanisms of gene-environment interactions in the Environmental influences on Child Health Outcomes (ECHO) Study, especially via modeling of polygenic risk scores
- Conducted an analysis of the gene-environment relationship and interaction between diverse genetic ancestry, polygenic obesity risk, and acculturation using data from the PAGE Study and from the Hispanic Community Health Study/Study of Latinos (HCHS/SOL) -- Masters Thesis Work, *preprint on medRxiv, publication under review*

Graduate Research Assistant, Cigarette Restitution Fund Study on Social Determinants of Health and Smoking Behavior in the All of Us Research Program   **Sept 2024-Present**
PI: Miranda Jones, PhD, MHS
- Investigating differences in tobacco use behaviors among participants in the All of Us Research Program and associations with both social determinants of health in patients stratified by cancer history

BSPH Course: Baltimore Community Data Science
Data Science Consultant   **Feb 2021-June 2022**
- Partnered with local Baltimore nonprofit, HeartSmiles, to provide data science support via data organization in R, data wrangling, exploratory data analysis, dashboard development, and social media analysis to improve marketing and outreach strategy
- Regularly served as liaison between team of 5 data scientists and nonprofit partner to establish goals, timelines, review deliverables, and improve organizational workflows, resulting in training young data scientists to take on future data science project management

Research Assistant - Data Analyst, International Vaccine Access Center (IVAC)　　　**July 2021-June 2022**
PI: Ruth Karron, MD & Co-PI: Maria Knoll, PhD
- Analyzed longitudinal prospective cohort data from the SARS-CoV-2 Epidemiology and Response in Children (SEARCh) study of >150 Maryland families to understand factors related to SARS-CoV-2 infection risk and presentation in children, particularly those aged 0-5 years
- Collaborated with other senior data analysts in data management and cleaning, exploratory and descriptive analyses, and generation of figures, data visualizations, and tables for manuscripts, and regular reports to CDC collaborators, all conducted in R

University of Arizona:
Undergraduate Student Researcher, **Klimentidis Lab**　　　**May 2019-Aug 2020**
PI: Yann Klimentidis, PhD
- Conducted an independent research study for Honors thesis in genetic epidemiology using R to statistically understand correlations between diet, genetics, and risk of cardiometabolic diseases from data of ~500,000 participants in the UK Biobank
- Gained experience in conducting multiple genome-wide association studies (GWAS), Mendelian Randomization, and genetic risk score analysis using genetic software (e.g. PLINK, MR Base)
- Developed a proposal in collaboration with 23andMe to study gene-environment interactions related to meat consumption and resulting causal links to cardio-metabolic diseases and cancers

Undergraduate Student Researcher, **EPIC El Rio Study**　　　**July 2019-Mar 2020**
Co-PI: Melanie Hingle, PhD, MPH, RDN
- Collected data (in English & Spanish) for a study designed to ascertain health outcomes among mothers and children at high Type 2 Diabetes risk who received a short-term educational intervention
- Trained in the assessment of several biometric measures, including height, weight, waist circumference, and HbA1c protocol; trained in administering and verifying responses for a variety of questionnaires (e.g. PRAPARE, Tanner, FFQ)

Community Food Bank of Southern Arizona (CFB):
Research Consultant Intern, **FRESH2 Study**　　　**June 2018-July 2020**
PI: Melanie Hingle, PhD, MPH, RDN
- Analyzed & described diet quality among food bank clients, to inform a nutrition intervention helping food-insecure food bank clients prevent and manage diet-related diseases (e.g. diabetes)
- Trained in qualitative research methodology, including conducting surveys and in-depth interviews, using qualitative data analysis software, and analyzing qualitative data using thematic analysis

Health & Nutrition Policy & Assessment Specialist Intern　　　**May 2019-Aug 2019**
- Led an in-depth review of several Feeding America food banks' nutrition policies and implementation strategies to structure recommendations for CFB, in collaboration with a graduate research assistant
- Researched and developed a proposal for a nutritional assessment system & to promote client health; presented to CEO, CPO, COO and Health Initiatives Team

Health & Nutrition Intern　　　**Oct 2017-May 2019**
PI: Douglas Taren, PhD
- Executed a quantitative, computational analysis of distributed food assistance foods through The Emergency Food Assistance Program (TEFAP)
- Generated a nutrient report using NDSR database and conveyed findings to Health & Nutrition team, which resulted in change in inventory order for the CFB to source foods lower in salt, sugar, fats

