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From the Director

Douglas S. Massey, Director

During 2016 the Office of Population Research celebrated its 81st year as a population center. Located in the Woodrow Wilson School, OPR included some 31 faculty associates, five postdoctoral fellows, three visiting scholars, and 30 doctoral students supported by an administrative staff of 11, a computer and library staff of four each, and a research/technical staff of five. Six OPR staff members were recognized for their years of service at Princeton's annual staff recognition luncheon, with Mary Lou Delaney, Dawn Koffman, Kris McDonald, and Valerie Smith being commemorated for ten years of service and Judy Miller and Nancy Cannuli being recognized for their 15 years at OPR.

Among OPR graduate students, eight successfully defended their dissertations and moved on to jobs or postdocs. Three went into the private sector and no doubt started at higher salaries than the academics. Jessica Yiu went to Place IA as a Project Manager before moving to take the position of Technical Program Manager at Facebook. Kerstin Gentsch is employed as a Senior Policy Analyst at the CUNY Office of Policy Research; and Jonathan Tannen began as Director at Econsult Solutions in Philadelphia before moving to New York to join Facebook’s Core Data Science Team. On the academic side, Patrick Ishizuka accepted a postdoc at Cornell University, as did Janeria Easley at the University of Pennsylvania and Amy Winter in Jessica Metcalf’s Lab at Princeton in the Department of Ecology and Evolutionary Biology. Aaron Gottlieb proceeded directly to the professoriate with an appointment as an Assistant Professor at the University of Illinois at Chicago. Dennis Feehan, who earlier had accepted an Assistant Professorship at Berkeley, won the Charles Westoff Prize in Demography for his dissertation entitled “Network Reporting Methods.”

The roster of postdocs had one decrement during 2016, but fortunately it was a happy one when Brandon left for his native Texas to become Assistant Professor of Sociology, Department of Sociology, Anthropology, and Social Work at Texas Tech University.

The OPR faculty was pleased to welcome Dalton Conley as the Henry Putnam University Professor of Sociology. With Ph.D.’s in both sociology and genomics he adds great strength and visibility to OPR’s research cluster in biodemography. In faculty news, Angus Deaton followed up his 2015 Nobel Prize in Economics by being named a Knight Bachelor of the British Empire by Queen Elizabeth for his services to economics and international affairs. Alejandro Portes received the degree of Doctor in Social Sciences, honoris causa from the New University of Lisbon. Rafaela Dancygier was promoted to tenure as Associate Professor of Politics and International Affairs. Germán Rodríguez was honored with the 2016 Service Recognition Award from the Population Association of America; and Susan Fiske received the Association for Psychological Science’s Mentor Award for Lifetime Achievement.

All in all, it was a good year for OPR and as Director I can only salute the Office’s students, faculty, and staff for their many achievements and look forward to celebrating their accomplishments in next year’s Director’s Letter.

Douglas Massey, Director

Office of Population Research
Princeton University
Director
Douglas S. Massey

Acting Director
Noreen Goldman

Director of Graduate Studies
Elizabeth Armstrong

Faculty Associates

Alicia Adserà, Research Scholar and Lecturer in Economics and International Affairs, Woodrow Wilson School of Public and International Affairs; Faculty Associate, the Office of Population Research; Research Associate, Bendheim-Thoman Center for Research on Child Wellbeing; Co-Director, Princeton Global Network on Child Migration. Ph.D., Economics, Boston University, 1996. Interests: economic demography; development; and international political economy.

Jeanne Altmann, Eugene Higgins Professor of Ecology and Evolutionary Biology, Emeritus; Senior Scholar, Ecology and Evolutionary Biology; Faculty Associate, the Office of Population Research and Princeton Environmental Institute. Ph.D., Behavioral Sciences, University of Chicago, 1979. Interests: non-experimental research design and analysis; ecology and evolution of family relationships and of behavioral development; primate demography and life histories; parent-offspring relationships; infancy and the ontogeny of behavior and social relationships; conservation education; and behavioral aspects of conservation.

Elizabeth Armstrong, Associate Professor of Sociology and Public Affairs, Woodrow Wilson School of Public and International Affairs; Director of Graduate Studies, the Office of Population Research; Director, Certificate in Health and Health Policy Program; Faculty Associate, the Office of Population Research, Center for Health and Wellbeing, University Center for Human Values, and Center for Research on Child Wellbeing. Ph.D., Sociology and Demography, University of Pennsylvania, 1998. M.P.A. Princeton University, 1993. Interests: history and sociology of medicine; reproductive issues; population and health; public health; gender; and biomedical ethics.

Armstrong currently serves on the Board of Directors for Lamaze International and the Editorial Board, Journal of Health Politics, Policy and Law.

João Biehl, Susan Dod Brown Professor of Anthropology and Faculty Associate, Woodrow Wilson School of Public and International Affairs; Co-Director, Program in Global Health and Health Policy; Faculty Associate, the Office of Population Research, Center for Health and Wellbeing, Center for the Study of Religion, Department of Spanish and Portuguese Languages and Cultures, Princeton Institute of International and Regional Studies, Princeton Environmental Institute, Program in Latin American Studies, the Program in Law and Public Affairs, and the University Center for Human Values. Ph.D., Anthropology, University of California, Berkeley, 1999. Ph.D., Religion, Graduate Theological Union, Berkeley, 1996. Interests: medical anthropology; social studies of science and technology; global health; religion and society; subjectivity; ethnography; and critical theory (with a regional focus on Latin America and Brazil).

Anne Case, Alexander Stewart 1886 Professor of Economics and Public Affairs, Emeritus; Director, Research Program in Development Studies; Faculty Associate, the Office of Population Research and the Center for Health and Wellbeing; Faculty Affiliate, Kahneman-Treisman Center for Behavioral Science and Public Policy. Ph.D., Economics, Princeton University, 1988. Interests: microeconomic foundations of development; health economics; public finance; and labor economics.

Case was awarded the Kenneth J. Arrow Prize in Health Economics from the International Health Economics Association, for her work on the links between economic status and health status in childhood, and the Cozzarelli Prize from the Proceedings of the National Academy of Sciences for her research on midlife morbidity and mortality. Case and Sir Angus Deaton, were named as members of the POLITICO Magazine’s 2016 POLITICO 50 list of thinkers, doers and visionaries transforming American politics in 2016 for using big data to tell us what’s wrong with white people.

She currently serves on the Advisory Council for the National Institutes of Health (NIH)-National Institute of Child Health and Human Development (NICHD), the President’s...
Committee on the National Medal of Science, and the Committee on National Statistics. She is a Research Associate of the National Bureau of Economic Research (NBER), a Fellow of the Econometric Society, and is an affiliate of the Southern Africa Labour and Development Research Unit, University of Cape Town. In addition, Case is an Elected Member of that American Philosophical Society and the American Academy of Arts and Sciences.

Dalton Conley, Henry Putnam University Professor in Sociology; Faculty Associate, the Office of Population Research and the Center for Health and Wellbeing; Faculty Affiliate, Kahneman-Treisman Center for Behavioral Science and Public Policy. Ph.D., Sociology, Columbia University, 1996 and Ph.D., Biology (Genomics), New York University, 2014. Interests: current work applies econometric methods for causal inference--namely, a natural experiment framework--to genome-wide data available in social surveys to model gene-by-environment interaction effects; mapping the genetic architecture of phenotypic plasticity; interrogating the assumptions underlying models for heritability; and characterizing social and genetic sorting as distinct processes. Conley is a Member of the MacArthur Foundation Research Network on Connected Learnings, NIH SSP—A Review Panel, and the Survey Committee, German Socio-Economic Panel (SOEP), German Institute for Economic Research, DIW—Berlin.

Janet M. Currie, Chair, Department of Economics; Henry Putnam Professor of Economics and Public Affairs; Director, Center for Health and Wellbeing; Faculty Associate, the Office of Population Research; Faculty Affiliate, Kahneman-Treisman Center for Behavioral Science and Public Policy. Ph.D., Economics, Princeton University, 1988. Interests: health and wellbeing of children including early intervention programs; expansions of public health insurance; public housing; and food and nutrition programs. Currie co-directs the Program on Families and Children at the NBER, Program on Children. She is a member of the National Academy of Medicine and of the American Academy of Art and Science; Board of Reviewing Editors, Science; a Fellow of the American Academy of Political and Social Science; the Society of Labor Economists; and of the Econometric Society.

Rafaela Dancygier, Associate Professor of Politics and Public and International Affairs, Woodrow Wilson School of Public and International Affairs; Faculty Associate, the Office of Population Research. Ph.D., Political Science (with distinction), Yale University, 2007. Interests: comparative politics (with a focus on the implications of ethnic diversity in advanced democracies), immigration, ethnic politics, ethnic conflict, and Western Europe.

Sir Angus S. Deaton, Senior Scholar and the Dwight D. Eisenhower Professor of Economics and International Affairs, Emeritus, Woodrow Wilson School of Public and International Affairs and the Department of Economics, Princeton University; Faculty Affiliate, Kahneman-Treisman Center for Behavioral Science and Public Policy. Ph.D., Economics, Cambridge University, 1974. Interests: economic inequality; poverty; wellbeing; health; India; econometrics; microeconomics; economic development; and randomized controlled trials. Deaton was named a Knight Bachelor “for his services to research in economics and international affairs.” The honor entitles him to be known as Sir Angus, or Sir Angus Deaton, and was announced as part of the Queen’s official birthday honors list. He and Anne Case, were named as members of the POLITICO Magazine’s 2016 POLITICO 50 list of thinkers, doers and visionaries transforming American politics in 2016 for using big data to tell us what’s wrong with white people.

Thomas Espenshade, Senior Scholar, the Office of Population Research; Professor of Sociology, Emeritus; Lecturer with the rank of Professor in Sociology. Ph.D., Economics, Princeton University, 1972. Past research interests: concentrated on social demography (with an emphasis on family and household demography); contemporary U.S. immigration; and diversity in higher education. Current interests: focused on the role of the home environment in the early origins of learning gaps and on how families build skills in their young pre-school children and get them ready to learn and help schools become more “children-ready”. He received the YMCA Centennial Award for Youth Development, presented by the Princeton YMCA which recognizes individuals in the community who demonstrates outstanding commitment to helping children gain the skills and confidence they need for success.
Espenshade is a member of the Population Association of America, American Sociological Association (ASA), and the American Economic Association.

Patricia Fernández-Kelly, Senior Lecturer, Sociology; Director, Center for Migration and Development; Faculty Associate, the Office of Population Research, the Program in Law and Public Affairs, the Program in Gender and Sexuality Studies; Research Associate, Ph.D., Sociology, Rutgers University, 1981. Interests: international economic development; gender; class; race and ethnicity; migration; the global economy; and women and ethnic minorities in the labor force.

Susan Fiske, Eugene Higgins Professor of Psychology and Public Affairs, Department of Psychology and Woodrow Wilson School of Public and International Affairs; Faculty Associate, the Office of Population Research; Faculty Affiliate, Kahneman-Treisman Center for Behavioral Science and Public Policy. Ph.D., Social Psychology, Harvard University, 1978 with honorary doctorates from the Universität Basel, Switzerland; Université catholique de Louvain-la-Neuve, Belgium; and the Universiteit Leiden, Netherlands. Interests: how stereotyping, prejudice, and discrimination are encouraged or discouraged by social relationships, such as cooperation, competition, and power.

In 2016, Fiske received the Medal for Distinguished Service, awarded from the Teachers’ College, Columbia University; and the Mentor Award for Lifetime Achievement, from the Association for Psychological Science. Fiske is a member of the American Association for the Advancement of Science, Psychology Section, the American Academy of Arts and Sciences, and the American Philosophical Society. She also served as Past President of the Federation of Associations in Behavioral and Brain Sciences (FABBS, formerly Federation of Behavioral, Psychological and Cognitive Sciences).

Margaret Frye, Assistant Professor of Sociology; Faculty Associate, the Office of Population Research, the Program in Gender and Sexuality Studies; Faculty Affiliate, Kahneman-Treisman Center for Behavioral Science and Public Policy. Ph.D., Sociology and Demography, University of California, Berkeley, 2013. Interests: the relationship between cultural understandings and behavioral outcomes during the transition to adulthood in sub-Saharan Africa.

In 2016 she received the Outstanding Faculty Advisor Award, awarded by undergraduates in the Sociology Department, Princeton University. She also received a Distinguished Reviewer Award from the Sociology of Education.

She is an Elected Council Member, the ASA Theory Section; a Member of ASA Sociology Education Section Book Award Committee, Canadian Institute for Advanced Research Global Scholars Organizing Committee; Co-organizer ASA Inequality and Social Mobility Section Roundtables; Chair ASA Theory Section Nominations Committee, and Editorial Board Member, Sociological Theory.


Bryan Grenfell, Kathryn Briger and Sarah Fenton Professor of Ecology and Evolutionary Biology and Public Affairs, Department of Ecology and Evolutionary Biology and Woodrow Wilson School of Public and International Affairs; Director, Health Grand Challenge Initiative; Faculty Associate, Center for Health and Wellbeing and the Office of Population Research. D. Phil., Biology, University of York, 1980. Interests: how the interaction of noise and non-linear density-dependent feedback drive population processes at different scales; spatio-temporal dynamics of infectious disease and how these are affected by control strategies; phylodynamics - exploring how pathogen phylogenies are affected.
His external roles and appointments include: Chair, Scientific Advisory Board, Oxford University Clinical Research Unit, Wellcome Trust MOP; Scientific Advisory Board, Emerging Pathogens Institute, University of Florida, Edinburg Centre for Immunity, Infection and Evolution; Co-Director Research and Policy in Infectious Disease Dynamics (RAPIDD) Program of the U.S. NIH and Department of Homeland Security (DHS).

Jean Grossman, Lecturer in Economics and Public Affairs, Woodrow Wilson School of Public and International Affairs; Senior Fellow, MDRC. Research Associate, Center for Research on Child Wellbeing; Associated with the Office of Population Research. Ph.D., Economics, Massachusetts Institute of Technology, 1980. Interests: in-school and out-of-school programs; youth policy; program and policy evaluation; and poverty. She is a Member of the Evaluation Advisory Board for Building Educated Leaders for Life (Boston, MA), Evaluation Advisory Board for Self-Enhancement, Inc. (Portland, OR), Big Brothers Big Sisters of America’s Research Advisory Council, Citizens Schools’ Research Advisory Group, and the MENTOR Research and Policy Council.

Todd G. Hamilton, Assistant Professor of Sociology; Faculty Associate, the Office of Population Research; Faculty Affiliate, Kahneman-Treisman Center for Behavioral Science and Public Policy; Member, Institute for Advanced Study, School of Social Science. Ph.D., Sociology, University of Texas, Austin, 2010. Interests: demography; immigration; health; race; and labor market disparities. He is a member of the Population Association of America, American Sociological Association, Southern Economics Association, and Association of Black Sociologists; a Reviewer for: Demography, American Sociological Review, Social Forces, Social Science and Medicine, Social Science Quarterly, Social Science Research, The Sociological Quarterly, International Migration Review, The Journal of Immigrant and Minority Health, American Journal of Epidemiology, Journal of Health and Social Behavior, and Sociology of Race and Ethnicity.

Jeffrey Hammer, Charles and Marie Robertson Visiting Professor in Economic Development, Woodrow Wilson School of Public and International Affairs; Faculty Associate, the Office of Population Research and Center for Health and Wellbeing. Ph.D., Economics, Massachusetts Institute of Technology, 1979. Interests: economic development; public economics and health in poor countries - particularly in Asia and Africa and more particularly in South Asia. He serves on the Advisory Council, Lahore University of Management Sciences, Lahore, Pakistan; Editorial Committee, World Bank Research Observer, World Bank Economic Review, and as an evaluator, Rustaveli Foundation for Georgian Studies, Humanities and Social Sciences.

Douglas S. Massey, Henry G. Bryant Professor of Sociology and Public Affairs, Woodrow Wilson School of Public and International Affairs; Director, the Office of Population Research. Ph.D., Sociology, Princeton University, 1978. Interests: demography, urban poverty, race and housing, discrimination, stratification, methodology, biosociology, international migration, Latin American society (particularly Mexico).

Massey serves as President, American Academy of Political and Social Science; External Fellow, Center for Research and Analysis of Migration, University College London; W.E.B. DuBois Fellow, American Academy of Political and Social Science; Member, Population Association of America, American Sociological Association, IUSSP Southwestern Social Science Association, Latin American Studies Association, International Sociological Association, Mexican Demographic Society, the American Association for the Advancement of Science; Membership Committee, Behavioral and Social Sciences Class, National Academy of Sciences (NAS), Social Relations Section, American Academy of Arts and Sciences; Census Scientific Advisory Board, Max Planck Institute for the Study of Religious and Ethnic Diversity; International Advisory Board, Institute for Interdisciplinary Research on Conflict and Violence, University of Bielefeld, Germany; Governing Board, National Research Council; Advisory Board, Koshland Science Museum, Opportunity New Jersey; Associate Member, Amsterdam Centre for Inequality Studies; Editorial Boards of Annual Review of Sociology, Cityscape, Migraciones Internacionales, Social Science Research, Social Science Quarterly, and Race and Social Problems.
Sara S. McLanahan, William S. Tod Professor of Sociology and Public Affairs; Director, Bendheim-Thoman Center for Research on Child Wellbeing; Director, the Joint Degree Program in Social Policy (JDP); Faculty Associate, the Office of Population Research; Faculty Affiliate, Kahneman-Treisman Center for Behavioral Science and Public Policy; Editor-in-Chief, Future of Children; Director, Education Research Section (ERS); Principal Investigator, Fragile Families and Child Wellbeing Study. Ph.D., Sociology, University of Texas, Austin, 1979. Interests: family demography; poverty and inequality; and social policy. McLanahan is a member of the National Academy of Science; the American Philosophical Society; a fellow of the American Academy of Political and Social Science; and serves on the Board of the Russell Sage Foundation.

C. Jessica E. Metcalf, Assistant Professor of Ecology, Evolutionary Biology and Public Affairs, Department of Ecology and Evolutionary Biology and Woodrow Wilson School; Faculty Associate, the Office of Population Research. Ph.D., Biology, Imperial College, London, 2005. Interests: demography with broad interest in evolutionary ecology, infectious disease dynamics; and public policy. Metcalf is an Associate Editor, Ecology Letters, Methods in Ecology and Evolution, and American Naturalist; Member of Editorial Board, Philosophical Transactions of the Royal Society; Board Member of the Society for Evolutionary Demography; and a Member of the Advisory Science Committee of two databases of demographic information on plants and animals (COMPADRE and COMADRE) hosted at the Maxx Planck Institute of Demographic Research.

Ellis Monk, Assistant Professor of Sociology; Faculty Associate, the Office of Population Research; Faculty Affiliate, Kahneman-Treisman Center for Behavioral Science and Public Policy. Ph.D., Sociology, University of California, Berkeley, 2013. Interests: ethnoracial categorization and stratification; political sociology; health, theory; the sociology of the body; social psychology and cognition; Geometric Data Analysis (otherwise referred to as Multiple Correspondence Analysis); and Brazil. Monk is a Member of the Population Association of America, American Sociological Association, the Society for Study of Social Problems, and Latin American Studies Association. He is a Reviewer for: American Journal of Sociology, American Sociological Review, Social Forces, Journal of Health and Social Behavior, Public Culture, Journal of Contemporary Ethnography, and Social Currents. He is also on the Editorial Board for American Journal of Sociology and Sociological Theory.

Elizabeth Levy Paluck, Professor of Psychology and Public Affairs, Woodrow Wilson School of Public and International Affairs; Deputy Director, Kahneman-Treisman Center for Behavioral Science and Public Policy; Faculty Associate, the Office of Population Research, the Department of Politics, the Program in Gender and Sexuality Studies. Ph.D., Social Psychology, Yale University, 2007. Interests: prejudice and intergroup conflict reduction; political cultural change; civic education; social norms and behavior; network and influence; social scientific methodology; psychology; and policy. Paluck’s editorial position held include: Associate Editor, Social Psychological and Personality Science, Science Advances, Journal of Experimental Political Science; Consulting Editor, Journal of Personality and Social Psychology; and the Editorial Board, Motivation Science and Advances in Political Psychology.

