Louisa H. Smith   Curriculum Vitae

CONTACT
INFORMATION

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Department of Health Sciences
Bouvé College of Health Sciences, Northeastern University
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Boston, MA 02115

ACADEMIC
POSITIONS

Bouvé College of Health Sciences, Northeastern University, Boston, MA

Department of Health Sciences

Assistant Professor   August 2022 – present

Roux Institute of Northeastern University, Portland, ME

Observational Health Data Sciences and Informatics Center

Affiliate Faculty   August 2022 – present
Postdoctoral Fellow   October 2021 – August 2022

École Polytechnique Fédérale de Lausanne, Switzerland

Department of Mathematics, Biostatistics Group

Visiting Scholar, hosted by Mats Stensrud   August – September 2021

EDUCATION

Harvard T.H. Chan School of Public Health, Boston, MA

PhD, Population Health Sciences   2021
    Concentration: Epidemiologic methods
    Thesis: Bias bounds and target trials for causal inference in observational epidemiology
    Committee: Miguel Hernán, Tyler VanderWeele, Sonia Hernández-Díaz

MS, Biostatistics   2021

University of California, Berkeley, Berkeley, CA

MS, Epidemiology   2016

Brown University, Providence, RI

BA, Comparative Literature and Community Health   2011

PUBLICATIONS

[20] Stensrud MJ, **Smith LH**. Identification of vaccine effects when exposure status is unknown. *Epidemiology.* In press. *Pre-print available.*

[19] **Smith LH**, García-Albéniz X, Chan JM, Zhao S, Cowan J, Broering JM, Cooperberg M, Carroll P, Hernán MA. Emulation of a target trial with sustained treatment strategies: An application to prostate cancer using both inverse probability weighting and the g-formula. *European Journal of Epidemiology.* Online ahead of print. doi:10.1007/s10654-022-00929-7

[18] Mathur MB, **Smith LH**, Yoshida K, Ding P, VanderWeele TJ. E-values for effect modification and conservative approximations for causal interaction. *International Journal of Epidemiology.* Online ahead of print. doi:10.1093/ije/dyac073.

[17] **Smith LH**, Dollinger CY, VanderWeele TJ, Wyszynski DF, Hernández-Díaz S. Timing and severity of COVID-19 during pregnancy and risk of preterm birth in the International Registry of Coronavirus Exposure in Pregnancy. *BMC Pregnancy and Childbirth.* 2022;22(1):775. doi:10.1186/s12884-022-05101-3

[16] Hernández-Díaz S, **Smith LH**, Wyszynski DF, Rasmussen SA. First trimester COVID-19 and the risk of major congenital malformations – International Registry of Coronavirus Exposure in Pregnancy. *Birth Defects Research.* 2022;114(15):906-914. doi:10.1002/bdr2.2070.

[15] Ramjee D*, **Smith LH***, Doanvo A, McNulty A, Charpignon ML, Lett E, Desai AN, Majumder MS. Evaluating criminal justice reform during COVID-19: The need for a novel sentiment analysis package. *PLOS Digital Health.* 2022;1(7):e0000063. doi:10.1371/journal.pdig.0000063. ***Co-first authors.**

[14] Westhoff W, **Smith LH**, Wyszynski DF, Hernández-Díaz S. COVID-19 pharmacotherapy utilization patterns during pregnancy: International Registry of Coronavirus Exposure in Pregnancy (IRCEP). *Pharmacoepidemiology and Drug Safety.* 2022;31(7):804-809. doi:10.1002/pds.5440.

[13] Hernández-Díaz S, **Smith LH**, Dollinger C, Rasmussen SA, Schisterman EF, Bellocco R, Wyszynski DF. International Registry of Coronavirus Exposure in Pregnancy (IRCEP) — Cohort description and methodological considerations. *American Journal of Epidemiology.* 2022;191(6):967–979. doi:10.1093/aje/kwac046.

[12] Modest AM, **Smith LH**, Toth T, Collier AC, Hacker MR. Multifetal gestations mediate the effect of in vitro fertilization (IVF) on ischemic placental disease in autologous oocyte IVF more than donor oocyte IVF. *Paediatric and Perinatal Epidemiology.* 2022;36(2):181-189. doi:10.1111/ppe.12857.

[11] Cohen AK, Ryan S, **Smith LH**, Ream RK, Glymour MM, Lopez A, Yen IH. Educational attainment past the traditional age of completion for two cohorts of US adults: Inequalities by gender and race/ethnicity. *Race and Social Problems.* 2022;14(2):208-222. doi:10.1007/s12552-021-09352-1.