PUBLICATIONS & ABSTRACTS

<u>**Pre-Prints:**</u>
Sharma J, McArdle CE, Graff M, Cordero C, Daviglus MA, Gallo LC, Isasi CR, Kelly TN, Perreira KM, Talavera GA, Cai J, North KE, Fernandez-Rhodes L, Wojcik GL. Influence of Genetic Ancestry on Gene-Environment Interactions of Polygenic Risk and Sociocultural Factors: Results from the Hispanic Community Health Study/Study of Latinos. Preprint. medRxiv. 2024;2024.11.26.24318009. Published 2024 Nov 29. doi:10.1101/2024.11.26.24318009

Peer-Reviewed Publications:

Garcia Quesada M, Hetrich MK, Zeger S, **Sharma J**, et al. Predictors of SARS-CoV-2 seropositivity prior to COVID-19 vaccination among children 0-4 years and their household members in the SEARCh Study. *Open Forum Infectious Diseases.* 2022;9(10). https://doi.org/10.1093/ofid/ofac507

Short E, **Sharma J**, Thompson DI, Taren D, Gonzalez R, Hingle M. Food Assistance Use Among Food Bank Clients Affected by Type 2 Diabetes. J Nutr Educ Behav. 2022;54(4):288-298. doi:10.1016/j.jneb.2021.11.001

Sharma J, Menon G. Successful Community Involvement During the COVID-19 Pandemic: A Student Perspective. Am J Public Health. 2022;112(4):598-600. doi:10.2105/AJPH.2021.306671

Pogreba Brown K, Austhof E, Rosa Hernández AM, McFadden C, Boyd K, **Sharma J**, Battaglia S, Shilen A, & Heslin K. Training and Incorporating Students in SARS-CoV-2 Case Investigations and Contact Tracing. *Public Health Rep.* 2021;136(2):154-160. doi:10.1177/0033354920974664

Abstracts:

Sharma J, Cai Y, Wang Z, Lin M, Gignoux C, Graff M, Haiman C, Kooperberg C, Matise T, North K, Peters U, Kenny EE, Jones MR, Wojcik GL. Assessing the Performance of a Multi-Ancestry Polygenic Risk Score for LDL when Incorporating Gene-Environment Interactions of Smoking and Air Pollution in Racially and Ethnically Diverse Groups: Results from the PAGE Study. *American Society of Human Genetics.* November 2024.

Sharma J, Cai Y, Wang Z, Lin M, Haiman C, North K, Peters U, Kenny EE, Jones MR, Wojcik GL. Predictive Performance of a Multi-Ancestry Polygenic Risk Score for LDL with Gene-Environment Interactions of Smoking and Air Pollution in Diverse Groups: Results from the PAGE Study. *International Genetic Epidemiology Society.* November 2024.

Sharma J, Cai Y, Wang Z, Lin M, Haiman C, North K, Peters U, Kenny EE, Jones MR, Wojcik GL. Smoking Status Modifies the Effect of Multi-Ancestry PRS on LDL levels in Diverse Racial and Ethnic Groups. *Johns Hopkins University Genetics Research Day.* September 2024.

Sharma J, Sartori A, Lin M, Kenny E, Gignoux C, Haiman C, Kooperberg C, Matise T, North K, Wojcik GL. Multi-Ancestry LDL Polygenic Risk Score Performance Incorporating Gene-Environment Interactions in Diverse Racial/Ethnic Groups: Results from the PAGE Study. *Program in Quantitative Genetics Conference, Harvard T.H. Chan School of Public Health.* October 2023.

Sharma J, McArdle C, Graff M, Isasi C, Daviglus M, Talavera GA, North KE, Fernandez-Rhodes L, Wojcik GL. Investigating the Influence of Genetic Ancestry on Gene-Environment Interactions of Polygenic Risk Score and Acculturation: Results from the Hispanic Community Health Study/Study of Latinos. *American Society of Human Genetics.* October 2022. *Selected as Reviewer's Choice Abstract*

Hingle M, Short E, **Sharma J**, Taren D, Gonzalez R, Sheava J, Thompson D. Client-driven modifications to food assistance and related resources for households affected by Type 2 diabetes. *International Society for Behavioral Nutrition and Physical Activity Symposium.* April 2020. *Canceled due to COVID-19

Short E, **Sharma J**, Thompson D, Gonzalez R, Sheava J, Taren D, Hingle M. Client Preferences and Diabetes Management Guidelines Inform the Design and Elements of a Therapeutic Food Box Intervention. *Society for Behavioral Nutrition 2020 Rapid Communications Poster Abstracts.* April 2020. *Canceled due to COVID-19

Sharma J, Klimentidis Y. Genetics of Meat Consumption & Cardiometabolic Disease. *The University of Arizona Public Health Poster Forum.* March 2020. *Canceled due to COVID-19

PRESENTATIONS & TALKS

INVITED TALKS
The Impact of Social Determinants of Health on Smoking Behaviors in US adults: Evidence from the All of Us Research Program. **Delta Research and Educational Foundation (partner organization of the All of Us Research Program)**. November 2024. (Virtual.)