Alejandro Portes, Howard Harrison and Gabrielle Snyder Beck Professor of Sociology, Emeritus; Member of Executive Committee, Center for Migration and Development; Faculty Associate, the Office of Population Research and Program in Latin American Studies; Research Professor, University of Miami. Ph.D., Sociology, University of Wisconsin, Madison, 1970. Interests: the adaptation process of the immigrant second generation in comparative perspective; the role of institutions on national development; transnational immigrant organizations and development in a comparative perspective; and the determinants of socio-economic success among disadvantaged children of immigrants.

Germán Rodríguez, Senior Research Demographer, the Office of Population Research; Lecturer in Public and International Affairs, Woodrow Wilson School of Public and International Affairs. Ph.D., Biostatistics, University of North Carolina, 1975. Interests: statistical demography, the development and application of statistical modeling techniques to the study of human population - subject areas
include fertility and health, fertility surveys, survival analysis, multilevel models, demographic and statistical computing, design and deployment of databases on the web. Rodriguez is a Member of the Population Association of America, American Statistical Association, Royal Statistical Society, and International Union.

**Matthew Salganik**, Professor of Sociology; Faculty Associate, the Office of Population Research, the Center for Health and Wellbeing, the Center for Statistics and Machine Learning; the Center for Information Technology Policy; the Center for the Study of Democratic Politics; Global Health Program; and Kahneman-Treisman Center for Behavioral Science and Public Policy. Ph.D., Sociology, Columbia University, 2007. Interests: social networks, quantitative methods, and web-based social research.

**Brandon Stewart**, Assistant Professor of Sociology; Faculty Associate, the Office of Population Research and the Center for Digital Humanities; Faculty Affiliate, Department of Politics. Ph.D., Government, Harvard University, 2015. Interests: computational social science; text as data; and Bayesian statistics.

**Marta Tienda**, Maurice P. During ’22 Professor of Demographic Studies; Professor of Sociology and Public Affairs, Woodrow Wilson School of Public and International Affairs; Founding Director, the Program in Latino Studies. Ph.D., Sociology, University of Texas, Austin, 1976. Interests: international migration, race and ethnic stratification, higher education, social demography, inequality, and the formation of teen romantic relationships using diaries administered on smartphones.

**James Trussell**, Senior Research Demographer, the Office of Population Research; Honorary Fellow, Edinburgh University; Professor of Economics and Public Affairs, Emeritus, Princeton University. Ph.D., Economics, Princeton University, 1975. Interests: emergency contraception, contraceptive failure, and the cost-effectiveness of contraception. Trussell is a member of the Board of Directors of FIAPAC and the Women on Web Foundation; the Council of British Society of Abortion Care Providers; and a Deputy Editor, *Contraception*.

**Tom S. Vogl**, Assistant Professor of Economics and International Affairs, Department of Economics and Woodrow Wilson School of Public and International Affairs; Faculty Associate, the Office of Population Research and the Kahneman-Treisman Center for Behavioral Science and Public Policy; Ralph O. Glendinning University Preceptor; Visiting Fellow, Center for Development Economics and Policy, Columbia University. Ph.D., Economics, Harvard University, 2011. Interests: development; economic demography; health; human capital; and political economy.

**Charles F. Westoff**, Maurice P. During ’22 Professor, Emeritus; Professor of Sociology, Emeritus; Senior Research Demographer, the Office of Population Research. Ph.D., Sociology, University of Pennsylvania, 1953. Interests: population policy, comparative fertility in developing countries, fertility surveys, and family planning.

**Yu Xie**, Bert G. Kerstetter ’66 University Professor of Sociology and Princeton Institute of International and Regional Studies; Inaugural Director, Center on Contemporary China; Faculty Associate, the Office of Population Research; Visiting Chair Professor of the Center for Social Research, Peking University. Ph.D., Sociology, University of Wisconsin, Madison, 1989. Interests: social stratification; demography; statistical methods; Chinese studies; and sociology of science. His appointment is part of a University initiative to deepen the regional studies curriculum in the social sciences. The Center on Contemporary China is part of PIIRS, and Xie’s appointment marks the first joint faculty appointment by PIIRS and a department in the social sciences. Xie joined the faculty August 1st after 26 years at the University of Michigan, most recently as the Otis Dudley Duncan Distinguished Professor of Sociology, Statistics and Public Policy and a research professor in the Population Studies Center at Michigan’s Institute for Social Research. Yu Xie is a member of the American Academy of Arts and Sciences, Academia Sinica, and the National Academy of Sciences (NAS); an Editor, *Chinese Journal of Sociology*; Deputy Editor, *Demography*; Editorial Board Member, *Sociological Methods and Research, Chinese Sociological Review*; and *Annual Review of Sociology*; Board/Panel Member for the National Academies of Sciences/National Research...
Council (NRC)—Board on Science Education, NRC; Panel on Economic and Fiscal Impacts of Immigration, NRC; Study on Developing Indicators for Undergraduate STEM Education, NRC; Standing Committee of American Opportunity Study, NAS; Panel on S&E Workforce Surveys; and President, International Sociological Association Research Committee 28 on Social Stratification and Mobility.

**Postdoctoral Fellows**

**Abigail Aiken**, Postdoctoral Research Associate. Ph.D., Public Policy, University of Texas, Austin, 2014. Interests: reproductive health, with particular emphasis on unintended pregnancy, contraceptive desires and use, and family planning politics and policy.  


**Visiting Scholars**


**Nancy Reichman**, Visiting Research Collaborator. Associate Professor of Pediatrics, Robert Wood Johnson Medical School. Ph.D., Economics, City University of New York, 1993. Interests: maternal and child health, health disparities, socioeconomic status and health, economics of the family, data quality and measurement in social science and public health research.  


**Administrative Staff**

**Nancy Cannuli**, Associate Director  
**Mary Lou Delaney**, Program Assistant  
**Valerie Fitzpatrick**, Academic Assistant  
**Lynne Johnson**, Graduate Program Administrator  
**Regina Leidy**, Communications Coordinator, CRCW  
**Joyce Lopuh**, Purchasing and Accounts Administrator  
**Kristen Matlofsky**, Academic Assistant  
**Kris McDonald**, Program Manager, CRCW  
**Tracy Merone**, Administrative Support, CRCW  
**Robin Piskecky**, Grants Manager  
**Diana Sacké**, Academic Assistant  

**Computing Staff**

**Wayne Appleton**, System Administrator, UNIX Systems Manager  
**Dawn Koffman**, Statistical Programmer  
**Steven Mars**, Assistant System Administrator  
**Boriana Pratt**, Statistical Programmer  

**Library Staff**
Elana Broch, Assistant Population Research Librarian
Joann Donatiello, Population Research Librarian
Tracy Hartman, Special Collections Assistant IV
Nancy Pressman-Levy, Head Librarian, Donald E. Stokes Library

Research/Technical Staff

Kelly Cleland, Research Specialist
Monica Espinoza Higgins, Project Manager, New Immigrant Survey
Kate Jaeger, Project Director, CRCW
Karen Pren, Project Manager, Mexican Migration Project
Magaly Sanchez-R, Senior Researcher and Visiting Scholar, LAMP

Students


Angelina Grigoryeva, Department of Sociology. Entered fall 2010. B.A. Sociology, Moscow State University, Higher School of Economics, 2010. Interests: economic sociology, stratification, and quantitative methods.


Daniela R. Urbina Julio, Department of Sociology and Social Policy Program. Entered fall


**Ian D. Lundberg**, Department of Sociology and Social Policy Program. Entered fall 2015. B.A., Sociology and Statistics, Harvard University, 2015. Interests: gender, families, labor markets, social demography and methodology, with specific focus on causal inference and on the impact of labor-market inequalities on families and of families on labor-market inequality.


The mission of The Bendheim-Thoman Center for Research on Child Wellbeing (CRCW) is to promote basic research, train young scholars, and inform practitioners and policy makers about ways to improve the wellbeing of children and youth. CRCW, directed by Sara McLanahan, William S. Tod Professor of Sociology and Public Affairs, is affiliated with the Office of Population Research and the Woodrow Wilson School of Public and International Affairs, Princeton University. CRCW’s faculty and research associates include sociologists, economists, psychologists, demographers, molecular biologists, and legal scholars. They are multi-institutional as well as interdisciplinary. Additionally, visitors and postdocs play an important role in the Center’s intellectual life.

In 2016, the Center met and often exceeded its goals in three areas. In research, the Fragile Families Study team: 1) completed data collection for the Year 15 Wave, 2) continued work on two ongoing projects – Beating the Odds and the Bio-Social Project, 3) initiated two new projects – the Fragile Families Challenge and the Overdeck Education Project, and 4) submitted a proposal to the National Institute of Child Health and Human Development (NICHD) to conduct another round of interviews with FFS children at age 22. In training, CRCW continued to 1) support postdocs, visitors, graduate students, and undergraduate senior theses, 2) manage the Joint Degree Program (JDP) in Social Policy, and 3) host the Fragile Families’ bi-monthly seminars and summer workshop. In policy and practice, they 1) published two new issues of the Future of Children with accompanying policy briefs (totaling 24 issues and briefs since 2005), 2) extended work on the Child and Family Blog (in collaboration with Cambridge University and the Jacobs Foundation), and 3) expanded their activities on Twitter.

I. Research: The Fragile Families and Child Wellbeing Study

The Fragile Families and Child Wellbeing Study is following a birth cohort study of approximately 5,000 children born in large U.S. cities between 1998 and 2000. The study includes a large over-sample of children born to unmarried parents and is especially useful for studying the health and development of children in low income families. Both mothers and fathers were interviewed shortly after the birth of their child and again when the child was one, three, five, nine, and fifteen years of age.

Data Collection and Analysis

In 2016, Westat, their survey subcontractor, completed the interviews with mothers and teens. Their goal was to interview 90% of the families who participated in the Year 9 survey. Westat exceeded these goals, interviewing 92% and 90% of mothers and teens, respectively. The Columbia Population Research Center interviewed an additional 235 mothers and 195 teens who did not participate in the Year 9 survey but were part of the original sample. Taking account of both survey operations, they completed interviews with 73% of the original families.

FFS researchers continued to analyze data for two ongoing projects: the Beating the Odds Project, and the Bio-Social Project. The Beating the Odds Project—funded by the Robert Wood Johnson Foundation and directed by Sara McLanahan—identifies teens who are doing better than expected given their family backgrounds and then looks at the city,
neighborhood, and school characteristics associated with their success. Several papers from this project were published this past year, including one in a special issue of *Health Affairs*. The Bio-Social Project—funded by NICHD and directed by Daniel Notterman (Princeton University) and Colter Mitchell (University of Michigan)—uses data constructed in Notterman’s lab to study biomarkers that mediate the association between stressful experiences in childhood and future health and wellbeing. Papers from this project will be published in *Pediatrics* and the *Journal of Pediatrics*.

CRCW began two new projects this past year: the Fragile Families Challenge and the Overdeck Education Project. The Fragile Families Challenge—funded by the Russell Sage Foundation and directed by Matthew Salganik and Sara McLanahan—is assembling a multidisciplinary pool of hundreds of social and computer scientists, working independently or in teams, to build statistical models to predict a set of policy-relevant adolescent and family outcomes measured at Year 15. The goal of the project is to demonstrate the benefits of combining approaches to data analysis used by social and computer scientists. To date, about 374 individuals at 68 universities are participating in the challenge. Sagalnik and McLanahan plan to edit a special issue of *Socius* featuring the contributions of participants. The Overdeck Education Project—funded by the Overdeck Family Foundation and directed by Sara McLanahan, Lisa Pithers, Chris Neilson, Louis Donnelly and Kate Jaeger (Princeton University)—is conducting a pilot project to assess the feasibility of appending high school records, college placement test scores, and college enrollment information to the individual FFS data.

**Collaborative Projects**

The FFS team continued to support several collaborative projects that add new data to the adolescent interviews. The Adolescent Wellbeing and Brain Development Study—funded by NICHD and directed by Chris Monk, Luke Hyde and Colter Mitchell (University of Michigan)—is collecting extensive biological data, including functional brain imaging, on about 300 adolescents in three FFS cities: Detroit, Toledo, and Chicago. The Sleep Study—funded by NICHD and directed by Lauren Hale (Stony Brook University)—is collecting data on the diets, activity, and sleep patterns of 1,000 adolescents. The mDiary Study of Adolescent Romantic Relationships—directed by Marta Tienda and Rachel Goldberg (University of California, Irvine)—is using smart phone technology to collect data on the romantic relationships of about 500 adolescents.

Additionally, the Fragile Families data team continued its outreach efforts during the past year, attracting almost 700 Twitter followers and posting 795 total tweets since spring 2014. Their publication archive now features 620 peer-reviewed journal articles, including 65 papers forthcoming or published in the last year. Over 7,000 researchers have registered to use the public data. Finally, CRCW’s dedicated email site (ffdata@princeton.edu) continues to provide researchers with data support, answering approximately 300 questions during the last year.

**II. Teaching and Training: Postdocs, Visitors, Joint Degree Program, Senior Theses, Seminars and Workshops**

An essential component of CRCW is their visiting fellows program, which brings junior and senior researchers to Princeton during sabbatical years and hires postdoctoral researchers for two-year terms. Because Princeton is a small university that does not
have professional schools, CRCW uses their visitors program to expand the number of resident faculty with expertise on families and children. Since the founding of the Center, Jeanne Brooks-Gunn has held an unpaid visitor’s appointment at CRCW. Dr. Brooks-Gunn, who is on the faculty at Teachers College, Columbia University, spends several days a month in residence at CRCW and is a co-PI on the Fragile Families Study and a member of the advisory board of the Future of Children. Dr. Brooks-Gunn participates in CRCW activities and provides advice to faculty, postdocs, and graduate students interested in parenting and early child development.

### 2016 Hosted Visitors:

**Radha Jagannathan** is a Professor of Statistics in the Urban Planning & Policy Development Program at the Bloustein School of Planning and Public Policy, Rutgers University. She received her Ph.D. at the Woodrow Wilson School of Public and International Affairs, Princeton University in 1999. Jagannathan’s research interests include: youth and public welfare, impact of welfare reform on women's fertility behavior and mental health, children’s living arrangements, poverty, and of child abuse and neglect. She is working on several projects and papers with Dr. Sara McLanahan.

**Kate Choi** is a Social Demographer at the University of Western Ontario, Canada. She received her Ph.D. in Sociology from the University of California, Los Angeles in 2010. Her work examines how migration influences family formation processes (i.e., marriage, assortative mating, and fertility) and explores how the resulting changes in family composition and size go on to affect the educational composition of future generations in Mexico and the United States. Dr. Choi is working on several papers with Marta Tienda.

**Brandon Wagner** received his Ph.D. in sociology from the University of North Carolina-Chapel Hill in 2013. His research focuses on health as both a cause and consequence of family experiences across the life course. Using biomarkers as measures of latent health status, his work seeks to address long-standing challenges to understanding causal processes in health. In 2016, Wagner left CRCW for an Assistant Professor of Sociology position at Texas Tech University.

**2016 Hosted Postdoctoral Fellows:**

**Louis Donnelly** received his Ph.D. in Social Work from Rutgers University in 2015. His research focuses on how neighborhood environments and social welfare policies influence children’s development and their educational achievement. He also instructs graduate-level courses on social welfare policy, research methods, and statistics at Rutgers.

**Kalsea Koss** received her Ph.D. in Developmental Psychology from the University of Notre Dame in 2012. Her research focuses on the impact of family and early life adversity on child development. In particular, she is interested in understanding the role of individual differences in emotion regulation and stress biology in contributing to mental health and wellbeing.

CRCW also manages Princeton’s Joint Degree Program (JDP), which offers a joint degree in Social Policy to Princeton students receiving a Ph.D. in Sociology, Politics, Psychology, or Population Studies. A JDP certificate is available to students receiving a Ph.D. in Economics. JDP students participate in a year-long course on, “Economic, Psychological, Political and Sociological Perspectives on Inequality,” followed by a half-year “Advanced Empirical Workshop” during the second year. A number of the papers discussed in the advanced seminar have been published in top
journals. Students who have completed the JDP have been placed in prestigious postdoctoral and faculty positions, including positions at Duke University; Columbia University; Massachusetts Institute of Technology; University College London; the University of Michigan; Oxford University; the University of California, Berkeley; Cornell University; and the University of Texas, Austin.

Lastly, together with Columbia University’s Population Research Center, CRCW co-sponsored a bi-weekly seminar series for graduate students, postdocs and faculty working with the Fragile Families Study data. In addition, Kate Jaeger (Princeton University) and CRCW faculty participated in a successful NICHD-funded summer workshop at Columbia University to train graduate students and junior faculty to use the FFS data.

III. Policy and Practice: The Future of Children Project & Child and Family Blog

The Future of Children journal, a joint project of the Woodrow Wilson School at Princeton University and the Brookings Institution, translates the best social science research on a given topic into information that is useful to policy makers and practitioners. The journal currently publishes two issues each year, along with a policy brief and various ancillary pieces. The journal reaches more than 20,000 readers through a distribution list unique to each topic, and its findings are promoted through the web and outreach events in Washington DC, New York City, Princeton, and around the country. Outreach activities include a practitioners’ conference, Congressional briefings, press conferences, university lectures and courses, and stakeholders’ seminars. All volumes are available free of charge at www.futureofchildren.org.

The senior editorial team of the Future of Children represents two institutions and multiple disciplines. Editor-in-Chief Sara McLanahan is the Director of the Center for Research on Child Wellbeing and the William S. Tod Professor of Sociology and Public Affairs, Princeton University. Senior Editors include: Ron Haskins, Senior Fellow and Co-Director of the Center on Children and Families, Brookings Institution and a Senior Consultant, Annie E. Casey Foundation; Cecila Rouse, Dean of Princeton University’s Woodrow Wilson School of Public and International Affairs and the Lawrence and Shirley Katzman and Lewis and Anna Ernst Professor in the Economics of Education, Professor of Economics and Public Affairs; Janet Currie, Henry Putnam Professor of Economics and Public Affairs, Woodrow Wilson School and Director, Center for Health and Wellbeing; and Isabel Sawhill, Senior Fellow and Co-Director of the Center on Children and Families, Brookings Institution and the Cabot Family Chair. In November 2016, the Future of Children added a new senior editor, Melissa Kearney, Professor of Economics, University of Maryland and Non-Resident Senior Fellow at Brookings Institution.

The Future of Children journal published two issues in 2016 and a third issue is forthcoming in 2017: Children and Climate Change (spring 2016) Starting Early: Education from Prekindergarten to Third Grade (fall 2016) and Social and Emotional Learning (spring 2017). Two more issues are in development – Reducing Justice System Inequality (spring 2018) and Preventing and Treating Child Abuse and Neglect (spring 2019). They are also working on a special policy issue (formerly called a research report) on the topic of Charter Schools and Inequality to appear in winter 2017. This format—a single-author report produced on a
timeline of eight to nine months rather than the
two years required for a full journal—allow CRCW to respond more quickly to the national
policy environment. They plan to produce more
of these issues in the future.

CRCW’s outreach and dissemination efforts this
past year included events at Brookings related
to the Climate Change and Starting Early
issues, including “What Does Climate Change
Have to Do with Zika?” on May 4, 2016 and
“Trouble in the Land of Early Childhood
Education,” on October 26, 2016. For
practitioners, they participated in the 2016 New
Jersey Sustainability Summit on June 15, 2016.
Their practitioner conferences held at Princeton
University are organized through the Education
Research Section (ERS).

In 2016, CRCW’s managing editor began
enlisting partner organizations to help publicize
each issue of the journal by sending a message
to their members, mentioning the issue in a
newsletter, and/or writing about or linking to
the journal on their website. For the Climate
Change issue, partner organizations included
the Society of Environmental Journalists, the
Center for Climate Change Communication, the
Children’s Environmental Health Network,
Physicians for Social Responsibility,
PennFuture, the Climate Group, the National
Resources Defense Council, the National
Council for Science and the Environment, and
Climate Advisers. For Starting Early, partners
included: the National Association of School
Psychologists, the Education Writers
Association, the National Head Start
Association, the National Science Teachers
Association, and the National Association for
the Education of Young Children. Also, this
spring Jeanne Brooks-Gunn, one of the editors
of the Starting Early issue, testified on the topic
of early education before the U.S. House Labor
Health and Human Services Education
Subcommittee.