[10] Petito LC, **Smith LH**, Important questions deserve rigorous analysis: A cautionary note about selection bias (editorial). *Journal of the American Heart Association.* 2022;11(6):e023234. doi:10.1161/JAHA.121.023234.

[9] **Smith LH**, Mathur MB, VanderWeele TJ. Multiple-bias sensitivity analysis using bounds. *Epidemiology.* 2021;32(5):625-34. doi:10.1097/ede.0000000000001380.

[8] **Smith LH**, Schwartz GL. Mediating to opportunity: The challenges of translating mediation estimands into policy recommendations (commentary). *Epidemiology.* 2021;32(3):347-50. doi:10.1097/ede.0000000000001335.

[7] **Smith LH**. Selection mechanisms and their consequences: Understanding and addressing selection bias. *Current Epidemiology Reports.* 2020;7(4):179–89. doi:10.1007/s40471-020-00241-6.

[6] Farland LV, Correia KFB, Dodge LE, Modest AM, Williams PL, **Smith LH**, Toth TL, Hacker MR, Missmer SA. The importance of mediation in reproductive health studies. *Human Reproduction.* 2020;36(6):1262–6. doi:10.1093/humrep/deaa064.

[5] **Smith LH**, VanderWeele TJ. Simple sensitivity analysis for control selection bias (research letter). *Epidemiology.* 2020;31(5):e44-e45. doi:10.1097/ede.0000000000001207.

[4] **Smith LH**, VanderWeele TJ. Mediational E-values: Approximate sensitivity analysis for unmeasured mediator-outcome confounding. *Epidemiology.* 2019;30(6):835–7. doi:10.1097/ede.0000000000001064.

[3] **Smith LH**, VanderWeele TJ. Bounding bias due to selection. *Epidemiology.* 2019;30(4):509–16. doi:10.1097/ede.0000000000001032.

[2] Deardorff J, **Smith LH**, Petito L, Kim H, Abrams BF. Maternal prepregnancy weight and children's behavioral and emotional outcomes. *American Journal of Preventive Medicine.* 2017;53(4):432–40. doi:10.1016/j.amepre.2017.05.013.

[1] Cohen AK, Richards T, Allen BL, Ferrier Y, Lees J, **Smith LH**. Health issues in the industrial port zone of Marseille, France: the Fos EPSEAL community-based cross-sectional survey. *Journal of Public Health.* 2017;26(2):235–43. doi:10.1007/s10389-017-0857-5.

Awards

Harvard Biostatistics Certificate of Distinction in Teaching	2020
Harvard Epidemiology Teaching Assistant Award	2020
Winner, Harvard Epidemiology Student Podcast Competition	2020
Bok Center Certificate of Distinction in Teaching (×3)	2017, 2018, 2019
Runner-up, Harvard T.H. Chan School Poster Day	2019
Ralph & June Catalano Award Scholarship	2015
Reshetko Scholarship	2014
U.C. Berkeley Graduate Division Block Grant	2014
Phi Beta Kappa	2011
Magna cum laude; Brown University departmental honors	2011
C.V. Starr Fellowship for Public Service	2008

Invited Talks

"Challenges in estimating effects of time-varying exposures during pregnancy." Advanced Methods Workshop, Society for Pediatric and Perinatal Epidemiologic Research (SPER). June 16, 2022. (Chicago, IL)

"Causal inference in epidemiology using target trial principles: Applications in pregnancy and prostate cancer." Statistics seminar, École Polytechnique Fédérale de Lausanne. September 17, 2021. (Lausanne, Switzerland)

"Multiple-bias sensitivity analysis using bounds." Joint Statistical Meetings (JSM). August 9, 2021. (Virtual)

"Simple sensitivity analysis for selection bias using bounds." 13th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics). December 19, 2020. (Virtual)

"Discussion of 'Selection bias in 2020'." Online Causal Inference Seminar. December 8, 2020. (Virtual)

"The magic of R." Master of Food and Resource Economics Program, University of British Columbia. August 20, 2020. (Virtual)

"Data gets personal." Maine Medical Center R User Group. July 16, 2020. (Virtual)

"Data manipulation in R." Maine Medical Center R User Group. July 14, 2020. (Virtual)

"Data gets personal." RLadies Boston, January 29, 2020. (Boston, MA)

"Simple sensitivity analysis for selection bias." Koenen trauma epidemiology research group, Harvard T.H. Chan School of Public Health. December 4, 2019. (Boston, MA)

"Simple sensitivity analysis for selection bias." Department of Medical Epidemiology and Biostatistics student seminar, Karolinksa Institute. November 12, 2019. (Stockholm, Sweden)