"Genomic Data in the All of Us Research Program": Role of Ancestry, Race, and Ethnicity in Genetic and Biomedical Research. **JHU Sidney Kimmel Comprehensive Cancer Center Journal Club.** October 2024. (Baltimore, MD, USA.)

Evaluation of Polygenic Risk Scores as a Valid Instrument to Conduct Mendelian Randomization in Diverse Ancestry Populations. **PAGE Study Virtual Meeting**. September 2024. (Virtual.)

GxE Interactions of BMI PRS and Acculturation. **HCHS/SoL Obesity Special Interest Group**. January 2023. (Virtual.)

Investigating the Influence of Genetic Ancestry on Gene-Environment Interactions of Polygenic Risk Score and Acculturation: Results from the Hispanic Community Health Study/Study of Latinos. **Lightning Talk, American Society of Human Genetics**. October 2022. (Los Angeles, CA, USA)

Nutrition Assessment System (NAS) Development Proposal. Presentation with Health Initiatives Team to **Community Food Bank of Southern Arizona** CEO, CPO, & COO. June 2019. (Tucson, AZ, USA)

PRESENTATIONS
Investigating the Influence of Genetic Ancestry on Gene-Environment Interactions of Polygenic Risk Score and Acculturation: Results from the Hispanic Community Health Study/Study of Latinos. **Johns Hopkins Bloomberg School of Public Health (BSPH) Masters' Thesis Symposium**. May 2022. (Baltimore, MD, USA)

Storytelling for Better Science (And Scientists!) **JHU Doctoral Seminars in Epidemiology.** December 2024. (Baltimore, MD, USA.)

TEACHING EXPERIENCE

Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

TA, Doctoral Seminars in Epidemiology	2024
TA, Principles of Epidemiology (MPH Program)	2024
TA, Epidemiologic Methods III	2024
TA, Epidemiologic Methods II	2023
TA, Epidemiologic Methods I	2021, 2023
TA, Principles of Genetic Epidemiology (Undergraduates)	2022
TA, Fundamentals of Epidemiology (Section Instructor)	2021

University of Arizona, Tucson, AZ

Organic Chemistry I & II Supplemental Instruction Leader	2018-19
General Chemistry I & II Supplemental Instruction Leader	2017-18

OTHER SELECTED INVOLVEMENT

Editor-in-Chief, *GeneBites.org*   January 2024-Present

Freelance Science Communicator   January 2023-Present

Contributor, JHU Lead, *Genomics Preprint Club*   December 2024-Present

Student Spaces & Newsletter Chair   August 2021-May 2023
BSPH Epidemiology Student Organization

Science Reporting Fellow, AAAS Mass Media Fellowship   June 2022-Aug 2022
The Wichita Eagle, Kansas

Membership Committee Co-Chair   Oct 2020-Oct 2021
American Public Health Association, Student Assembly

Graduate Student Writer for COVID-19 Research Database   Oct 2020-May 2021
Johns Hopkins Center for Humanitarian Health

Department Assistant, COVID-19 Task Force   Mar 2020-Sept 2020
University of Arizona Department of Epidemiology & Biostatistics

MENTORSHIP

Peer Mentor, Cientifico Latino   2024-Present
Student Mentor, Epidemiology Student Organization @ BSPH   2021-2024
PATH Mentor, UArizona Honors College   2018-2019

AFFILIATIONS & PROFESSIONAL MEMBERSHIPS

Affiliate Member, **PRIMED Consortium**   2024-Present
Trainee Member, **PAGE Consortium**   2022-Present
American Society for Human Genetics   2022-Present
International Genetic Epidemiology Society   2020-Present
American Academy for the Advancement of Science   2022-2023
American Public Health Association (APHA)   2020-2021

AWARDS & HONORS

The Maryland Genetics, Epidemiology, and Medicine (MD-GEM) Fellow (Funded)   2023-24
The Abraham Lilienfield Teaching Assistantship for Epidemiologic Methods (Funded)   2023-24
AAAS Mass Media Fellowship (Funded; Science Journalism Fellowship)   2022
ASHG Reviewer's Choice Abstract   2022
Epidemiology Chairs Fellowship   2022
APHA Epidemiology Section Student Scholarship Recipient   2021
Photon Fellow, Massive Science (Funded Science Communication Award)   2021
BSPH Master's Tuition Scholarship   2020-22
UA Honors Legacy Conference Award   2020
UA Honors Professional Development Award   2020