In 2016, they completed a year-long process of
updating and redesigning their website, a move
made necessary by the University’s migration to
a different content-management system. The
new site has a more modern appearance and is
easier to navigate. The redesigned site goes live
in February 2017. Its notable new features
include profiles of Future of Children authors.
For more information about the journal, go to

In 2016, CRCW also made several changes to
the international Child and Family Blog, which
grew live in July 2014. First, they redesigned
the Princeton logo to mirror that of their
partners: Cambridge University and the Jacobs
Foundation; second, they published four pieces
based on chapters from the Future of Children,
including “Learning Math, Science, and
Technology is Good for Preschoolers,” “Teacher-
Student Interactions are the Best Measure of
Early Education Quality,” “Cutting Fossil Fuel
Production Should Make Children Healthier
and More Productive,” and “Does Marriage Lead
to Good or Successful Parenting, or Are People
with the Traits of Good Parents More Likely to
Marry?” See https://childandfamilyblog.com/.

For more information on the CRCW, please see
http://crcw.princeton.edu
The Center for Health and Wellbeing (CHW) is an interdisciplinary center that seeks to foster research and teaching on the multiple aspects of health and wellbeing in both developed and developing countries. CHW is home to the Center for Translational Research on Aging funded by the National Institutes of Health. CHW oversees the graduate certificate program in Health and Health Policy, the Undergraduate Certificate Program in Global Health and Health Policy (GHP), and the University’s Health Grand Challenge program, which supports interdisciplinary research and teaching on infectious disease. CHW currently has 46 faculty associates drawn from the fields of African American studies, anthropology, demography, East Asian studies, ecology and evolutionary biology, epidemiology, economics, history, global security, human values, molecular biology, neuroscience, politics, psychology, public affairs, and sociology. The associates are involved in a wide range of research projects on health, wellbeing, and public policy. In 2016, Janet Currie and Ilyana Kuziemko served as Co-Directors of CHW.

### Teaching

CHW supports several programs designed to enhance students’ opportunities to learn about health and wellbeing. This includes undergraduate and graduate courses and certificates in health and health policy, grants for students to conduct health-related research, and student-oriented events such as lunch seminars, career panels, and public lectures.

The Undergraduate Certificate in Global Health and Health Policy is an interdepartmental program in which undergraduates can study the determinants, consequences, and patterns of disease across societies; the role of medical technologies and interventions in health improvements; and the economic, political, and social factors that shape domestic and global public health.

The Graduate Certificate in Health and Health Policy trains graduate students for careers in health-related areas in the public and not-for-profit sectors. The program is designed for students with domestic and international health interests and provides both broad training in core topics in health and health policy as well as courses in specialized areas.

The Master in Public Policy (MPP) Program for physicians trains students who aspire to careers that blend medicine and public policy in both developed and developing countries, and provides medical professionals with the tools required to be effective in public sector positions.

CHW provides grants and internships to Princeton undergraduates and graduate students conducting research on the multiple aspects of health and wellbeing, in the U.S. and overseas.
**Sponsored Research**

CHW managed four grants awarded to affiliated faculty totaling just over $2.7 million. The funders included: The National Institutes of Health and The Robert Wood Johnson Foundation.

**Notable Highlights from 2016**


- Hosted, Sponsored and/or Participated in Four Symposia:
  - “Fear of Tiers: Finding the Right Balance of Government Oversight, Transparency and the Free Market for Narrow Health Insurance Networks” Thursday, January 21, 2016, 1:00 pm to 4:30 pm, Dodds Auditorium, Robertson Hall
  - “CHW Student Research Symposium” in which students presented on their CHW-supported internships and research projects. The event included poster presentations and screenings of short films, all developed by students whose work was sponsored by CHW. Friday, September 16, 2016, 11:00 am to 2:00 pm, Robertson Hall - Bernstein Gallery and Bowl 1
  - “The Impact of Lead Exposure on our Students: What Can Schools do to Mitigate the Problem?” Friday, November 18, 2016, 9:30 am to 4:30 pm

- Hosted, Sponsored and/or Participated in Five Lectures or Panels:
  - ”Redefining Leadership: A Conversation on the Future of Global Health” Wednesday, October 19, 2016, 4:30 pm to 6:00 pm, Bowl 1, Robertson Hall
  - ”From Dollars to Deeds: Leading the Future of Global Health Financing” Tuesday September 20, 2016, 10:30 am, Princeton Club of New York: 15 West 43rd Street, New York City
  - ”Guns: Who Should Be in Control?” Friday, May 27, 2016, 10:30 am to 11:30 am, Whig Hall, Senate Chamber
  - ”Healthcare: Taking the National Temperature” Friday, May 27, 2016, 9:00 am to 10:00 am, Alexander Hall, Richardson Auditorium
  - ”Menacing Mosquitos, Biting Bats, and Tormenting Ticks: Health Protection Priorities” Monday, February 29, 2016, 4:30 pm to 6:00 pm, Robertson Hall

**Other Public Events:**

- ”Chagas: A Hidden Affliction” Thursday, March 24, 2016 Film screening and panel discussion
- ”Documenting the Fight to Eradicate Obstetric Fistula: How One Philanthropist is Driving the Movement in Malawi and Sierra Leone” Thursday, April 7, 2016 Film screening followed by Q&A
- "No Más Bebés"
  Thursday, April 28, 2016, 7:30 pm
  Film screening and panel discussion

- “Hooligan Sparrow”
  Wednesday, November 30, 2016, 4:30 pm
  Film screening followed by Q&A with Director Nanfu Wang

- Co-sponsored, with Research Program in Development Studies, 20 lunch seminars for students and faculty, covering topics such as: randomized controlled trials, Tuskegee and the health of Black men, birth order and infant mortality in India and Africa, employment effects of the ACA Medicaid expansions, moral effects of pay inequality, modern contraceptives and fertility in Zambia, antenatal counseling and the prevention of mother-to-child transmission of HIV, and heterogeneous beliefs and school choice.

- Co-sponsored 14 lunch seminars for students and faculty covering topics such as: the Zika virus, U.S. vaccination policy, conversation with former CDC Director Julie Gerberding, sexual reproductive justice, how social media engaged everyone in global health, recent mental health reform efforts, single payer health systems, and how funding changed the business of global health.

- Continued collaboration with the Oxford University Clinical Research Unit, based in Ho Chi Minh City, Vietnam. Activities include joint research projects and exchanges of faculty, postdoctoral researchers, and students between the two institutions.

- Provided $8,080 in graduate research grants through the Program on U.S. Health Policy. This funding supported two graduate students’ dissertation research on domestic healthcare and health policy.

- Created, identified and/or co-sponsored 61 undergraduate health internship opportunities for summer 2016; matched students to placements and funding through individual consultations and formal application processes; and provided intensive training and advising on protocols and practices for independent undergraduate researchers.
  - Highlights of health internships with global partners include: Institute for Empirical Research in Political Economy, Benin; Emzingo Global Impact Fellowship, South Africa; Mpala Research Center, Kenya; Oxford University Clinical Research Unit, Vietnam; Center for Disease Dynamics, Economics & Policy, Washington, D.C; Philani Centre, South Africa; Telethon Kids Institute, Australia; Zhejiang University School of Medicine, China; International Care Ministries (ICM), Philippines; Play Soccer Nonprofit International, Ghana; Jabulani Rural Health Foundation, South Africa; Population Services Khmer, Cambodia; MRC/Wits Rural Public Health and Health Transitions Research Unit, South Africa; Flourishing Futures, Mongolia; and Montefiore Medical Center, Network Performance Group, France.

- Invested $71,963 to sponsor 35 undergraduate thesis research projects for the summer of 2016.
- Funded recipients work in 18 countries, including: Brazil, China, Colombia, Ecuador, France, Ghana, Grenada, India, Kenya, London, Madagascar, Panama, Peru, South Africa, Taiwan, Uganda, Vietnam, and the U.S.

- Provided $961 to four students to attend health-related conferences and meetings.

For more information about CHW, see www.princeton.edu/chw.
The Center for Migration and Development (CMD) promotes scholarship, original research, and intellectual exchange among faculty and students with an interest in international migration and national development. Of particular interest to CMD research is the relationship between immigrant communities in the developed world and the growth and development prospects of the sending nations.

Founded in 1998, the CMD has become a major source for research, teaching and the public dissemination of knowledge regarding migration and development. The CMD sponsors a wide array of research, travel and conference programs aimed at linking scholars with interests in migration and development. They are also expanding their scope with research on race and ethnicity, especially as it relates to migration and development.

CMD develops this and other subject through research and publications and as part of their regular colloquium series which is open to Princeton faculty and students as well as to members of the community at large.

The Center’s data archive and working papers series provides readily available resources based on recent research conducted at Princeton. CMD also:

- Hosts workshops and lectures focusing on the many aspects of international migration and national development;
- Sponsors awards for international travel and research;
- Provides fellowship opportunities at Princeton for scholars with interests in these areas;
- Enhances course offerings during regular terms for interested graduate and undergraduate students;
- Maintains and makes available a data archive of unique studies on the field of migration.

**News & Announcements**

**Alejandro Portes Receives Award**

On November 30, 2016, Founding Director, Alejandro Portes, was awarded a doctorate *honoris causa* by the New University of Lisbon (Universidade Nova de Lisboa). He recently completed a study of national Portuguese institutions, published as *Values, Institutional Quality and Development* by the Francisco Manuel dos Santos Foundation of Lisboa. The book’s co-author is Margarida Marques, a Sociology professor at the Nova University.

**Children of Immigrants in New Places of Settlement**

The American Academy of Arts and Sciences is sponsoring a two-day conference in Cambridge, MA in 2017 entitled, *Children of Immigrants in New Places of Settlement*. The purpose of the event is to assess the state of knowledge about this general topic and identify the principal issues in need of future investigation as well as
the policies required to address the most urgent needs of this population.

To meet their goal, they are inviting a group of the most experienced and knowledgeable scholars in this area and asking each to share their views, concerns, and priorities for the future. Topics to be covered include:

- The demographic and social characteristics of immigrant families in new places of settlement in states of the Midwest and South;
- The responses of receiving communities to the presence of this new foreign population;
- The challenges to social and cultural integration faced by immigrant children and adolescents now living in these communities;
- The linguistic and other barriers faced by immigrant children and youths as they enroll in school in these communities;
- The academic performance of foreign-born and foreign-origin students in public schools of the Midwest and South and possible ways to improve it;
- The role of community institutions – churches, voluntary associations, local governments, and police – in facilitating or hindering the integration of immigrant families and their children;
- The characteristic of the co-ethnic population in new places of settlement and the extent to which it possess the necessary cohesiveness, organization, and resources to assist the adaptation of their young.

Immigrant children and children of immigrants are the fastest growing component of America’s young population, now comprising one-in-four of all persons aged 18 and younger. A wealth of information has accumulated by now on the sector of this population living in established cities of immigration such as Los Angeles, Miami, and New York. There is, however, much less valid knowledge about what happens to youth going to live in towns and rural areas of the South and Midwest, previously untouched by immigration.

Scholarly attention to the flow of new migrants toward these states, overwhelmingly Mexicans and Central Americans, have focused primarily on adult immigrants rather than their children. Research on the Hispanic second generation in new places of settlement has come primarily from the field of education, with attention focused on the language barriers faced by this population and their low average academic performance. In official school parlance, second-generation youth are commonly known as “ELLs” (English Language Learners) and their difficulties with English are defined as a learning disability.

There is much less information on the broader social contexts receiving these youth: their social relationships and community involvement outside of school; and key features of psycho-social adaptation including aspirations, self-identities, and self-esteem. Conference participants will be asked to prepare brief statements outlining their ideas, concerns, and priorities on the present condition of this young population. These papers will serve as the basis for discussions during the conference.

Representatives of foundations traditionally working in the fields of immigration and education such as: Grant, MacArthur, Russell Sage, and Spencer as well as selected officials from the U.S. Department of Education will also be invited. Discussion papers will be posted on the Academy’s webpages following the conference.
Depending on the results of their deliberations, research and policy proposals can be prepared subsequently to address the principal issues identified during the conference.

**Healthcare & Immigration**

A two-day conference entitled, *What is Ailing U.S.? Health Care and Immigration: Access and Barriers*, was designed to bring together top administrators, physicians, nurses, community activists, elected officials, and academics in a dialogue about key problems, solutions, and policy regarding healthcare provision to underserved populations, including immigrants. The conference allowed for:

- review of obstacles in gaining access to health care;
- definition of mechanisms and procedures that improve access in cost effective ways;
- discussion of evidence derived from empirical research regarding effective and failed health are provision; and
- crafting of policy implications and recommendations.

The research project that gave rise to this conference was supported by a Senior Investigator Award to CMD’s Founding Director, Alejandro Portes, from the Robert Wood Johnson Foundation. The conference was supported by a generous grant from the John D. and Catherine T. MacArthur Foundation and co-sponsored by the University’s Center for Human Values, the Program in Latin American Studies, and the Princeton Institute for International and Regional Studies.

The conference, held in 2009, was the culmination of a two-year long research project sponsored by the Robert Wood Johnson Foundation and spearheaded by the Founding Director.

Ten of the finest healthcare providers in the South Florida, San Diego, and the Greater Trenton area were represented in the program. Of special interest to the event was the inclusion of successful initiatives, which may be used as models to extend healthcare services to underserved populations.

**Immigration Policy, Deportations & National Security**

The Princeton Program in Latin American Studies in collaboration with the CMD, the Program in Latino Studies, and the Latin American Legal Defense and Education Fund hosted a Roundtable on Deportations and National Security in 2011, at Princeton University. The event was meant to draw attention to timely and seldom addressed issues of the highest public interest. Julia Preston, Pulitzer Prize winner and National Immigration Correspondent for *The New York Times*, presided.

Immigration Policy, Deportations and National Security Homeland Security Department (DHS) officials, New Jersey Representative Rush Holt, directors and leaders of national and local immigration and civil rights groups, and academics discussed U.S. deportations and immigration policy. According to Immigration and Customs Enforcement, the U.S. deported record numbers of illegal aliens in 2009 and 2010, the most deportations since the formation of the DHS.

**Immigration & Reform**

The Center for Migration and Development hosted a conference entitled, *Fast and Furious: New Developments in Immigration and Immigration Reform* in 2012. The conference brought together national and international experts who:
updated views on immigration and immigration reform;
considered alternatives to the current paralysis in the political realm;
discussed the implications of state initiatives regarding immigration.

Project Rationale
The election of Barack Obama brought hopes that comprehensive immigration reform would be enacted. That expectation failed to materialize. As a new election approaches, the time is ripe to: review the factors that have led to paralysis in immigration reform, examine changes in the scale and composition of immigration, and discuss legislative initiatives at the state and local levels.

The failure to enact comprehensive immigration reform cannot be seen as a historical necessity. In the past, both Republicans and Democrats have backed efforts to regulate immigrant flows to: fill labor demands in sectors like agriculture and construction; reduce burdensome bureaucratic processes and costly outlays in detentions and deportations; and, satisfy humanitarian concerns. Why then the present situation? Possible answers relate to pragmatic political calculations but also to changes in the workings of Congress. An examination of alternatives that may lead to the implementation of new legislative initiatives was a main goal of the conference.

Yet, within that dismaying panorama, other developments suggest that change is occurring without notice. More than 100,000 temporal worker visas were issued in 2010-11, mostly to agricultural workers placed in almost complete dependence to particular employers. Directives on the part of the executive branch seeking to limit the discretion of the Immigration and Customs Enforcement Agency (ICE) have met with forceful opposition on the part of personnel within the Department of Homeland Security. An order to curtail deportation-related actions that would result in the separation of American citizens from parents or spouses gives evidence to a growing tension between state and federal outlooks on immigration policy.

In other words, although the general panorama surrounding immigration is one of stagnation, other developments suggest that change is occurring at an accelerated pace. A main
The purpose of this conference was to take stock of those changes and to consider their implications for research and policy.

**The Hero’s Fight**

Baltimore was once a vibrant manufacturing town, but today, with factory closings and steady job loss since the 1970s, it is home to some of the most impoverished neighborhoods in America. The Hero’s Fight provides an intimate look at the effects of deindustrialization on the lives of Baltimore’s urban poor, and sheds critical light on the unintended consequences of welfare policy on our most vulnerable communities.

Drawing on her own uniquely immersive brand of fieldwork, conducted over the course of a decade in the neighborhoods of West Baltimore, Patricia Fernández-Kelly tells the stories of people like D. B. Wilson, Big Floyd, Towanda, and others whom the American welfare state treats with a mixture of contempt and pity—what she calls "ambivalent benevolence." She shows how growing up poor in the richest nation in the world involves daily interactions with agents of the state, an experience that differs significantly from that of more affluent populations. While ordinary Americans are treated as citizens and consumers, deprived and racially segregated populations are seen as objects of surveillance, containment, and punishment. Fernández-Kelly provides new insights into such topics as globalization and its effects on industrial decline and employment, the changing meanings of masculinity and femininity among the poor, social and cultural capital in poor neighborhoods, and the unique roles played by religion and entrepreneurship in destitute communities.

Blending compelling portraits with in-depth scholarly analysis, *The Hero’s Fight* explores how the welfare state contributes to the perpetuation of urban poverty in America.

**CMD Colloquium Series**

**Spring 2016**

“**Dual Citizenship as a Strategy of Resource Accumulation: Evidence from Serbia, Mexico and Israel.**” Yossi Harpaz, Princeton University and Tel-Aviv University.

“The Impacts of Residential Segregation of Brazilian Immigrants in Japan.” Chikako Mori, Hitotsubashi University of Tokyo.


“**STEM migration and Global Talent in an Era of Mass Migration: The Cases of Denmark and Sweden.**” Shahamak Rezaei, Roskilde University, Johan Sandberg, Lund University.

“**Exploring Borderlands: Urban Citizenship and Local Border Practices (with) in Europe.**” Henrik Lebuhn, Humboldt University and Graduate Center, City University of New York.


“The Head of Joaquin Murrieta” – Lynching and Resistance among Latinos in the American South West.” Film Screening and
Discussion. John Valadéz, Award Winning Documentarian – Public Broadcasting System (PBS).

**Fall 2016**

“Unsettling lives at the Border: Care and Control in Contexts of Poor Immigrants in Northern Chile.” Angel Aedo, Pontificia Universidad Católica de Chile and Princeton Institute for Advanced Studies.

“Fragmented Schooling: Examining the Educational Experiences of Indigenous, Undocumented, and Deported Mexican Youth.” William Pérez, University of California, Los Angeles.


For any research center to function effectively, scholars must be supported by other professionals who carry out the ancillary activities that facilitate excellent research. Highly skilled information retrieval specialists and cutting-edge libraries provide the expertise and resources required for faculty and researchers to function in today’s increasingly complex information environment.

The Stokes Library, under the direction of Nancy Pressman Levy, and within which the Ansley J. Coale Population Research Collection is housed, has a total staff of four librarians and four support staff. Joann Donatiello and Elana Broch are the population research librarians. The librarians provide research assistance, individual and group training, selection of material, delivery of printed sources as well as electronic documents, NIH Public Access Policy compliance assistance, guidance on bibliographic management software, referrals for assistance with data manipulation and archiving, and selective dissemination of information services. Tracy Hartman, the Special Collections Assistant for the Office of Population Research, has extensive experience in the publishing industry as well as with the Google Books Library Project.

Stokes Library has ample room for study and research, with tables and quiet study areas that are completely networked and wired to accommodate the use of laptop computers. The space was recently reconfigured to add additional seating for library users and stand-up desks are available. The Library also has two collaborative study rooms and an instructional classroom with 12 student workstations and an instructor's station. The room is available for classes conducted by Library staff for the Princeton University community. The classroom is also used for computer workshops held by the Office of Population Research, the Woodrow Wilson School, the Sociology Department, and other units of the University Library system. The classroom computers are available to Library users when not reserved for class sessions. STATA, R and SPSS statistical software packages as well as ArcGis, MATLAB, and SharePoint are installed on all classroom computers. Printing, scanning and photocopying facilities are available. The Library’s two scanning stations include a SCANNX book scanner; Microsoft Office software; and the Adobe Design Premium Collection. Datastream and NVivo are also available in the library.