"Simple sensitivity analysis for selection bias." Monthly methods call, Vaccine Safety Datalink. September 12, 2019. (Virtual)

CONTRIBUTED PRESENTATIONS & WORKSHOPS	Reproducible epidemiology in R. Society for Epidemiologic Research (SER). Planned for June 12, 2023 (Portland, OR). *Pre-Conference Workshop.*

"COVID-19 and preterm birth: Understanding the relationship." Society for Pediatric and Perinatal Epidemiologic Research (SPER). June 16, 2021 (Virtual). *Speed Talk Session.*

"Challenges in estimating effects of COVID-19 on preterm birth." Society for Epidemiologic Research (SER). June 23, 2021 (Virtual). *Oral Abstract Session.*

"E-values, unmeasured confounding, measurement error, and selection bias." Society for Epidemiologic Research (SER). June 18, 2019 (Minneapolis, MN); December 11, 2020 (Virtual); May 21, 2021 (Virtual). *Pre-Conference Workshop, with Tyler VanderWeele / Maya Mathur.*

"Simple sensitivity analysis for selection bias. Society for Epidemiologic Research (SER)." June 20, 2019 (Minneapolis, MN). *Concurrent Contributed Session Oral Presentation.*

POSTERS (FIRST AUTHOR)

[1] **Smith LH**, Zaidi J. Identifying direct effects of in vitro fertilization on placental disease. Harvard T.H. Chan School of Public Health Poster Day. Boston, MA, April 25, 2019. *Runner-up: Best graduate student poster.*

[2] **Smith LH**, Deardorff J, Petito L, Kim H, & Abrams BF. Maternal prepregnancy weight and children's behavioral and emotional outcomes. Society For Research in Child Development (SCRD). Austin, TX, April 8, 2017.

[3] **Smith LH**, Petito L, Cohen A, Deardorff J, & Abrams B. Gestational weight gain and math and reading achievement among U.S. children. Society for Pediatric and Perinatal Epidemiologic Research (SPER). Miami, FL, June 20, 2016.

SOFTWARE & ONLINE TOOLS

[1] **Smith LH**. Simple sensitivity analysis for selection bias. *Online tool available at* http://selection-bias.louisahsmith.com.

[2] Mathur MB, **Smith LH**, Ding P, VanderWeele TJ. EValue: Sensitivity analyses for unmeasured confounding or selection bias in observational studies and meta-analyses. *R Package on CRAN.*

[3] **Smith LH**. PHS Summer Prep. *Online introduction to R, probability, and statistics for incoming PhD students available at* bit.ly/phs-prep.

TEACHING EXPERIENCE

Harvard T. H. Chan School of Public Health, Boston, MA

EPI 207: Advanced Epidemiologic Methods	2018 − 2020

Head teaching fellow
Instructor: James Robins

BST 256: Theory and Methods for Causality I 2020
Teaching fellow
Instructor: Andrea Rotnitzky

Introduction to R 2019 – 2020
Instructor and course developer

Introduction to Epidemiology 2019 – 2020
Co-instructor
Co-instructor: David Cote

PHS 2000: Quantitative Research Methods 2017 – 2019
Teaching fellow
Instructors: Tyler VanderWeele, Jarvis Chen, Michael Hughes, Jessica Cohen

University of California, Berkeley, Berkeley, CA

PH 150A: Introduction to Epidemiology and Human Disease 2016
Graduate student instructor
Instructors: Lisa Barcellos and Mahasin Mujahid

PH 250A: Epidemiologic Methods 2015
Graduate student instructor
Instructor: Sandra McCoy

Guest lectures

SBS 245: Social and Behavioral Research Methods, Harvard T.H. Chan School of Public Health.

MPH 677: Regression Models in the Health Sciences, University of Southern Maine.

PHTH 5202: Epidemiology, Northeastern University.

OTHER
Ad-hoc reviewer: *American Journal of Epidemiology, Biometrika, Epidemiologic Methods, Epidemiologic Reviews, Epidemiology, International Journal of Epidemiology, JAMA Psychiatry, Journal of Causal Inference, Journal of Epidemiology, Paediatric and Perinatal Epidemiology, Scientific Reports, Sociological Methods and Research*
Member, Society for Epidemiologic Research (SER), SER Education Committee
Member, Society for Pediatric and Perinatal Epidemiologic Research (SPER)

OTHER
PROFESSIONAL
EXPERIENCE
Little Wound School, Kyle, SD

Elementary school teacher 2011 – 2014
- 3rd grade teacher of 10-20 students
- Taught reading, writing, math, science, social studies
- Lesson planning, curriculum mapping, analysis of student progress