The Coale Collection continues to be one of the world’s oldest and most renowned population collections, numbering over 46,000 bound volumes as well as more than 17,000 reprints, technical reports, manuscripts, working and discussion papers from other population centers, and more than 300 journals. Approximately 1,200 items are added annually. The subjects covered include vital statistics, censuses, general works about demography, population policy, immigration, health statistics, and reproductive and public health. Sixty percent of the collection consists of statistical materials (censuses and vital statistics) from all over the world and includes an International Census Microform collection of approximately 4,000 microfilms reels. The library houses a state-of-the-art microfilm reader for viewing these materials. Filmed numerical tables can be converted into an Excel spreadsheet for statistical manipulation. The Library also permanently archives born digital international census and vital statistics publications and makes them accessible via the Library catalog.
For many years, the Population Index database was compiled at Princeton University’s OPR. As a result, over 3,700 of the working papers, unpublished conference papers, research institute publications, non-governmental organization and government publications cited in Population Index are available in the Ansley Coale collection. Their bibliographic records are included in an international catalog that is searched by academics and researchers worldwide. Researchers may request a loan of the materials; or, in many cases, they can be scanned and distributed electronically. For countries with few resources, this is particularly valuable.

On a weekly basis, Elana Broch provides on-site reference service to the OPR researchers. During this time, she holds regular office hours in a common room near their offices, making library assistance more accessible and convenient for them. During the first few weeks of classes, Broch and Donatiello meet with the incoming graduate students to explain the available resources and services. The librarians also meet with the new students at the end of their first year as they begin their individual research projects.

Additional services provided to OPR’s researchers include research consultations and reference assistance, as well as individual and group training sessions on various information resources, and the distribution of tables of contents from journals specifically designated by each researcher. Elana Broch provides a selective dissemination of information service whereby information is proactively distributed electronically based on researchers’ individual profiles. The Population Research librarians also review the latest books acquired by the University Library on a weekly basis and alert OPR faculty to those titles that are of particular interest to their areas of research. Joann Donatiello provides extensive individual support for NIH Public Access Policy compliance to all OPR affiliates and works closely with the Library’s Scholarly Communications Librarian to respond to queries about copyright and Open Access.

A wide range of electronic resources are used by researchers, graduate and undergraduate students, and the reference librarians. From its Web page, the Library offers a “discovery” interface that provides access to all Princeton University Library holdings including books, subscription journals and databases, with links to the full-text content as well as individual account information, and real time availability data. In addition to POPLINE and Population Index Online, the library’s holdings include numerous electronic databases such as Sociological Abstracts, Clarivate Web of Science, SocIndex, Global Health, EconLit, ScienceDirect, PsycINFO, Medline, Scopus, LexisNexis Academic, Statistical Insight, PolicyFile, and PAIS. The library also provides access to Social Explorer, a database that creates interactive maps of demographic data back to 1790; SimplyMap, a mapping application that lets users create thematic maps and reports using demographic and other data; and PolicyMap, a mapping application for housing, crime, mortgage, health, employment, demographic, and education statistics. GIS services are available as well. As Population Studies increasingly focuses on health, the library has acquired the Global Health archive and the Cochrane Library, a collection of medical databases covering the effects of interventions in health care. Currently, the library offers access to Sage Research Methods Online and Sage Knowledge, valuable resources that provide access to books, journals, and reference content about research methodology.

Along with the specialized resources of interest to OPR researchers, the University Library provides access to over 13,000 electronic
journals and 800 online licensed databases that are relevant to the work of the OPR. Users also have available to them numerous sources of statistical data including a subscription to ICPSR, the world’s largest archive of digital social science data, as well as the Data-Planet Statistical Datasets repository.

The Library provides document delivery services. The Article Express service rapidly delivers electronic copies of articles and book chapters to the desktop. Borrow Direct is a service that allows faculty and researchers to request books directly from the libraries at Yale, Brown, the University of Pennsylvania, Cornell, Dartmouth, the University of Chicago, Johns Hopkins, Duke, Harvard, MIT, and Columbia. The books are delivered to the requestor’s mailbox on campus within four business days—much faster than traditional interlibrary loan. In addition to Borrow Direct, the Stokes Library offers the ‘Library Express’ service. This program provides for the rapid delivery of books owned by Princeton University Library to the mailboxes of OPR constituents.

The Stokes librarians are members of the Association of Population Libraries and Information Centers (APLIC). The association is an extensive international network of demography libraries and provides for timely document delivery as well as professional development and networking. The Library is one of the few academic institutions participating in this organization, and it provides APLIC members with access to the unique resources housed in the collection. Both Elana Broch and Joann Donatiello are members of the Board of Directors.

For more information on the Coale Collection, please see library.princeton.edu/stokes
• **Margaret Frye**, Assistant Professor of Sociology, Princeton University, “Bees to a Flower: Attractiveness, Risk, and Collective Sexual Life in Malawi.” February 2, 2016

• **Patrick Ishizuka**, Ph.D. Candidate, Sociology, Princeton University, “Educating Differences in Parenting Behaviors: Preferences or Constraints?” February 9, 2016

• **Megan Sweeney**, Professor of Sociology, University of California, Los Angeles, “Social Class and Contraceptive Use in Comparative Context.” February 16, 2016

• **Noreen Goldman**, Professor of Demography and Public Affairs, Princeton University, “Predicting Survival of Older Adults.” February 23, 2016

• **Jenna Johnson-Hanks**, Associate Professor of Sociology, University of California, Berkeley, “Restless Denominators.” March 1, 2016


• **Caleb Finch**, Professor in the Neurobiology of Aging, University of Southern California, “ApoE alleles in Human Life History Evolution: Does the Past Predict the Future.” March 29, 2016

• **Mark VanLandingham**, Professor of Global Community Health and Behavioral Sciences, Tulane University, “Culture and its Confounders: The Roots of Post-Disaster Resilience within an Immigrant Enclave.” April 5, 2016


• **Adrian Raftery**, Professor of Statistics and Sociology, University of Washington, “Probabilistic Population Projections with Migration Uncertainty.” April 26, 2016

• **Joshua Goldstein**, Professor of Demography, University of California, Berkeley, “Naming the Precious Child: Insights into the Quantity-Quality Trade-off during the Demographic Transition.” September 20, 2016

• **Michael Rendall**, Professor of Sociology, University of Maryland, “Women’s Sequencing of First Births Relative to First Substantial Employment before and after the 1990s Welfare Reforms.” September 27, 2016

• **Christopher Neilson**, Assistant Professor of Economics and Public Affairs, Princeton University, “Student Choices and the Returns to College Major and Selectivity.” October 4, 2016

• **Mark Hatzenbuehler**, Assistant Professor of Sociomedical Sciences, Columbia University, “Structural Stigma and Sexual Orientation Health Disparities: Research Evidence and Future Directions.” October 11, 2016

• **Matthew Hall**, Associate Professor of Policy Analysis and Management, Cornell University, “Deporting the American Dream: Immigration Enforcement and Latino Foreclosures.” October 18, 2016

• **John Cawley**, Professor of Policy Analysis and Management, Cornell University, “The Impact of Restaurant Menu Calorie Labels on Food Choice: Results of a Randomized Field Experiment.” October 25, 2016

• **Dan Belsky**, Assistant Professor of Medicine, Duke University, “Quantification of Biological Aging.” November 8, 2016

• **Dalton Conley**, Professor of Sociology, Princeton University, “The Bell Curve Revisited: Testing Controversial Hypotheses with Molecular Genetic Data.” November 15, 2016


• **Katy Kozhimannil**, Associate Professor of Health Policy & Management, University of Minnesota, “How We Are Born: Why Is Your Hospital The Biggest Risk Factor For Cesarean Birth.” November 29, 2016


• **Cynthia Feliciano**, Associate Professor of Sociology, University of California, Irvine, “An Immigrant Paradox? Contextual Attainment and Intergenerational Educational Mobility.” December 13, 2016
Jeanne Altmann’s research deals with life history approaches to behavioral ecology and with non-experimental research design. Most of her empirical work has been carried out on the baboons of Amboseli National Park, Kenya, for which longitudinal studies have been conducted since 1971. Altman and her team of researchers emphasize an integrated, holistic approach by carrying out concurrent studies of behavior, ecology, demography, genetics, and physiology at the level of individuals, social groups, and populations.

Altmann’s current research centers on the magnitude and sources of variability in primate life histories, parental care, and behavioral ontogeny. For baboons, she and her researchers are analyzing sources of variability within groups and examining patterns in their stability among groups and populations and across time. In one series of studies, the researchers are interested in the extent to which various life-history and developmental parameters are food-limited. In others, they are examining empirically and theoretically the effects of social structure within groups on demographic processes within and among groups and across time. In one series of studies, the researchers are interested in the extent to which various life-history and developmental parameters are food-limited. In others, they are examining empirically and theoretically the effects of social structure within groups on demographic processes within and among groups and across time.

Jeanne Altmann co-directs the Amboseli Baboon Research Project (ABRP) with Susan Albets (Duke University). ABRP is one of the longest-running studies of wild primates in the world. Focused on the savannah baboon, *Papio cynocephalus*, ABRP is located in the Amboseli ecosystem of East Africa, north of Mt. Kilimanjaro. They track hundreds of known individuals in several social groups over the course of their entire lives. They currently monitor around 300 animals, but over the last four decades have accumulated life history information on over 1,500 animals. Research at ABRP has long centered on processes at the individual, group, and population levels, and in recent years has also included other aspects of baboon biology, such as genetics, hormones, nutrition, hybridization, parasitology, and relations with other species. http://amboselibaboons.nd.edu/

Altmann collaborated with Colchero, F. (University of Southern Denmark; Max Planck Institute for Demographic Research) et al. on “The Emergence of Longeavous Populations,” published in *Proceedings of the National Academy of Sciences*. This paper is significant due to burgeoning public interest in social and economic equality. The authors examine a related phenomenon, lifespan equality, using data from charismatic primate populations and diverse human populations. The study reveals three key findings. First, lifespan equality rises in lockstep with life expectancy, across primate species separated by millions of years of evolution and over hundreds of years of human social progress. Second, industrial humans differ more from nonindustrial humans in these measures than nonindustrial humans do from other primates. Third, in spite of the astonishing progress humans have made in lengthening the lifespan, a male disadvantage in lifespan measures has remained substantial—a result that will resonate with enduring public interest in male–female differences in many facets of life.

The human lifespan has traversed a long evolutionary and historical path, from short-lived primate ancestors to contemporary Japan, Sweden, and other longevity frontrunners. Analyzing this trajectory is crucial for understanding biological and sociocultural processes that determine the span of life. Here they reveal a fundamental regularity. Two straight lines describe the joint rise of life expectancy and lifespan equality: one for primates and the second one over the full range of human experience from average lifespans as low as 2 y during mortality crises to more than 87 y for Japanese women today. Across the primate order and across human populations, the lives of females tend to be longer and less variable than the lives of males, suggesting deep evolutionary roots to the male disadvantage. Their findings cast fresh light on primate evolution and human history, opening
directions for research on inequality, sociality, and aging.

Dalton Conley and Malaspina, D. (New York University) published “Socio-Genomics and Structural Competency,” in Journal of Bioethical Inquiry. Adverse developmental exposures and pathologies of the social environment make vastly greater contributions to the leading health burdens in society than currently known genotypic information. Yet, while patients now commonly bring information on single alleles to the attention of their healthcare team, the former conditions are only rarely considered with respect to future health outcomes. This manuscript aims to integrate social environmental influences in genetic predictive models of disease risk. Healthcare providers must be educated to better understand genetic risks for complex diseases and the specific health consequences of societal adversities, to facilitate patient education, disease prevention, and the optimal care in order to achieve positive health outcomes for those with early trauma or other social disadvantage.

Dalton Conley published “Socio-Genomic Research Using Genome-Wide Molecular Data,” in Annual Review of Sociology. Recent advances in molecular genetics have provided social scientists with new tools with which to explore human behavior. By deploying genomic analysis, we can now explore long-term patterns of human migration and mating, explore the biological aspects of important sociological outcomes such as educational attainment, and, most importantly, model gene-by-environment interaction effects. The intuition motivating much sociogenomic research is that to have a more complete understanding of social life, scholars must take into consideration both nature and nurture as well as their interplay. Most promising is gene-by-environment research that deploys polygenic measures of genotype as a prism through which to refract and detect heterogenous treatment effects of plausibly exogenous environmental influences. This article reviews much recent work in this vein and argues for a broader integration of genomic data into social inquiry.

“Cohort Effects in the Genetic Influence on Smoking,” written by Domingue, B. (Stanford University), Conley, D., Fletcher, J. (University of Wisconsin, Madison), and Boardman, J. (University of Colorado) was published in Behavior Genetics. The authors examine the hypothesis that the heritability of smoking has varied over the course of recent history as a function of associated changes in the composition of the smoking and non-smoking populations. Classical twin-based heritability analysis has suggested that genetic basis of smoking has increased as the information about the harms of tobacco has become more prevalent—particularly after the issuance of the 1964 Surgeon General’s Report. In the present paper, they deploy alternative methods to test this claim. They use data from the Health and Retirement Study to estimate cohort differences in the genetic influence on smoking using both genomic-relatedness-matrix restricted maximum likelihood and a modified DeFries-Fulker approach. They perform a similar exercise deploying a polygenic score for smoking using results generated by the Tobacco and Genetics consortium. The results support earlier claims that the genetic influence in smoking behavior has increased over time. Emphasizing historical periods and birth cohorts as environmental factors has benefits over existing GxE research. Their results provide additional support for the idea that anti-smoking policies of the 1980s may not be as effective because of the increasingly important role of genotype as a determinant of smoking status.

Noreen Goldman and Cornman, J. et al. published “Cohort Profile: The Social Environment and Biomarkers of Aging Study (SEBAS) in Taiwan,” in International Journal of Epidemiology. The Social Environment and Biomarkers of Aging Study (SEBAS) is a nationally representative longitudinal survey of Taiwanese middle-aged and older adults. It adds the collection of biomarkers and performance assessments to the Taiwan Longitudinal Study of Aging (TLSA), a nationally representative study of adults aged 60 and over, including the institutionalized population. The TLSA began in 1989, with follow-ups approximately every 3 years; younger refresher cohorts were added in 1996 and 2003. The first wave of SEBAS, based on a sub-sample of respondents from the 1999 TLSA, was conducted in 2000. A total of 1023 respondents completed both a face-to-face home interview and, several weeks later, a hospital-based physical examination. In addition to a 12-h (7 pm–7 am) urine specimen collected the night before and a
fasting blood specimen collected during the examination, trained staff measured blood pressure, height, weight and waist and hip circumferences. A second wave of SEBAS was conducted in 2006 using a similar protocol to SEBAS 2000, but with the addition of performance assessments conducted by the interviewers at the end of the home interview. Both waves of SEBAS also included measures of health status (physical, emotional, cognitive), health behaviors, social relationships and exposure to stressors. The SEBAS data, which are publicly available at [http://www.icpsr.umich.edu/icpsrweb/NACDA/studies/3792/version/5], allow researchers to explore the relationships among life challenges, the social environment and health and to examine the antecedents, correlates and consequences of change in biological measures and health.

Meaden, S. (University of Exeter, UK), Metcalf, C.J.E., and Koskella, B. published “The Effects of Host Age and Spatial Location on Bacterial Community Composition in the English Oak Tree (Quercus Robur),” in *Environmental Microbiology Reports*. Drivers of bacterial community assemblages associated with plants are diverse and include biotic factors, such as competitors and host traits, and abiotic factors, including environmental conditions and dispersal mechanisms. They examine the roles of spatial distribution and host size, as an approximation for age, in shaping the microbiome associated with Quercus robur woody tissue using culture-independent 16S rRNA gene amplicon sequencing. In addition to providing a baseline survey of the Q. robur microbiome, they screened for the pathogen of acute oak decline. Our results suggest that age is a predictor of bacterial community composition, demonstrating a surprising negative correlation between tree age and alpha diversity. They find no signature of dispersal limitation within the Wytham Woods plot sampled. Together, these results provide evidence for niche-based hypotheses of community assembly and the importance of tree age in bacterial community structure, as well as highlighting that caution must be applied when diagnosing dysbiosis in a long-lived plant host.

Metcalf, C.J.E. and Fournier-Level, A. (The University of Melbourne, Parkville) et al. contributed to “Predicting the Evolutionary Dynamics of Seasonal Adaptation to Novel Climates in Arabidopsis thaliana,” published in *Proceedings of the National Academy of Sciences*. Predicting whether and how populations will adapt to rapid climate change is a critical goal for evolutionary biology. To examine the genetic basis of fitness and predict adaptive evolution in novel climates with seasonal variation, the authors grew a diverse panel of the annual plant Arabidopsis thaliana (multi parent advanced generation intercross lines) in controlled conditions simulating four climates: a present-day reference climate, an increased-temperature climate, a winter-warming only climate, and a poleward-migration climate with increased photoperiod amplitude. In each climate, four successive seasonal cohorts experienced dynamic daily temperature and photoperiod variation over a year. They measured 12 traits and developed a genomic prediction model for fitness evolution in each seasonal environment. This model was used to simulate evolutionary trajectories of the base population over 50 y in each climate, as well as 100-y scenarios of gradual climate change following adaptation to a reference climate. Patterns of plastic and evolutionary fitness response varied across seasons and climates. The increased-temperature climate promoted genetic divergence of subpopulations across seasons, whereas in the winter-warming and poleward-migration climates, seasonal genetic differentiation was reduced. In silico "resurrection experiments" showed limited evolutionary rescue compared with the plastic response of fitness to seasonal climate change. The genetic basis of adaptation and, consequently, the dynamics of evolutionary change differed qualitatively among scenarios. Populations with fewer founding genotypes and populations with genetic diversity reduced by prior selection adapted less well to novel conditions, demonstrating that adaptation to rapid climate change requires the maintenance of sufficient standing variation.

**Children, Youth, and Families**


Journal of Human Resources. The events of 9/11 released a million tons of toxic dust into lower Manhattan, an unparalleled environmental disaster. Puzzling to them was that the literature has shown little effect of fetal exposure to the dust. However, inference is complicated by pre-existing differences between the affected mothers and other NYC mothers as well as heterogeneity in effects on boys and girls. Using all births in utero on 9/11 in NYC and comparing them to their siblings, they found that residence in the affected area increased prematurity and low birth weight, especially for boys.

Louis Donnelly’s paper with McLanahan, S., Brooks-Gunn, J., Garfinkel, I. (Columbia University), Wagner, B. (Princeton University; Texas Tech University), Jacobsen, W. (Pennsylvania State University) et al. entitled, “Cohesive Neighborhoods Where Expectations are Shared May Have Positive Impact on Adolescent Mental Health,” was published in Health Affairs. Adolescent mental health problems are associated with poor health and well-being in adulthood. The authors used data from a cohort of 2,264 children born in large U.S. cities in 1998–2000 to examine whether neighborhood collective efficacy (a combination of social cohesion and control) is associated with improvements in adolescent mental health. They found that children who grew up in neighborhoods with high collective efficacy experienced fewer depressive and anxiety symptoms during adolescence than similar children from neighborhoods with low collective efficacy. The magnitude of this neighborhood effect is comparable to the protective effects of depression prevention programs aimed at general or at-risk adolescent populations. Their findings did not vary by family or neighborhood income, which indicates that neighborhood collective efficacy supports adolescent mental health across diverse populations and urban settings. They recommend a greater emphasis on neighborhood environments in individual mental health risk assessments and greater investment in community-based initiatives that strengthen neighborhood social cohesion and control.

Sara McLanahan, Garfinkel, I. (Columbia University), and Wimer, C. (Stanford University) published “Children of the Great Recession, an edited volume that examined the recession’s impact on the economic well-being of families, including parents’ health, relationship stability, and parenting behavior. In one of the chapters, McLanahan, along with Schneider, D. (University of California, Berkeley) and Harknett, K. (University of Pennsylvania), studied how the high levels of unemployment during the Great Recession influenced parental relationships. Using data from the Fragile Families and Child Wellbeing Study linked with area-level unemployment rates, they found that the recession led to modest declines in two-parent families, and some declines in the supportiveness and overall quality of mother-father relationships. The declines were most pronounced among families with mothers who had less than a college degree.

Tom Vogl, in joint research with Marcos Rangel (Duke University), investigates the health effects of routine pollution sources in agricultural areas of developing countries. The project’s first article, is under review for the Review of Economics and Statistics and is a part of the NBER Working Paper. The authors’ research measures the infant health effects of agricultural field burning, a common and age-old practice. Fire has long served as a tool in agriculture, but this practice’s human capital consequences have proved difficult to study. Drawing on data from satellites, air monitors, and vital records, they study how smoke from sugarcane harvest fires affects infant health in the Brazilian state that produces one-fifth of the world’s sugarcane. Because fires track economic activity, they exploit wind for identification, finding that late-pregnancy exposure to upwind fires decreases birth weight, gestational length, and in utero survival, but not early neonatal survival. Other fires positively predict health, highlighting the importance of disentangling pollution from economic activities that drive it.

Data/Methods

Jeanne Altmann collaborated on “Female and Male Life Tables for Seven Wild Primate Species,” published in Scientific Data, with Bronikowski, A. (Iowa State University) et al. The authors provide male and female census count data, age-specific survivorship, and female age-specific fertility estimates for populations of seven wild primates that have been continuously monitored for at least 29 years: sifaka (Propithecus verreauxi) in Madagascar; muriqui (Brachyteles hypoxanthus) in Brazil; capuchin (Cebus capucinus) in Costa Rica; baboon (Papio cynocephalus) and blue monkey (Cercopithecus mitis) in Kenya; chimpanzee (Pan troglodytes) in Tanzania; and gorilla (Gorilla beringei) in Rwanda. Using one-year age-class intervals, they computed point estimates of age-specific survival for both sexes. In all species, their survival estimates for the dispersing sex are affected by heavy censoring. They also calculated reproductive value, life expectancy, and mortality hazards for females. They used bootstrapping to place confidence intervals on life–table summary metrics (R0, the net reproductive rate; λ, the population growth rate; and G, the generation time). These data have high potential for reuse; they derive from continuous population monitoring of long-lived organisms and will be invaluable for addressing questions about comparative demography, primate conservation and human evolution.

Elizabeth Armstrong and Miranda Waggoner are working on a book manuscript that looks at the uses of data from the Dutch Hunger Winter. During the winter of 1944–45, Nazi forces occupied the western provinces of the Netherlands, cutting off food and fuel shipments to the area. A severe famine ensued, which came to be known as the Dutch Hunger Winter, affecting some 4–5 million people. The health consequences of the famine have been extensively studied; in particular, data on the effects of exposure to famine in utero collected through the Dutch Famine Birth Cohort Study have become paradigmatic within epidemiology and in the emerging field of epigenetics. In addition, these data have been discussed extensively in the obstetric literature, the popular press, and increasingly, in social sciences like economics. This project examines patterns of dissemination and interpretation of evidence from the Dutch Hunger Winter through time and disciplinary space.

Domingue, B. (Stanford University), Wedow, R. (University of Colorado), Conley, D., McQueen, M. (New York University), Hoffman, T. (University of California, San Francisco), and Boardman, J. (University of Colorado) published “Genome-Wide Estimates of Heritability for Social Demographic Outcomes,” in Biodemography and Social Biology. An increasing number of studies that are widely used in the demographic research community have collected genome-wide data from their respondents. It is therefore important that demographers have a proper understanding of some of the methodological tools needed to analyze such data. This article details the underlying methodology behind one of the most common techniques for analyzing genome-wide data, genome-wide complex trait analysis (GCTA). GCTA models provide heritability estimates for health, health behaviors, or indicators of attainment using data from unrelated persons. The authors’ goal was to describe this model, highlight the utility of the model for bio-demographic research, and demonstrate the performance of this approach under modifications to the underlying assumptions. The first set of modifications involved changing the nature of the genetic data used to compute genetic similarities between individuals (the genetic relationship matrix). They then explored the sensitivity of the model to heteroscedastic errors. In general, GCTA estimates are found to be robust to the modifications proposed here, but they also highlight potential limitations of GCTA estimates.

Noreen Goldman’s co-authored paper with Downer, B (University of Texas, Galveston), González-González ,C. (University of Colima, Mexico), Pebley, A. (University of California, Los Angeles), and Rebeca Wong (University of Texas Galveston), “The Effect of Adult Children Living in the United States on the Likelihood of Cognitive Impairment for Older Parents Living in Mexico,” was published in Ethnicity and Health. The increased risk for poor physical and mental health outcomes for older parents in Mexico who have an adult child living in the United States may contribute to an increased risk for cognitive impairment in this population. The objective of this study was to examine if older adults in Mexico who have one or more adult children living in the United States are more or less
likely to develop cognitive impairment over an 11-year period compared to older adults who do not have any adult children living in the United States. Data for this study came from Wave I (2001) and Wave III (2012) of the Mexican Health and Aging Study. The final sample included 2609 participants aged 60 and over who were not cognitively impaired in 2001 and had one or more adult children (age ≥15). Participants were matched using a propensity score that was estimated with a multivariable logistic regression model that included sociodemographic characteristics and migration history of the older parents. The results found that having one or more adult children living in the United States is associated with lower socioeconomic status and higher number of depressive symptoms, but greater social engagement for older parents living in Mexico. No significant differences in the odds for developing cognitive impairment according to having one or more adult children living in the United States were detected. In summary, having one or more adult children living in the United States was associated with characteristics that may increase and decrease the risk for cognitive impairment. This may contribute to the non-significant relationship between migration status of adult children and likelihood for cognitive impairment for older parents living in Mexico. 

Noreen Goldman, Glei, D. (Georgetown University), and Weinstein, M. (Georgetown University) published “What Matters Most for Predicting Survival? A Multinational Population-based Cohort Study,” in PLoS ONE. Despite myriad efforts among social scientists, epidemiologists, and clinicians to identify variables with strong linkages to mortality, few researchers have evaluated statistically the relative strength of a comprehensive set of predictors of survival. Here, they determine the strongest predictors of five-year mortality in four national, prospective studies of older adults. They analyze nationally representative surveys of older adults in four countries with similar levels of life expectancy: England (n = 6113, ages 52+), the U.S (n = 2023, ages 50+), Costa Rica (n = 2694, ages 60+), and Taiwan (n = 1032, ages 53+). Each survey includes a broad set of demographic, social, health, and biological variables that have been shown previously to predict mortality. They rank 57 predictors, 25 of which are available in all four countries, net of age and sex. They use the area under the receiver operating characteristic curve and assess robustness with additional discrimination measures. They demonstrate consistent findings across four countries with different cultural traditions, levels of economic development, and epidemiological transitions. Self-reported measures of instrumental activities of daily living limitations, mobility limitations, and overall self-assessed health are among the top predictors in all four samples. C-reactive protein, additional inflammatory markers, homocysteine, serum albumin, three performance assessments (gait speed, grip strength, and chair stands), and exercise frequency also discriminate well between decedents and survivors when these measures are available. They identify several promising candidates that could improve mortality prediction for both population-based and clinical populations. Better prognostic tools are likely to provide researchers with new insights into the behavioral and biological pathways that underlie social stratification in health and may allow physicians to have more informed discussions with patients about end-of-life treatment and priorities.

In “Why are Well-Educated Muscovites More Likely to Survive? Understanding the Biological Pathways,” Noreen Goldman, Todd, M., Shkolnikov, V. (Max Planck Institute for Demographic Research) state there are large socioeconomic disparities in adult mortality in Russia, although the biological mechanisms are not well understood. With data from the study of Stress, Aging, and Health in Russia (SAHR), the authors use Gompertz hazard models to assess the relationship between educational attainment and mortality among older adults in Moscow and to evaluate biomarkers associated with inflammation, neuroendocrine function, heart rate variability, and clinical cardiovascular and metabolic risk as potential mediators of that relationship. They do this by assessing the extent to which the addition of biomarker variables into hazard models of mortality attenuates the association between educational attainment and mortality. They find that an additional year of education is associated with about 5% lower risk of age-specific all-cause and cardiovascular mortality. Inflammation biomarkers are best able to account for this relationship, explaining 25% of the education-all-cause...
mortality association, and 35% of the education-cardiovascular mortality association. Clinical markers perform next best, accounting for 13% and 23% of the relationship between education and all-cause and cardiovascular mortality, respectively. Although heart rate biomarkers are strongly associated with subsequent mortality, they explain very little of the education-mortality link. Neuroendocrine biomarkers fail to account for any portion of the link. These findings suggest that inflammation may be important for understanding mortality disparities by socioeconomic status.

Bryan Grenfell’s research is at the interface between theoretical models and empirical data. Grenfell and his lab members investigate the population dynamics of infectious diseases, focusing on their epidemiological and evolutionary dynamics and control by vaccination. They approach these problems by working at the interface of theoretical models and empirical data. They are especially interested in understanding the nonlinear spatio-temporal dynamics of acute immunizing infections and how these are affected by control strategies. They are continuing focus on measles and exploring comparative dynamics of a range of pathogens, including influenza, rotavirus, RSV, Norovirus, HIV, HCV, and veterinary morbilliviruses. The lab also explores phylodynamics, in particular how pathogen phylogenies are affected by host immunity, transmission bottlenecks, and epidemic dynamics at scales from individual host to population. Finally, they are keen on exploring ‘cross-scale’ dynamics of pathogens: from within-host dynamics to the population scale and especially the impact of human behavioral dynamics.

One Grenfell Lab project, “Population Dynamics of Infectious Disease ~ Infectious Disease Modeling Project,” studies the spatio-temporal dynamics of infectious disease. Apart from its public health importance, measles provides an ideal paradigm for understanding nonlinear population interactions. Their lab has made significant developments in epidemic modeling methodology, time series methods, and analysis of large spatio-temporal data sets. In collaboration with others, they have used the resulting methods to quantify the dynamics of measles epidemics, in a range of settings and the impact of vaccination strategies against measles and other childhood infections. Their analyses reveal a wide spectrum of dynamic behavior in large populations, spanning limit cycles in pre-vaccination U.K. to chaotic dynamics in more seasonally-driven contexts. They use gravity models, adapted from transportation theory, to capture and explain key features of measles metapopulation dynamics in developed countries (i.e. England and Wales). Recent development includes refinement of these gravity models to better understand the relative importance of core-satellite dynamics and local metapopulations to the persistence of measles. A big recent thrust of the group has been generalizing these results to explore comparative dynamics of a range of pathogens, including influenza, rotavirus, RSV, Norovirus, HIV, HCV and veterinary morbilliviruses.

The lab also looks at the dynamics of viral evolution – phylodynamics. In particular, they are interested in the question of how pathogen phylogenies are affected by host immunity, transmission bottlenecks, and epidemic dynamics at scales from individual host to population. Grenfell and colleagues coined the term phylodynamics, describing the feedback between epidemiological and evolutionary dynamics of pathogens, in a paper on immune escape in influenza. They are currently exploring how the impact of vaccination impacts the phylodynamics of a range of infections.

Their recent work includes:

- Linking within-host, individual level and population dynamics of measles and other infections;
- Exploring epidemiological and evolutionary implications of novel broad spectrum influenza vaccines;
- Population dynamics and control of rotavirus;
- Synthesizing epidemic dynamics of immunizing infections with the spatiotemporal economic dynamics of vaccination and the impact of vaccine hesitancy;
- The dynamics and control of HIV, typhoid and hand foot and mouth disease (HFMD).

The Great Recession was marked by severe
negative shocks to labor market conditions. Sara McLanahan, Schneider, D. (University of California, Berkeley), and Harknett, K. (University of Pennsylvania) combined longitudinal data from the Fragile Families and Child Wellbeing Study with U.S. Bureau of Labor Statistics data on local area unemployment rates to examine the relationship between adverse labor market conditions and mothers’ experiences of abusive behavior between 2001 and 2010. Unemployment and economic hardship at the household level were positively associated with abusive behavior. Further, rapid increases in the unemployment rate increased men’s controlling behavior toward romantic partners even after adjusting for unemployment and economic distress at the household level. The authors hypothesized that the uncertainty and anticipatory anxiety that go along with sudden macroeconomic downturns have negative effects on relationship quality, above and beyond the effects of job loss and material hardship.

Lessler, J. (Johns Hopkins University), Metcalf, C.J.E., Cutts, F. (London School of Hygiene and Tropical Medicine), and Grenfell, B. published “Impact on Epidemic Measles of Vaccination Campaigns Triggered by Disease Outbreaks or Serosurveys: A Modeling Study,” in Plos Medicine. Background - Routine vaccination supplemented by planned campaigns occurring at 2–5 y intervals is the core of current measles control and elimination efforts. Yet, large, unexpected outbreaks still occur, even when control measures appear effective. Supplemeniting these activities with mass vaccination campaigns triggered when low levels of measles immunity are observed in a sample of the population (i.e., serosurveys) or incident measles cases occur may provide a way to limit the size of outbreaks.

Measles incidence was simulated using stochastic age-structured epidemic models in settings conducive to high or low measles incidence, roughly reflecting demographic contexts and measles vaccination coverage of four heterogeneous countries: Nepal, Niger, Yemen, and Zambia. Uncertainty in underlying vaccination rates was modeled. Scenarios with case- or serosurvey-triggered campaigns reaching 20% of the susceptible population were compared to scenarios without triggered campaigns. The best performing of the tested case-triggered campaigns prevent an average of 28,613 (95% CI 25,722–31,505) cases over 15 y in our highest incidence setting and 599 (95% CI 464–735) cases in the lowest incidence setting. Serosurvey-triggered campaigns can prevent 89,173 (95% CI, 86,768–91,577) and 744 (612–876) cases, respectively, but are triggered yearly in high-incidence settings. Triggered campaigns reduce the highest cumulative incidence seen in simulations by up to 80%. While the scenarios considered in this strategic modeling exercise are reflective of real populations, the exact quantitative interpretation of the results is limited by the simplifications in country structure, vaccination policy, and surveillance system performance. Careful investigation into the cost-effectiveness in different contexts would be essential before moving forward with implementation.

Serologically triggered campaigns could help prevent severe epidemics in the face of epidemiological and vaccination uncertainty. Hence, small-scale serology may serve as the basis for effective adaptive public health strategies, although, in high-incidence settings, case-triggered approaches are likely more efficient.

Gandon, S. (CNRS–Université de Montpellier), Day, T. (Queen’s University, Canada), Metcalf, C.J.E., and Grenfell, B. published “Forecasting Epidemiological and Evolutionary Dynamics of Infectious Diseases,” in Trends Ecology & Evolution. Mathematical models have been powerful tools in developing mechanistic understanding of infectious diseases. Furthermore, they have allowed detailed forecasting of epidemiological phenomena such as outbreak size, which is of considerable public-health relevance. The short generation time of pathogens and the strong selection they are subjected to (by host immunity, vaccines, chemotherapy, etc.) mean that evolution is also a key driver of infectious disease dynamics. Accurate forecasting of pathogen dynamics therefore calls for the integration of epidemiological and evolutionary processes, yet this integration remains relatively rare. The authors review previous attempts to model and predict infectious disease dynamics with or without evolution and discuss major challenges facing the development of the emerging science of epidemic forecasting.

C. Jessica E. Metcalf, Wesolowski, A. (Johns Hopkins University), Buckee, C. (Harvard University), and Engø-Monsen, K. (Telenor
Germán Rodríguez and Croft, T. (The DHS Program, ICF International, USA) published “Research Material Extracting and Reshaping World Fertility Survey Data in Stata,” in Demographic Research. The Demographic and Health Surveys (DHS) program has made available online a large number of public-use files from its predecessor, the World Fertility Survey (WFS) program. To encourage and facilitate the use of this data, Rodriguez and Croft provide a Stata command that can be used to extract and reshape the data, using local copies or working directly with the DHS data archive pages.

Feehan, D. (University of California, Berkeley) and Salganik, M. published “Generalizing the Network Scale-up Method. A New Estimator for the Size of Hidden Populations,” in Sociological Methodology. The network scale-up method enables researchers to estimate the sizes of hidden populations, such as drug injectors and sex workers, using sampled social network data. The basic scale-up estimator offers advantages over other size estimation techniques, but it depends on problematic modeling assumptions. The authors propose a new generalized scale-up estimator that can be used in settings with nonrandom social mixing and imperfect awareness about membership in the hidden population. In addition, the new estimator can be used when data are collected via complex sample designs and from incomplete sampling frames. However, the generalized scale-up estimator also requires data from two samples: one from the frame population and one from the hidden population. In some situations these data from the hidden population can be collected by adding a small number of questions to already planned studies. For other situations, the authors develop interpretable adjustment factors that can be applied to the basic scale-up estimator. The authors conclude with practical recommendations for the design and analysis of future studies.

“Quantity Versus Quality: A Survey Experiment to Improve the Network Scale-up Method,” co-authored by Feehan, D. (University of California, Berkeley), Umubyeyi, A. (University of Rwanda), Mahy, M. (Joint United Nations Programme on HIV/AIDS, Switzerland), Hladik, W. (Centers for Disease Control and Prevention), and Salganik, M. was published in American Journal of Epidemiology. The network scale-up method is a promising technique that uses sampled social network data to estimate the sizes of epidemiologically important hidden populations, such as sex workers and people who inject illicit drugs. Although previous scale-up research has focused exclusively on networks of acquaintances, they show that the type of personal network about which survey respondents are asked to report is a potentially crucial parameter that researchers are free to vary. This generalization leads to a method that is more flexible and potentially more accurate. In 2011, they conducted a large, nationally representative survey experiment in Rwanda that randomized respondents to report about one of 2 different personal networks. The results showed
that asking respondents for less information can, somewhat surprisingly, produce more accurate size estimates. The authors also estimated the sizes of 4 key populations at risk for human immunodeficiency virus infection in Rwanda. Their estimates were higher than earlier estimates from Rwanda but lower than international benchmarks. Finally, in this article they develop a new sensitivity analysis framework and use it to assess the possible biases in our estimates. Their design can be customized and extended for other settings, enabling researchers to continue to improve the network scale-up method.

The *Open Review Toolkit* is a project led by Matthew Salganik which received financial support from the Alfred P. Sloan Foundation. The *Open Review Toolkit* grew out of a desire to improve the way that academic books are published. In particular, it sought to develop a process that could simultaneously lead to better books, higher sales, and increased access to knowledge. Authors, publishers, and he public all share these goals, although they might prioritize them differently. Rather than seeing these goals as being in conflict, the *Open Review* process seeks to use new technology to advance all of them.

The first *Open Review* website, which was inspired by earlier innovations in academic publishing, was built for Salganik's book, *Bit by Bit: Social Research in the Digital Age*, which will be published in hardcopy by Princeton University Press in 2017. Finally, the *Open Review* builds on some amazing open source software.

The *Open Review* edition of Matthew Salganik’s book, *Bit By Bit: Social Research in the Digital Age* was published by Princeton University Press. *Bit by Bit* is the essential guide to mastering the key principles of doing social research in this fast-evolving digital age. In this comprehensive book, Salganik explains how the digital revolution is transforming how social scientists observe behavior, ask questions, run experiments, and engage in mass collaborations. He provides a wealth of real-world examples throughout and also lays out a principles-based approach to handling ethical challenges.

In just the past several years, we have witnessed the birth and rapid spread of social media, mobile phones, and numerous other digital marvels. In addition to changing how we live, these tools enable us to collect and process data about human behavior on a scale never before imaginable, offering entirely new approaches to core questions about social behavior. *Bit by Bit* is the key to unlocking these powerful methods and will fundamentally change how the next generation of social scientists and data scientists explores the world around us.

For example, the proliferation of the internet and other technological advances has opened the door for researchers to use huge caches of data on user behavior collected by companies such as Facebook and Google. While such “found data” has drawn the interest of many researchers, it is far different from the “designed data” social scientists have generally collected under controlled conditions, said Salganik.

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Roberts, M. (University of California, San Diego), Stewart, B., and Airoldi, E. (Harvard University) published “A Model of Text for Experimentation in the Social Sciences,” in the *Journal of the American Statistical Association*. Application and Case Studies. Statistical models of text have become increasingly popular in statistics and computer science as a method of exploring large document collections. Social scientists often want to move beyond exploration, to measurement and experimentation, and make inference about social and political processes that drive discourse and content. In this article, they develop a model of text data that supports this type of substantive research. Their approach is to posit a hierarchical mixed membership model for analyzing topical content of documents, in which mixing weights are parameterized by observed covariates. In this model, topical prevalence and topical weights are specified as a simple generalized linear model on an arbitrary number of document level covariates, such as news source and time of release, enabling researchers to introduce elements of the experimental design that informed document collection into the model, within a generally applicable framework. They demonstrate the proposed methodology by analyzing a collection of news reports about China, where they allow the prevalence of topics to evolve over time and vary across newswire services. Their methods quantify the effect of news wire source on both the frequency and nature of topic coverage.

“The Civic Mission of MOOCs: Measuring Engagement across Political Differences in Forums,” authored by Reich, J. (Massachusetts Institute of
Technology), Stewart, B., Mavon, K. (Harvard University), and Tingley, D. (Harvard University) won Best Paper Award for the Proceedings of the Third (2016) ACM Conference on Learning @ Scale. In this study, the authors develop methods for computationally measuring the degree to which students engage in MOOC forums with other students holding different political beliefs. They examine a case study of a single MOOC about education policy, Saving Schools, where they obtain measures of student education policy preferences that correlate with political ideology. Contrary to assertions that online spaces often become echo chambers or ideological silos, they find that students in this case hold diverse political beliefs, participate equitably in forum discussions, directly engage (through replies and upvotes) with students holding opposing beliefs, and converge on a shared language rather than talking past one another. Research that focuses on the civic mission of MOOCs helps ensure that open online learning engages the same breadth of purposes that higher education aspires to serve.

During the coming two years, Marta Tienda’s research will focus on a collaborative study with Rachel Goldberg (University of California, Irvine) that uses web and mobile technology to study the emergence and evolution of adolescent relationships. By pairing a yearlong diary study with a 15-year longitudinal birth cohort study, the mDiary Study will permit innovative investigations into the content, quality, and evolution of teens’ romantic and sexual attachments; the childhood and adolescent circumstances conducive to healthy partnerships; and the health and developmental consequences of teen relationships. To administer the diary study on mobile platforms, they designed and extensively tested an automated, high-security website and back-end database linked through an Application Programming Interface (API) to Qualtrics survey software. During fall of Tienda’s sabbatical year, they extensively tested the 26-survey sequence to verify the accuracy of skip patterns across and within surveys, and also to ensure the linking of relationships across surveys. The diary is designed to trace both individual teens and relationships. In addition to the aforementioned research about education and intermarriage, Tienda will focus her energies on analyzing the mDiary surveys beginning in summer, 2017.

James Trussell with Abigail Aiken (Princeton University; University of Texas, Austin), James Scott (University of Texas, Austin), Catherine Aiken (University of Cambridge), and Jeremy Brockelsby (University of Cambridge), published: “Weekend Working: a Retrospective Cohort Study of Maternal and Neonatal Outcomes in a Large NHS Delivery Unit” in European Journal of Obstetrics & Gynaecology and Reproductive Biology. The conclusion states that under current working arrangements, women who would benefit from consultant-led delivery are equally likely to receive one on weekends compared to weekdays. Weekend delivery has no effect on maternal or neonatal morbidity. Adopting mandatory 7-day contracts is unlikely to make any difference to either consultant-led delivery during weekends or to patient outcomes.

Abigail Aiken (Princeton University; University of Texas, Austin) and James Trussell co-authored a paper titled, “High hopes versus harsh realities: the population impact of emergency contraceptive pills” in An International Journal of Obstetrics and Gynaecology. The authors found two findings striking in the Black et al. paper that examines changes in the prevalence of emergency contraception (EC) use in Britain between 2000 and 2010, a period of major change in the availability of emergency contraceptive pills (ECPs). First, despite increased availability, there was no meaningful increase in the proportion of sexually active women aged 16–44 years not intending pregnancy who used any type of EC in the past year between 1999–2001 (2.3%) and 2010–2012 (3.6%). Second, there was a shift towards obtaining ECPs from retail outlets (mostly pharmacies). These twin findings replicate earlier results from Marston and colleagues (BMJ 2005; 331:271), who found no increase in use in the past year from 2000 (8.4%) to 2001 (7.9%), and to 2002 (7.2%), but who found a shift towards obtaining ECPs from a pharmacist (a third in 2002). It is puzzling that Black et al. found much lower use (based on the second and third National Survey of Sexual Attitudes and Lifestyles, NATSAL 2 and 3) than did Marston et al. (based on the Omnibus Survey), particularly because the latter study included all women in the denominator, whereas the former study included sexually active women only.
Abigail Aiken (Princeton University; University of Texas, Austin), James Scott (University of Texas, Austin), Rebecca Gomperts (Women on Web, Amsterdam, the Netherlands), Marc Worrell (Women on Web, Amsterdam, the Netherlands), James Trussell, and Catherine Aiken (University of Cambridge) corresponded to the editor of the New England Journal of Medicine. The comments entitled, “Requests for Abortion in Latin America Related to Concern About Zika Virus Exposure,” received worldwide attention. On November 17, 2015, the Pan American Health Organization (PAHO) issued an epidemiologic alert regarding Zika virus in Latin America. Several countries subsequently issued health advisories, including cautions about microcephaly, declarations of national emergency, and unprecedented warnings urging women to avoid pregnancy. Yet in most Latin American countries, abortion is illegal or highly restricted, leaving pregnant women with few options. For several years, one such option for women in Latin America has been Women on Web (WoW), a nonprofit organization that provides access to abortion medications (mifepristone and misoprostol) outside the formal health care setting through online telemedicine in countries where safe abortion is not universally available. They analyzed data with respect to requests for abortion through WoW between January 1, 2010, and March 2, 2016, in 19 Latin American countries. Using a regression-discontinuity design, they assessed whether requests for abortion increased after the PAHO alert, as compared with preannouncement trends. In Latin-American countries that issued warnings to pregnant women about Zika-related complications, requests for abortion through WoW increased substantially. This approach may underestimate the impact of the advisories on demand for abortion, since many women may have used an unsafe method, accessed misoprostol via local pharmacies or the black market, or visited local underground providers. The data provides a window on how Zika has affected the lives of pregnant women in Latin America. World Health Organization (WHO) mathematical models predict 3–4 million Zika cases across the Americas over the next year, and Zika will inevitably spread to other countries where access to safe abortion is restricted. Official information and advice about Zika must be accompanied by efforts to ensure that all reproductive choices are safe, legal, and accessible. To do otherwise would be irresponsible public-health practice and unjust policy.

“Comparison of a Timing-Based Measure of Unintended Pregnancy and the London Measure of Unplanned Pregnancy” published in Perspectives on Sexual and Reproductive Health, Guttmacher Institute written by Abigail Aiken (Princeton University; University of Texas, Austin), Carolyn Westhoff (Columbia University), James Trussell and Paula Castaño (Columbia University) examined unintended pregnancy as a universal benchmark for reproductive health. Whether variations reflect differences in measurement and how well measures predict pregnancy outcomes warrant further examination. U. S. and British measures of unintended and unplanned pregnancy offer a useful comparison. Some 220 women seeking pregnancy testing at the Columbia University Medical Center in 2005 responded to three pregnancy measures: a binary timing-based measure of unintended pregnancy (TMUP); a multi-item measure of timing-based intentions and planning behaviors, the London Measure of Unplanned Pregnancy (LMUP); and a measure combining intentions (from the TMUP) and how women would feel about a positive pregnancy test. Six-month pregnancy status was assessed among 159 respondents. Estimates of unintended and unplanned pregnancy were calculated using the TMUP and the LMUP, and receiver operating characteristic (ROC) curves were generated to assess congruence. According to the TMUP, 76% of pregnancies were unintended; by contrast, LMUP scores categorized 39% as unplanned. The ROC curve indicated that expanding the range of scores for classifying pregnancies as unplanned on the LMUP would achieve greater congruence between these measures. At six months, the proportion of pregnancies that had ended in abortion was 42% of those classified as unintended using the TMUP, 60% of those classified as unplanned using the LMUP and 71% of those that women said they had not intended and were very upset about. U. S. and British measures of unintended pregnancy are not directly comparable, and a measure combining intentions and feelings may better predict pregnancy outcomes.
In their article, “Habit Formation in Voting: Evidence from Rainy Elections,” published in the *American Economic Journal: Applied Economics,* Tom Vogl, Fujiwara, T. (Princeton University, Politics Department) and Meng, K. (University of California, Santa Barbara), estimate habit formation in voting—the effect of past on current turnout—by exploiting transitory voting cost shocks. Using county-level data on U.S. presidential elections from 1952-2012, they found that rainfall on current and past election days reduced voter turnout. Further analyses suggested that habit formation operates by reinforcing the direct consumption value of voting and that their estimates may be amplified by social spillovers.

Yu Xie’s China-related projects review important social changes that have been taking place in China. He has been leading a heroic effort in documenting these social changes with the China Family Panel Studies (CFPS) conducted by the Peking University in China. CFPS is a nationally representative, annual longitudinal survey of Chinese communities, families, and individuals launched in 2010. The CFPS is designed to collect individual-, family- and community-level longitudinal data in contemporary China. The studies focus on the economic, as well as the non-economic, wellbeing of the Chinese population, with a wealth of information covering such topics as economic activities, education outcomes, family dynamics and relationships, migration, and health. The CFPS is funded by the Chinese government through Peking University. The CFPS promises to provide to the academic community the most comprehensive and highest-quality survey data on contemporary China. Yu Xie and his colleagues have been analyzing the CFPS data and data from other sources in China to understand social determinants of important social and demographic outcomes in China, such as education, marriage, cohabitation, work, earnings, and health.

In one project, “Economic Inequality in Contemporary China,” funded by the National Natural Science Foundation of China, Yu Xie and his Chinese colleagues collaborate with researchers in the United Kingdom, Germany, and the Netherlands to understand differences between China and the European countries in life-course processes.

### Education and Stratification


In Dalton Conley’s paper, “Swapping and the Social Psychology of Disadvantaged American Populations,” published in the *Journal of Consumer Psychology,* Conley observed class gradients in cognitive frameworks cause or effect of those socioeconomic differences? This question is of critical importance not just for policymakers and psychologists but for all social scientists, including market researchers. The question is all the more salient today as economic and behavioral disparities have seemingly widened in tandem over the last few decades. This commentary offers various theories for this observed correlation within the context of recent psychological and sociological scholarship.

Dalton Conley, Okbay, A. (Vrije Universiteit Amsterdam), Beauchamp, J. (University of Toronto), Fontana, M. (Hospital for Special Surgery), Lee, J., (University of Minnesota Twin Cities), Pers, T. (Boston Childrens Hospital, Harvard Medical School) et al. contributed to the study, “Genome-Wide Association Study Identifies 74 Loci Associated with Educational Attainment,” published in *Nature.* Educational attainment (EA) is strongly influenced by social and other environmental factors, but genetic factors are also estimated to account for at least 20% of the variation across individuals. The authors report the results of a genome-wide association study (GWAS) for EA that extends their earlier discovery sample of 101,069 individuals to 293,723 individuals, and a replication in an independent sample of 111,349 individuals from the U.K. Biobank. They now identify 74 genome-wide significant loci associated with number of years of schooling completed. Single-nucleotide polymorphisms (SNPs) associated with educational
attainment are disproportionately found in genomic regions regulating gene expression in the fetal brain. Candidate genes are preferentially expressed in neural tissue, especially during the prenatal period, and enriched for biological pathways involved in neural development. Their findings demonstrate that, even for a behavioral phenotype that is mostly environmentally determined, a well-powered GWAS identifies replicable associated genetic variants that suggest biologically relevant pathways. Because EA is measured in large numbers of individuals, it will continue to be useful as a proxy phenotype in efforts to characterize the genetic influences of related phenotypes, including cognition and neuropsychiatric disease.

*The Bell Curve Revisited: Testing Controversial Hypotheses with Molecular Genetic Data*, was published by Dalton Conley and Domingue, B. (Stanford University) in *Sociological Science*. In 1994, the publication of Herrnstein’s and Murray’s *The Bell Curve* resulted in a social science maelstrom of responses. In the present study, the authors argue that Herrnstein’s and Murray’s assertions were made prematurely, on their own terms, given the lack of data available to test the role of genotype in the dynamics of achievement and attainment in U.S. society. Today, however, the scientific community has access to at least one dataset that is nationally representative and has genome-wide molecular markers. Conley and Domingue deploy those data from the Health and Retirement Study in order to test the core series of propositions offered by Herrnstein and Murray in 1994. First, they ask whether the effect of genotype is increasing in predictive power across birth cohorts in the middle twentieth century. Second, they ask whether assortative mating on relevant genotypes is increasing across the same time period. Finally, they ask whether educational genotypes are increasingly predictive of fertility (number ever born [NEB]) in tandem with the rising (negative) association of educational outcomes and NEB. The answers to these questions are mostly no; while molecular genetic markers can predict educational attainment, they find little evidence for the proposition that we are becoming increasingly genetically stratified.

Thomas Espenshade is the principal investigator for *The New Jersey Families Study*. Families are small schools, and parents are children’s first teachers. Every child in America is being homeschooled in the sense that children’s expectations, aspirations, and early abilities are shaped at home. Their behaviors, learned skills and knowledge are forged in the crucible of parent-child interactions. Yet we know surprisingly little about the nature, frequency, or quality of these interactions, because they usually occur out of the public eye and are considered off limits to researchers. In *The New Jersey Families Study*, the researchers ask: how do families build skills in their young, preschool children and help them get ready to learn? Their study features a highly innovative “video ethnography.” They use direct observations of parent-child interactions as a way to deepen our understanding of the contextualized strategies families from a variety of backgrounds and in different social and economic circumstances use to build skills in their young children. They have recruited a small but diverse sample of 12-14 families in the Princeton-Trenton (New Jersey) area that agreed to have two weeks of their daily lives and routines video recorded. Unobtrusive technologies in the form of video cameras placed strategically in up to four rooms in participants’ homes (rooms where most interactions occur) and activated continuously throughout the day and evening will constitute the primary means of data collection. Interactions that hold particular interest are those that are believed to be linked to cognitive and social-emotional development—the amount of reading and talking parents do with children, children’s sleep routines, their diets and nutrition, their exposure to electronic screen time, structure versus chaos at home, and the way that stress outside the home affects parenting practices. Information from the video ethnography is being supplemented by survey, interview, and brief video data collected during six additional contacts with families. They anticipate that information acquired using these newer technologies will be superior to data collected in more traditional ways, such as interviewing parents about their childrearing behaviors. A video ethnography reduces the social desirability bias that can sometimes surface in survey responses when respondents give answers either to make themselves appear in a more favorable light or that they believe researchers want to hear. Moreover, this newer mode of data collection does not require participants to remember what happened or when. Finally,
viewing families in their daily routines has the potential of serendipitously capturing prominent events and behaviors that investigators might not have thought to ask about in standard surveys. *The New Jersey Families Study* breaks new ground. It is the first time anyone has attempted an in-home naturalistic observation of this breadth, intensity, or duration. Taking a holistic approach to parent-child interactions and filming families in their natural habitats over an extended period will not only help more children to become school-ready. This unprecedented study will also help schools become more “children-ready” and lead to a better appreciation of the daily struggles facing many families.

Thomas Espenshade continues his research in the area of early childhood intervention and leads the *Reach Up America* project. ReachUp USA is a forward-thinking early childhood intervention, adapted from a highly successful, low-cost, internationally acclaimed program in Jamaica - Reach Up and Learn. Because the return on investment in such interventions is greatest when they begin as early as possible, ReachUp USA serves children beginning in the first year of life. It incorporates best practices from home visiting, the latest research in early childhood development, and technological innovations to deliver a scalable, technology-integrated, and highly cost-effective early childhood intervention for the 21st century. The researchers know that children can be adversely affected, from the very beginning of their lives, by poverty, substandard housing and unsafe neighborhoods. However, engaging parents very early in their children’s lives, when their brains are developing most rapidly, has been shown to have a significant positive impact on their short- and long-term development and well-being. High-quality early childhood interventions can have long-lasting effects, resulting in higher education and earnings, and reducing incidences of poor health and negative social outcomes. Research consistently shows that the earlier the intervention in vulnerable children’s lives, the more effective the result and the higher the lifetime return on every dollar spent.

By focusing on the earliest stages of child development, ReachUp USA can improve the well-being of disadvantaged children in meaningful ways. And they are building a team of experts and leaders who care deeply about the vulnerabilities and opportunities of early childhood, and who are committed to helping shape the future of early interventions to benefit individuals and society at large.

ReachUp USA is adapting an internationally acclaimed child development curriculum that has been successfully implemented and rigorously tested in diverse cultures around the world (e.g., Jamaica, Colombia, Bangladesh, and China). ReachUp encourages parents to engage in structured play with their children, and helps them learn how to do so effectively, and through those interactions to support their children’s social-emotional and cognitive development. They will use technology to deliver and assess Reachup USA’s services in novel ways – both in connecting with families between visits, and in collecting and evaluating accurate visit data in real time to improve services as they are delivered.

Patricia Fernández-Kelly was a 2016 C. Wright Mills Award finalist (Society for the Study of Social Problems) for her book, “*The Hero’s Fight: African Americans in West Baltimore and the Shadow of the State*,” which shines light on overlooked communities. Based on ten years of research in West Baltimore during the last decade of the twentieth century, this book provides an intimate account of the experience of adults and children living in one of the nation’s most deserted ghettos and the effects deindustrialization had on the urban poor. Fernández-Kelly stresses the role of the state in shaping the lives of impoverished populations in inner-city neighborhoods. She shows how ordinary Americans are treated as citizens and consumers but the racially segregated and deprived are seen as objects of surveillance, containment, and punishment. She provides new insights into topics such as globalization and its effects on industrial decline and employment. In addition to publishing her new book, Patricia Fernández-Kelly is also continuing her research on the making of the Cuban-American working class in Hialeah, Florida.

Susan Fiske’s research addresses how stereotyping, prejudice, and discrimination are encouraged or discouraged by social relationships, such as cooperation, competition, and power. In cultural surveys, she examines the content of group stereotypes based on race, gender, age,
(dis)ability, income, and more, finding patterns in the ways that society views various groups.

Fiske’s chapter, “Categories, Intent and Harm,” was published in the second edition of Social Psychology of Good and Evil, by The Guildford Press. This accessible reference and text addresses some of the most fundamental questions about human behavior, such as what causes racism and prejudice and why good people do bad things. Leading authorities present state-of-the-science theoretical and empirical work. Essential themes include the complex interaction of individual, societal, and situational factors underpinning good or evil behavior; the role of moral emotions, unconscious bias, and the self-concept; issues of responsibility and motivation; and how technology and globalization have enabled newer forms of threat and harm.

Susan Fiske and Durante, F. (University of Milano, Italy) co-authored the chapter, “Stereotype Content across Cultures: Variations on a Few Themes,” in Handbook of Advances in Culture and Psychology, published by Oxford University Press. People all over the world make sense of their society’s groups by consulting two perceptions: What is the other’s intent (warm and trustworthy or not), and can the other enact that intent (competent or not)? Distinct stereotypes, prejudices, and discrimination follow from these warmth-by-competence combinations, themselves predicted respectively by perceived competition and status. Evidence supports the stereotypes’ hypothesized antecedents (social structure) and distinct consequences (emotions and behavior). After describing internal validity, the chapter addresses external validity and then moderating variables. Finally, the chapter takes up cultural variation: Collectivist cultures show less in-group favoritism, high-status societies favor themselves on competence, and low-status societies favor themselves on warmth. More unequal societies describe more groups with ambivalence (high on one dimension but low on the other). More equal societies, but also more conflictual societies, show less ambivalence, in an apparently curvilinear peace-ambivalence pattern. The chapter closes with implications and future directions.

Margaret Frye is currently working on three research projects. Descriptions for two of these projects follow in this section. The description for the third research project follows later under the Health and Wellbeing research theme. The first research project uses survey data from 30 countries in Sub-Saharan Africa to examine the relationship between educational composition and marital behavior. In addition to being an attribute of individual women, educational attainment is also an aggregate phenomenon, in that the social meaning of a woman’s educational attainment is dependent on the educational composition of the population in which she lives, particularly the composition of her own birth cohort. For a population in which almost no one has gone to school, five years of schooling might be perceived as a symbol of elite status, whereas in another setting with more widespread access to education, five years of schooling might be a marker of extreme disadvantage. Frye explores how differences in educational composition alter the relationship between individual-level educational attainment and the timing of first marriage for women. She is also examining how educational expansion has shaped marriage markets, focusing on age and educational hypergamy among married couples. This work is a collaboration with Sara Lopus, a postdoctoral fellow in Sociology.

Frye’s second research project focuses on the recent expansion of higher education in Uganda, which has coincided with a contraction in the labor market. Three decades ago, Uganda had only one university; today, there are more than 40 universities in the country. In the capital of Kampala, the proportion of youth aged 25-29 who completed a post-secondary degree increased from 2 to 29 percent between 1995 and 2010. This increase in enrollment numbers has coincided with efforts to diversify the student population along gender and class lines. Yet this expansion in education has corresponded with a contraction in employment. Uganda currently has Africa’s highest level of youth unemployment: there are enough jobs for only 20% of university graduates each year. As new graduates navigate this virtually jobless economy, what significance does their degree hold for them? What strategies do graduates pursue to maintain their precarious position as part of the elite? And how do class and gender inequalities continue to structure opportunities among graduates in the era of expanded access to universities? This project seeks to address these questions through following a cohort of new graduates during their first year out
of college. Thus far, Margaret Frye has conducted 75 interviews with recent college graduates to explore these questions.

Jean Grossman’s current research projects focus Understanding the Effects of Afterschool and Summer Programs on Youth. Evaluating Accelerating Academic Achievement through Standards-Aligned Expanded Learning (2015-) Grossman is leading a second, larger RCT of Higher Achievement (funded by i3) with co-PIs Leigh Linden (University of Texas) and Carla Herrera. This study uses data from two RCTs to examine the short and long term impacts on students’ college outcomes of participation in Higher Achievement, an academically-oriented four-year expanded learning time program.

Jackelyn Hwang, along with Roberto, E. (Princeton University, Sociology) and Rugh, J. (Brigham Young University), are investigating how rapidly rising immigration, the growth of gentrification, the suburbanization of poverty, and the housing crisis across U.S. metropolitan areas in recent years affects patterns of segregation by race, class, and space. They draw on data from the U.S. Census, the American Community Survey, and the Federal Housing Finance Agency and an innovative measure of segregation to examine how urban transformations are associated with changes in overall segregation levels for racial and ethnic groups by socioeconomic status and the segregation of these groups occurring between and within the suburbs and central cities across metropolitan areas. Some findings will appear in a chapter titled, “Racial Segregation in the Twenty-First Century and the Role of Housing Policy,” in the forthcoming edited volume, Blurred Boundaries, Real Consequences: The Intersection of Public Policy and Race (Louisiana State University Press).

Jackelyn Hwang’s project, Pioneers of Gentrification, examines the role of immigration in the rise of gentrification in the late twentieth century. Analysis of U.S. Census and American Community Survey data over 24 years and field surveys of gentrification in low-income neighborhoods across 23 U.S. cities reveal that most gentrifying neighborhoods were “global” in the 1970s or became so over time. An early presence of Asians was positively associated with gentrification; and an early presence of Hispanics was positively associated with gentrification in neighborhoods with substantial shares of Blacks and negatively associated with gentrification in cities with high Hispanic growth, where ethnic enclaves were more likely to form. Low-income, predominantly Black neighborhoods and neighborhoods that became Asian and Hispanic destinations remained ungentrified despite the growth of gentrification during the late twentieth century. The findings suggest that the rise of immigration after 1965 brought pioneers to many low-income central-city neighborhoods, spurring gentrification in some neighborhoods and forming ethnic enclaves in others. The article stemming from this project, "Pioneers of Gentrification: Transformation in Global Neighborhoods in Urban America in the Late Twentieth Century," was published in Demography.

In her paper, “The Social Construction of a Gentrifying Neighborhood: Reifying and Redefining Identity and Boundaries in Inequality,” published in the Urban Affairs Review, Jackelyn Hwang draws upon cognitive maps and interviews with 56 residents living in a gentrifying area to examine how residents socially construct neighborhoods. Most minority respondents, regardless of socioeconomic status and years of residency, defined their neighborhood as a large and inclusive spatial area and used a single name and conventional boundaries, invoking the area’s Black cultural history and often directly responding to the alternative way residents defined their neighborhoods. Both long-term and newer white respondents defined their neighborhood as smaller spatial areas and used a variety of names and unconventional boundaries that excluded areas that they perceived to have lower socioeconomic status and more crime. The large and inclusive socially constructed neighborhood was eventually displaced. These findings shed light on how the internal narratives of neighborhood identity and boundaries are meaningfully tied to a broader structure of inequality and shape how neighborhood identities and boundaries change or remain.

Jackelyn Hwang and Lin, J. (Federal Reserve Bank, Philadelphia) published the review article, “What Have We Learned about the Causes of Recent Gentrification?” in Cityscapes. The authors document changes in the prevalence of gentrification in downtowns and outlying
neighborhoods of small and large metropolitan areas using an SES index that compares census tracts in metropolitan areas by the percentage of residents over age 25 with at least a college degree and average household income. Hwang and Lin identify causal factors of this phenomenon by reviewing the available literature. Their review also reveals additional opportunities for research to expand the scope of factors that contribute to gentrification. They argue that a complete account of the relative contribution of many factors, however, is still elusive because some causal factors of gentrification may be difficult to identify, such as small changes in development activity leading to a change in neighborhood composition and amenities, which could create a “self-sustaining cycle for gentrification in gentrifying neighborhoods.”

With her co-author Ding, L. (Federal Reserve Bank, Philadelphia), Jackelyn Hwang published a research article, “The Consequences of Gentrification: A Focus on Residents’ Financial Health in Philadelphia,” in Cityscape. Considerable debate and controversy continue regarding the effects of gentrification on neighborhoods and the people residing in them. This article draws on a unique largescale consumer credit database to examine the relationship between gentrification and the credit scores of residents in the city of Philadelphia from 2002 to 2014. They find that gentrification is positively associated with changes in residents’ credit scores, on average, for those who stay, and this relationship is stronger for residents in neighborhoods in the more advanced stages of gentrification. Gentrification is also positively associated with credit score changes for less-advantaged residents (those with low credit scores, older residents, longer-term residents, or those without mortgages) if they do not move, though the magnitude of this positive association is smaller than for their more advantaged counterparts. Nonetheless, moving from gentrifying neighborhoods is negatively associated with credit score changes for less-advantaged residents, residents who move to lower-income neighborhoods, and residents who move to any other neighborhoods within the city (instead of outside the city) relative to those who stay. The results demonstrate how the association between gentrification and residents’ financial health is uneven, especially for less-advantaged residents.

In the journal, Regional Science and Urban Economics, Jackelyn Hwang and co-authors Ding, L. (Federal Reserve Bank, Philadelphia) and Divringi, E. (Federal Reserve Bank, Philadelphia) published “Gentrification and Residential Mobility in Philadelphia.” These are their findings from a study using a unique individual-level, longitudinal data set to examine mobility rates and residential destinations of residents in gentrifying neighborhoods during the recent housing boom and bust in Philadelphia. They find that vulnerable residents, those with low credit scores and without mortgages, are generally no more likely to move from gentrifying neighborhoods compared with their counterparts in non-gentrifying neighborhoods. When they do move, however, they are more likely to move to lower-income neighborhoods. Residents in gentrifying neighborhoods at the aggregate level have slightly higher mobility rates, but these rates are largely driven by more advantaged residents. The findings show that there is significant heterogeneity in mobility patterns across residents in gentrifying neighborhoods and suggest that researchers should focus more attention on the quality of residential moves and non-moves for less advantaged residents, rather than mobility rates alone.

Continuing her work on gentrification, Jackelyn Hwang published “While Some Things Change, Some Things Stay the Same: Reflections on the Study of Gentrification,” in City & Community. While gentrification has been studied for more than 50 years now, gentrification seems to have become a hot topic of public concern only in recent years. The growing interest in the phenomenon reflects both its increasing prevalence and its changing nature. The term now conjures up connotations and stylized images of race and class, but these are often inconsistent with scholarly findings of gentrification. These inconsistencies between the past and present and between the public and academic understanding of the phenomenon bring us to an appropriate juncture to reflect on the scholarship on gentrification. Although gentrification may not be the dominant trend of low-income neighborhoods and is limited in its scope and spatial extent relative to the overall urban landscape, it is nonetheless an important piece of the interdependent structure of cities. Understanding gentrification in the context of a broader urban landscape, in which high
poverty neighborhoods and segregation persist and other forms of neighborhood change also occur, can advance research on contemporary gentrification and how race and ethnicity and inequality matter in relation to it. Precision in defining the concept and drawing on scholarship on neighborhood stability and other forms of neighborhood change are necessary for moving us beyond an “empirical stalemate.”

Douglas Massey’s paper “Residential Segregation is the Linchpin of Racial Stratification,” was published by City & Community. Three decades of research have amply confirmed Pettigrew’s prescient observation that residential segregation constitutes the “structural linchpin” of racial stratification in the U.S. Although the centrality of segregation as a stratifying force in U.S. society remains, patterns of segregation have changed substantially since the 1970s. At that time, African Americans were highly segregated almost everywhere and socioeconomic attainments had no effect on the degree of segregation experienced by African Americans. Race was very much a master status and most whites subscribed to an ideology of segregation, either de jure or de facto. In the early 1960s, for example, absolute majorities of white Americans still supported segregation as a matter of principle, agreeing on surveys that schools, transportation, occupations, and neighborhoods should be racially segregated and that intermarriage should be prohibited (Schuman et al. 1997).

Douglas Massey and Tannen, J. co-authored chapter two, “Segregation, Race, and the Social World of Rich and Poor” in Kirsch, I. and Braun, H. (Eds.) The Dynamics of Opportunity in America. Residential segregation has been called the “structural linchpin” of racial stratification in the United States. Recent work has documented the central role it plays in the geographic concentration of poverty among African-Americans as well as the close connection between exposure to concentrated deprivation and limited life chances. Here they review trends in racial segregation and Black poverty to contextualize a broader analysis of trends in the neighborhood circumstances experienced by two groups generally considered to occupy the top and bottom positions in U.S. society: affluent Whites and poor Blacks. The analysis reveals a sharp divergence of social and economic resources available within the social worlds of the two groups. They tie this divergence directly to the residential segregation of African-Americans in the United States, which remains extreme in the nation’s largest urban Black communities. In these communities, the neighborhood circumstances of affluent as well as poor African-Americans are systematically compromised.

Douglas Massey’s article in The Oxford Handbook of Social Science of Poverty edited by Brady, D. and Burton, L., entitled, “Segregation and the Perpetuation of Disadvantage,” examines how segregation contributes to the perpetuation of disadvantage over time and across generations. It first traces the historical origins of segregation and reviews early substantive and theoretical work done on the subject at the University of Chicago. It then considers the most commonly used measure of segregation as well as the social mechanisms by which residential segregation is produced, with particular emphasis on the paradigmatic case of African Americans in the twentieth century. It also discusses newer mechanisms that have been advanced to promote racial-ethnic segregation in the twenty-first century and how it fosters socioeconomic inequality through the spatial concentration of poverty. Finally, it describes current levels and trends with respect to both racial and class segregation in cities around the world.

Alejandro Portes and Patricia Fernández-Kelly edited The State and The Grassroots: Immigrant Transnational Organizations in Four Continents. Whereas most of the literature on migration focuses on individuals and their families, this book studies the organizations created by immigrants to protect themselves in their receiving states. Comparing eighteen of these grassroots organizations formed across the world, from India to Colombia to Vietnam to the Congo, researchers from the United States, Belgium, France, the Netherlands, and Spain focus their studies on the internal structure and activities of these organizations as they relate to developmental initiatives. The book outlines the principal positions in the migration and development debate and discusses the concept of transnationalism as a means of resolving these controversies.
Marta Tienda continues to conduct research on educational attainment and successfully revised a paper co-authored with Linda Zhao (Harvard University) on the transition to graduate school using the Baccalaureate and Beyond Survey of 1992/93 longitudinal cohort survey, which is forthcoming in *Journal of Higher Education.*

Tienda delivered the 2016 Brown Lecture for the American Educational Research Association (AERA). In addition to preparing an article version of the lecture, she is considering expanding the lecture to a short monograph once the article version is completed. Tienda’s lecture asked, where does the social contract guaranteeing equal access to quality education reside? Not in the U.S. Constitution, which laid the foundation for educational inequality by delegating the responsibility for public education to the states. Nor does it reside in the Equal Protection Clause of the 14th Amendment, which has been used to uphold wealth-based disparities in public education financing. Building on the premise that closing achievement gaps is an economic imperative both to regain international educational supremacy and to maintain global economic competitiveness, Tienda asks whether it is possible to rewrite the social contract so that education is a fundamental right—a statutory guarantee—that is both uniform across states and federally enforceable.

Liu, A (University of Michigan) and Xie Y. published “Why do Asian Americans Academically Outperform Whites? - The Cultural Explanation Revisited,” in *Social Science Research.* Why do Asian Americans academically outperform Whites? - The cultural explanation revisited. The authors advocate an interactive approach to examining the role of culture and SES in explaining Asian Americans’ achievement. They use Education Longitudinal Study (ELS) 2002 baseline data to test their proposition that the cultural orientation of Asian American families is different from that of white American families in ways that mediate the effects of family SES on children’s academic achievement. The results support their hypothesis, indicating that: (1) SES’s positive effects on achievement are stronger among white students than among Asian-Americans; (2) the association between a family’s SES and behaviors and attitudes is weaker among Asian-Americans than among Whites; (3) a fraction of the Asian-White achievement gap can be accounted for by ethnic differences in behaviors and attitudes, particularly ethnic differences in family SES’s effects on behaviors and attitudes. They find that Asian Americans’ behaviors and attitudes are less influenced by family SES than those of Whites are and that this difference helps generate Asians’ premium in achievement. This is especially evident at lower levels of family SES.

Thornton, A. (University of Michigan, Ann Arbor) and Xie, Y. published “Developmental Idealism in China,” in Chinese Journal of Sociology. This paper examines the intersection of developmental idealism with China. It discusses how developmental idealism has been widely disseminated within China and has had enormous effects on public policy and programs, on social institutions, and on the lives of individuals and their families. This dissemination of developmental idealism to China began in the 19th century, when China met with several military defeats that led many in the country to question the place of China in the world. By the beginning of the 20th century, substantial numbers of Chinese had reacted to the country’s defeats by exploring developmental idealism as a route to independence, international respect, and prosperity. Then, with important but brief aberrations, the country began to implement many of the elements of developmental idealism, a movement that became especially important following the assumption of power by the Communist Party of China in 1949. This movement has played a substantial role in politics, in the economy, and in family life. The beliefs and values of developmental idealism have also been directly disseminated to the grassroots in China, where substantial majorities of Chinese citizens have assimilated them. These ideas are both known and endorsed by very large numbers in China today.

“Marrying Up by Marrying Down: Status Exchange between Social Origin and Education in the United States,” was co-authored by Schwartz, C. (University of Wisconsin, Madison), Zeng, Z. (U.S. Department of Justice, Bureau of Statistics), and Xie, Y. and published in *Sociological Science.* Intermarriage plays a key role in stratification systems. Spousal resemblance reinforces social boundaries within and across generations, and the rules of intermarriage govern the ways that social mobility may occur. The authors examine
intermarriage across social origin and education boundaries in the United States using data from the 1968–2013 Panel Study of Income Dynamics. Their evidence points to a pattern of status exchange—that is, persons with high education from modest backgrounds tend to marry those with lower education from more privileged backgrounds. Their study contributes to an active methodological debate by pinpointing the conditions under which the results pivot from evidence against exchange to evidence for exchange and advances theory by showing that the rules of exchange are more consistent with the notion of diminishing marginal utility than the more general theory of compensating differentials.

**Health and Wellbeing**


“Cumulative Early Life Adversity Predicts Longevity in Wild Baboons,” written by Tung, J. (Duke University), Archie, E. (University of Notre Dame), Jeanne Altmann, and Alberts, S. (Duke University), was published in *Nature Communications*. In humans and other animals, harsh circumstances in early life predict morbidity and mortality in adulthood. Multiple adverse conditions are thought to be especially toxic, but this hypothesis has rarely been tested in a prospective, longitudinal framework, especially in long-lived mammals. Here, they use prospective data on 196 wild female baboons to show that cumulative early adversity predicts natural adult lifespan. Females who experience ≥3 sources of early adversity die a median of 10 years earlier than females who experience ≤1 adverse circumstances (median lifespan is 18.5 years). Females who experience the most adversity are also socially isolated in adulthood, suggesting that social processes partially explain the link between early adversity and adult survival. Their results provide powerful evidence for the developmental origins of health and disease and indicate that close ties between early adversity and survival arise even in the absence of health habit and health care-related explanations.

Elizabeth Armstrong continues her work on a book manuscript, titled *How We Begin: The Origins of Fetal Personhood*. The book explores the evolution of the belief that the fetus is a person in medicine, law and popular culture. Armstrong is also interested in cultural attitudes and beliefs about risk during pregnancy and childbirth and policies related to maternity care in the United States. She is conducting research on medical professional attitudes towards home birth in the U.S. and on popular practices around childbirth. She has investigated popular cultural practices regarding the placenta and is currently analyzing medical and scientific texts on placental form and function. Armstrong is also working on a book manuscript entitled, *Gender Inequality and Sexist Attitudes: Evidence from the World Values Survey*, with Davis, A. (Princeton University, Sociology) and Meadow, T. (Columbia University). The World Values Survey is a global research project that explores people's values and beliefs, their stability or change over time and their impact on social and political development of the societies in different countries of the world.

João Biehl’s main research centers on medical anthropology, the social studies of science and religion, global health, subjectivity, ethnography, social and critical theory (with a regional focus on Latin America and Brazil). His present research explores the social impact of large-scale treatment programs in resource-poor settings and the role of the judiciary in administering public health in Brazil.

João Biehl is currently preparing a manuscript, *The Valley of Lamentation: The Mucker War in Postcolonial Brazil*, which is a historical ethnography of the Mucker War, a religious war that that shattered German-Brazilian communities in the 19th century.

Biehl is also writing a manuscript entitled, *Patient-Citizen-Consumers: Claiming Pharmaceuticals and the Right to Health in Brazilian Courts*. Biehl along with Nieburg, F (Federal University of Rio de Janeiro), and de L'Estoile, B. (French National Centre for Scientific Research).
Biehl published "Patient-Citizen-Consumers: The Judicialization of Health and the Metamorphosis of Biopolitics," in RevistaLua Nova. Situated at the meeting points of Law and Medicine, the "judicialization of the right to health" is a contested and hotly debated phenomenon in Brazil. While government officials and some scholars argue that it is driven by urban elites and private interests, and used primarily to access high-cost drugs, empirical evidence refute narratives depicting judicialization as a harbinger of inequity and an antagonist of the public health system. This article's quantitative and ethnographic analysis suggests, instead, that low-income people are working through the available legal mechanisms to claim access to medical technologies and care, turning the Judiciary into a critical site of biopolitics from below. These patient-citizen-consumers are no longer waiting for medical technologies to trickle down, and judicialization has become a key instrument to hold the State accountable for workable infrastructures.

In Biehl's publication, "The Postneoliberal Fabulation of Power: On Statecraft, Precarious Infrastructures, and Public Mobilization in Brazil," published in American Ethnologist he states that in Brazil’s hybrid government of social protection and market expansion, there is under way a fabulation of power, which ultimately serves to “de-poor” people seeking care, working infrastructures, and justice while also shoring up state politics as usual. This process became evident through the failure of a collaborative research project that he coordinated on right-to-health litigation. In rethinking that failure as an experiment in public ethnography, Biehl draw on core disagreements with public officials over the interpretation of our findings from a legal database. Analyzing these disagreements provides an entry point into the mechanisms of veridiction and falsification at work in Brazil, whose government sees itself as providing public goods beyond the minimum neoliberal state. Countering state mythology, public ethnography thus illuminates the improvised quality of postneoliberal democratic institutions and opens up new avenues for theorizing power and the political field.

João Biehl published “Theorizing Global Health,” in Medicine Anthropology Theory which reflects on the recent West African Ebola outbreak. This piece advocates for a critical and people-centered approach both to and within global health. Biehl discusses the current state of the field as well as critical theoretical responses to it, arguing that an ethnographic focus on evidence and efficacy at the local level raises rather than lowers the bar for thoughtful inquiry and action. The current moment calls less for the all-knowing hubris of totalizing analytical schemes than for a human science (and politics) of the uncertain and unknown. It is the immanent negotiations of people, institutions, technologies, evidence, social forms, ecosystems, health, efficacy, and ethics – in their temporary stabilization, production, excess, and creation – that animate the unfinishedness of ethnography and critical global health.

Adams, V. (University of California, San Francisco) and Biehl’s paper, “The Work of Evidence in Critical Global Health,” published in Medicine Anthropology Theory examines the paradigms and values that undergird the ever-expanding field of global health. The richly textured ethnographic think pieces presented here tackle problems of evidence and efficacy as complex forms of ethical and theoretical engagement in contexts of neoliberalism, war, technological innovation, inequality, and structural violence. These works seek to contribute to a people-centered and politically relevant social theory for the twenty-first century.


João Biehl has a forthcoming book titled, Unfinished: The Anthropology of Becoming. This original, field-changing collection explores the plasticity and unfinishedness of human subjects and lifeworlds, advancing the conceptual terrain of an anthropology of becoming. People’s becomings trouble and exceed ways of knowing and acting, producing new possibilities for research, methodology, and writing. The contributors creatively bridge ethnography and critical theory in a range of worlds on the edge, from war and its aftermath, economic transformation, racial
inequality, and gun violence to religiosity, therapeutic markets, animal rights activism, and abrupt environmental change. Defying totalizing analytical schemes, these visionary essays articulate a human science of the uncertain and unknown and restore a sense of movement and possibility to ethics and political practice.

Biehl, Socal, M. (Johns Hopkins University), and Amon’s, J. (Human Rights Watch), published “The Judicialization of Health and the Quest for State Accountability: Evidence from 1,262 Lawsuits for Access to Medicines in Southern Brazil,” in Health Human Rights Journal. The impact of increasing numbers of lawsuits for access to medicines in Brazil is hotly debated. Government officials and scholars assert that the “judicialization of health” is driven by urban elites and private interests, and is used primarily to access high-cost drugs. Using a systematic sample of 1,262 lawsuits for access to medicines filed against the southern Brazilian state of Rio Grande do Sul, they assess these claims, offering empirical evidence that counters prevailing myths and affirms the heterogeneity of the judicialization phenomenon. Their findings show that the majority of patient-litigants are in fact poor and older individuals who do not live in major metropolitan areas and who depend on the state to provide their legal representation, and that the majority of medicines requested were already on governmental formularies. Their data challenge arguments that judicialization expands inequities and weakens the universal health care system. Our arguments that judicialization expands inequities and weakens the universal health care system. Our data also suggest that judicialization may serve as a grassroots instrument for the poor to hold the state accountable. Failing to acknowledge regional differences and attempting to fit all data into one singular narrative may be contributing to a biased interpretation of the nature of judicialization, and limiting the understanding of its drivers, consequences, and implications at local levels.

In “How Can Urban Policies Improve Air Quality and Help Mitigate Global Climate Change: a Systematic Mapping Review,” written by Slovic, A. (University of São Paulo), de Oliveira, M. (University of São Paulo), Biehl, J., and Ribeiro, H. (University of São Paulo) and published in Journal of Urban Health, the authors discuss how tackling climate change at the global level is central to a growing field of scientific research on topics such as environmental health, disease burden, and its resulting economic impacts. At the local level, cities constitute an important hub of atmospheric pollution due to the large amount of pollutants that they emit. As the world population shifts to urban centers, cities will increasingly concentrate more exposed populations. Yet, there is still significant progress to be made in understanding the contribution of urban pollutants other than CO2, such as vehicle emissions, to global climate change. It is therefore particularly important to study how local governments are managing urban air pollution. This paper presents an overview of local air pollution control policies and programs that aim to reduce air pollution levels in megacities. It also presents evidence measuring their efficacy. The paper argues that local air pollution policies are not only beneficial for cities but are also important for mitigating and adapting to global climate change. The results systematize several policy approaches used around the world and suggest the need for more in-depth cross-city studies with the potential to highlight best practices both locally and globally. Finally, it calls for the inclusion of a more human rights-based approach as a mean of guaranteeing of clean air for all and reducing factors that exacerbate climate change.


1. that their use of the term “myth” to describe the popular narrative in Brazil about the “judicialization of health” is inaccurate;
2. that their data has limitations, and particularly that our claim that judicialization “largely serves the disadvantaged” in Rio Grande do Sul is not fully warranted;
3. that their findings “reaffirm” his view of what he calls “the Brazilian model of right to health litigation.”

about their article, “The Judicialization of Health and the Quest for State Accountability,” in which the authors examined a systematic sample of 1,262 lawsuits seeking access to medicines in the southern Brazilian state of Rio Grande do Sul.
University), and Menendez, A. (University of Chicago) published “Social Protection and Labor Market Outcomes of Youth in South Africa,” in *ILR (Industrial and Labor Relations) Review* Cornell University. They explored an Apartheid-driven spatial mismatch between workers and jobs leading to high job search costs for people living in rural areas of South Africa—costs that many young people cannot pay. In this article, the authors examine whether the arrival of a social grant—specifically a generous state-funded old-age pension given to men and women above prime age—enhances the ability of young men in rural areas to seek better work opportunities elsewhere. Based on eight waves of socioeconomic data on household living arrangements and household members’ characteristics and employment status, collected between 2001 and 2011 at a demographic surveillance site in KwaZulu-Natal, the authors find that young men are significantly more likely to become labor migrants when someone in their household becomes age-eligible for the old-age pension. But this effect applies only to those who have completed high school (matric), who are on average eight percentage points more likely to migrate for work when their households become pension eligible, compared with other potential labor migrants. The authors also find that, upon pension loss, it is the youngest migrants who are the most likely to return to their sending households, perhaps because they are the least likely to be self-sufficient at the time the pension is lost. The evidence is consistent with binding credit constraints limiting young men from poorer households from seeking more lucrative work elsewhere.

In Dalton Conley’s paper entitled, “Live Birth Sex Ratios and Father’s Geographic Origins in Jerusalem, 1964-1976,” co-authored with Groeger, J. (State University of New York (SUNY), Downstate Brooklyn), Opler, M. (New York University), Kleinhaus, K. (New York University), Perrin, M. (New York University), Calderon-Margalit, R. (Hebrew University-Hadassah School of Public Health, Jerusalem) et al, the authors’ objective is to examine whether ancestry influenced sex ratios of offspring in a birth cohort before parental antenatal sex selection influenced offspring sex. They measured the sex ratio as the percent of males according to countries of birth of paternal and maternal grandfathers in 91,459 live births from 1964 to 1976 in the Jerusalem Perinatal Study. Confidence limits (CI) were computed based on an expected sex ratio of 1.05, which is 51.4% male. Of all live births recorded, 51.4% were male. Relative to Jewish ancestry (51.4% males), significantly more males (1,761) were born to Muslim ancestry (54.5, 95% CI = 52.1–56.8, \( P=0.01 \)). Among the former, sex ratios were not significantly associated with paternal or maternal age, education, or offspring’s birth order. Consistent with a preference for male offspring, the sex ratio decreased despite increasing numbers of births over the 13-year period. Sex ratios were not affected by maternal or paternal origins in North Africa or Europe. However, the offspring whose paternal grandfathers were born in Western Asia included fewer males than expected (50.7, 50.1-51.3, \( P=0.02 \)), whether the father was born abroad (50.7) or in Israel (50.8). This was observed for descendants of paternal grandfathers born in Lebanon (47.6), Turkey (49.9), Yemen & Aden (50.2), Iraq (50.5), Afghanistan (50.5), Syria (50.6), and Cyprus (50.7); but not for those from India (51.5) or Iran (51.9). The West Asian group showed the strongest decline in sex ratios with increasing paternal family size. They conclude that a decreased sex ratio associated with ancestry in Western Asia is consistent with reduced ability to bear sons by a subset of Jewish men in the Jerusalem cohort. Lower sex ratios may be because of pregnancy stress, which may be higher in this subgroup. Alternatively, a degrading Y chromosome haplogroup or other genetic or epigenetic differences on male germ lines could affect birth ratios, such as differential exposure to an environmental agent, dietary differences, or stress. Differential stopping behaviors that favor additional pregnancies following the birth of a daughter might exacerbate these lower sex ratios. Conley, D. and Sotoudeh, R. published “Genotyping the Dead: Using Offspring as Proxy to Estimate the Genetic Correlation of Education and Longevity,” in the *Proceedings of the National Academy of Sciences*. In the work on the social determinants of health, it has long been recognized that, among the strongest (if not the strongest) predictor of morbidity and mortality, is educational attainment—that is, the number of years of formal schooling. To what extent the relationship between education and longevity is a causal one running
from schooling to health has been of intense interest to social scientists. Of course, ill health can truncate a schooling career, but there is also adequate reason to suspect that formal schooling does indeed improve health and well-being through a number of channels ranging from improved impulse control to better ability to understand health risks to improved economic circumstances. The extent to which they can isolate the mechanisms behind this strong relationship will help them design better interventions to promote health and health equity (not to mention, to mitigate the adverse effects of ill health on education and its related outcomes).

Lee, B. (Columbia University) and Conley, D. published “Robust Null Findings on Offspring Sex and Political Orientation,” in Social Forces. In an earlier version of this paper, Lee and Conley deployed the European Social Survey (ESS) and the General Social Survey (GSS) to conduct the largest analysis to date examining the question of whether child sex affects parent political orientation. They found null effects in contrast to earlier, smaller studies. In the current issue, Hopcroft (2016) argues that their null findings may have been obtained due to sample restrictions and measurement error arising from the fact that they used the sex of the first child “residing” in home rather than the sex of the first “biological” child. They believe that in their comment, Hopcroft largely restates the limitations already discussed in their original manuscript, adding only details of the GSS and ESS codebook for the readers. More importantly, she has confused identification issues (e.g., measurement error) with inference issues (e.g., sample restrictions) that the authors discussed in detail in three pages (Lee and Conley 2016, 1112–14). The goal of their systematic sample selection was to reduce the potential attenuation bias arising from measurement error. Further, by ignoring the period/country variations they showed, this critic missed one of the main points of our paper—they asked why they might observe contradictory findings in the U.K. and the United States in the first place. They concluded that such results are more likely due to publication bias (or possibly period heterogeneity) rather than to treatment effect heterogeneities or country differences. Nevertheless, they are open to the possibility that they made mistakes in their original paper. In the present response, they have decided to play devil’s advocate by taking the opportunity to revisit their case.

There seems to be a straightforward way to measure the sex of the first child; one can ask respondents about the sex/age and biological status of all children they have ever had and infer the sex of the first child from the resulting roster.

In “Assortative Mating and Differential Fertility by Phenotype and Genotype Across the 20th Century,” published in the Proceedings of the National Academy of Sciences, Dalton Conley, Laidley, T. (New York University), Belsky, D. (Duke University), Fletcher, J. (University of Wisconsin, Madison), Boardman, J. (University of Colorado), and Domingue, B. (Stanford University), describe dynamics in assortative mating and fertility patterns by polygenic scores associated with anthropometric traits, depression, and educational attainment across birth cohorts from 1920 to 1955. They find that, for example, increases in assortative mating at the phenotypic level for education are not matched at the genotypic level. They also show that genes related to height are positively associated with fertility and that, despite a widening gap between the more and less educated with respect to fertility, there is no evidence that this trend is associated with genes. These findings are important to their understanding of the roots of shifting distributions of health and behavior across generations in U.S. society.

This study asks two related questions about the shifting landscape of marriage and reproduction in U.S. society over the course of the last century with respect to a range of health and behavioral phenotypes and their associated genetic architecture: (i) Has assortment on measured genetic factors influencing reproductive and social fitness traits changed over the course of the 20th century? (ii) Has the genetic covariance between fitness (as measured by total fertility) and other traits changed over time? The answers to these questions inform our understanding of how the genetic landscape of American society has changed over the past century and have implications for population trends. They show that husbands and wives carry similar loadings for genetic factors related to education and height. However, the magnitude of this similarity is modest and has been fairly consistent over the course of the 20th century. This consistency is particularly notable in the case of education, for which phenotypic
Ongoing research has focused on understanding how genetic conditions change over the past century, and how these changes have impacted human health. For instance, studies have shown that the penetrance of genetic traits such as height and BMI have increased over the past century, while traits such as education and heart disease have shown declining penetrance over the course of the 20th Century.

Moreover, research has demonstrated that the environmental landscape of American society has changed significantly over the past century. For example, the Vietnam-era draft lottery provided a unique opportunity to study the impact of a large, exogenous shock to smoking behavior at a young age. Using data from the Health and Retirement Study (HRS), researchers found that veterans with a high genetic predisposition for smoking were more likely to have been smokers, smoke heavily, and are at a higher risk of being diagnosed with cancer or hypertension at older ages. Smoking behavior was significantly attenuated for high-risk veterans who attended college after the war, indicating post-service schooling gains from veterans’ use of the GI Bill may have reduced tobacco consumption in adulthood.

In “Mortality Inequality: The Good News from a County-Level Approach,” published in the *Journal of Economic Perspectives*, Janet Currie and Schwandt, H. (Johns Hopkins University), find that life expectancy for the U.S. population has shown a strong increase since 1990. The rise in life expectancy at birth holds for both men and women. This development has not been driven solely by improvements in life expectancy at older ages. Mortality rates for those under one year of age, for the age group 1–4, and for every five-year age group above that level, declined for both males and females between 1990 and 2010. Particularly
pronounced improvements in mortality occurred at younger ages, which tend to be age groups in which deaths occur predominantly among the poor. However, this overall decline in mortality rates has been accompanied by prominent recent studies highlighting that the gains have not been distributed. Indeed, several studies argue that when measured across educational groups and/or geographic areas, mortality gaps are not only widening, but that for some U.S. groups, overall life expectancy is even falling. It seems to have become widely accepted that inequality in life expectancy is increasing. Given that the number of years that one can expect to live, is such an important indicator of welfare, this finding has been heralded as yet another dimension in which overall societal inequality is increasing.

Janet Currie and Schwandt, H. published “Inequality in Mortality Decreased Among the Young While Increasing for Older Adults, 1990–2010,” in the American Association for the Advancement of Science. Looking at the many recent studies that point to increasing inequality in mortality in the United States over the past 20 years. These studies often use mortality rates in middle and old age. They used poverty level rankings of groups of U.S. counties as a basis for analyzing inequality in mortality for all age groups in 1990, 2000, and 2010. Consistent with previous studies, they found increasing inequality in mortality at older ages. For children and young adults below age 20, however, they found strong mortality improvements that were most pronounced in poorer counties, implying a strong decrease in mortality inequality. These younger cohorts will form the future adult U.S. population, so this research suggests that inequality in old-age mortality is likely to decline.

In the Journal of Health Economics, Janet Currie, MacLeod, W. (Columbia University), and Van, J. (City University of New York (CUNY), Hunter College) published “Provider Practice Style and Patient Health Outcomes: The Case of Heart Attacks.” When a patient arrives at the emergency room with acute myocardial infarction (AMI), the provider on duty must quickly decide how aggressively the patient should be treated. Using Florida data on all such patients from 1992 to 2014, they decompose practice style into two components: The provider’s probability of conducting invasive procedures on the average patient (characterize as aggressiveness), and the responsiveness of the choice of procedure to the patient’s characteristics. The authors show that within hospitals and years, patients with more aggressive providers have consistently higher costs and better outcomes. Since all patients benefit from higher utilization of invasive procedures, targeting procedure use to the most appropriate patients benefits these patients at the expense of the less appropriate patients. They also found that the most aggressive and responsive physicians are young, male, and trained in top 20 schools.

Margaret Frye’s third research project examines the relationship between perceived attractiveness and AIDS in Malawi. Using ethnographic data, Frye shows that attractive women are locally perceived to be more likely to be infected, and beautiful women are even blamed for the epidemic. Yet survey data shows that women who are perceived as less attractive are more likely to be infected. This work is a collaboration with Nina Gheihman, a Ph.D. student at Harvard, and Sophia Chae, a research scientist at Population Council.

Glei, D. (Georgetown University), Goldman, N., Risques, R. (University of Washington, Seattle), Rehkopf, D. (Stanford University), Dow, W. (University of California, Berkeley), Rosero-Bixby, L. (Centro Centroamericano de Población), and Weinstein, M. (Georgetown University) published “Predicting Survival from Telomere Length versus Conventional Predictors: A Multinational Population-Based Cohort Study,” in PLoS One. They state that telomere length has generated substantial interest as a potential predictor of aging-related diseases and mortality. Some studies have reported significant associations, but few have tested its ability to discriminate between decedents and survivors compared with a broad range of well-established predictors that include both biomarkers and commonly collected self-reported data. Their aim here was to quantify the prognostic value of leukocyte telomere length relative to age, sex, and 19 other variables for predicting five-year mortality among older persons in three countries. They used data from nationally representative surveys in Costa Rica (N = 923, aged 61+), Taiwan (N = 976, aged 54+), and the U.S. (N = 2672, aged 60+). The study used a prospective cohort design with all-cause mortality during five years post-exam as the outcome. They fit Cox
hazards models separately by country, and assessed the discriminatory ability of each predictor. Age was, by far, the single best predictor of all-cause mortality, whereas leukocyte telomere length was only somewhat better than random chance in terms of discriminating between decedents and survivors. After adjustment for age and sex, telomere length ranked between 15th and 17th (out of 20), and its incremental contribution was small; nine self-reported variables (e.g., mobility, global self-assessed health status, limitations with activities of daily living, smoking status), a cognitive assessment, and three biological markers (C-reactive protein, serum creatinine, and glycosylated hemoglobin) were more powerful predictors of mortality in all three countries. Results were similar for cause-specific models (i.e., mortality from cardiovascular disease, cancer, and all other causes combined). Leukocyte telomere length had a statistically discernible, but weak, association with mortality, but it did not predict survival as well as age or many other self-reported variables. Although telomere length may eventually help scientists understand aging, more powerful and more easily obtained tools are available for predicting survival.

In Noreen Goldman’s article, “Will the Latino Mortality Advantage Endure?” published in Research on Aging, she writes that persons of Mexican origin and some other Latino groups in the United States have experienced a survival advantage compared with their non-Latino White counterparts, a pattern known as the Latino, Hispanic, or epidemiological paradox. However, high rates of obesity and diabetes among Latinos relative to Whites and continued increases in the prevalence of these conditions suggest that this advantage may soon disappear. Other phenomena, including high rates of disability in the older Latino population compared with Whites, new evidence of health declines shortly after migration to the United States, increasing environmental stressors for immigrants, and high-risk values of inflammatory markers among Latinos compared with Whites support this prediction. One powerful counterargument, however, is substantially lower smoking-attributable mortality among Latinos. Still, it is questionable as to whether smoking behavior can counteract the many forces at play that may impede Latinos from experiencing future improvements in longevity on a par with Whites.

Cornman, J. (Jennifer C. Cornman Consulting), Glei, D. (Georgetown University), Goldman, N., and Weinstein, M. (Georgetown University) published “Physiological Dysregulation, Frailty, and Risk of Mortality Among Older Adults,” in Research on Aging. This study examines whether frailty is associated with mortality independently of physiological dysregulation (PD) and, if so, which is the more accurate predictor of survival. Data come from the Social Environment and Biomarkers of Aging Study. They use Cox proportional hazard models to test the associations between PD, frailty, and 4- to 5-year survival. The authors use Harrell’s concordance index to compare predictive accuracy of the models. Both PD and frailty are significantly, positively, and independently correlated with mortality: Worse PD scores and being frail are associated with a higher risk of dying. The overall PD score is a more accurate predictor of survival than frailty, although model prediction improves when both measures are included. PD and frailty independently predict mortality, suggesting that the two measures may be capturing different aspects of the same construct and that both may be important for identifying individuals at risk for adverse health outcomes.

In “Using Vignettes to Rethink Latino-White Disparities in Self-Rated Health,” published in Social Science & Medicine, Bzostek, S. (Rutgers University), Sastry, N. (University of Michigan), Goldman, N., Pebley, A. (University of California, Los Angeles), and Duffy, D. (University of Michigan) write that researchers often rely on respondents' self-rated health (SRH) to measure social disparities in health, but recent studies suggest that systematically different reporting styles across groups can yield misleading conclusions about disparities in SRH. In this study, they test whether this finding extends to ethnic differences in self-assessments of health in particular domains. They document differences between U.S.-born Whites and four Latino subgroups in respondents' assessments of health in six health domains using data from the second wave of the Los Angeles Family and Neighborhood Survey (N = 1468). They use both conventional methods and an approach that uses vignettes to adjust for differential reporting styles. Their results suggest that despite consistent evidence from the literature that Latinos tend to rate their overall health more poorly than whites, and that Latino immigrants report worse SRH than U.S.-born Latinos, this pattern is not
true of self-reports in individual health domains. They find that at the bivariate level, U.S.-born whites (and often U.S.-born Mexicans) have significantly more pessimistic reporting styles than Latino immigrants. After adding controls, they find evidence of significantly different reporting styles for only one domain: U.S.-born Mexicans and whites consistently interpret head pain more severely than the other Latino subgroups. Finally, they find that both before and after adjusting for differences in rating styles across groups, non-Mexican Latino immigrants report better social and physical functioning and less pain than other groups. Their findings underscore the advantages of domain-specific ratings when evaluating ethnic differences in self-assessments of health. They encourage researchers studying social disparities in health to consider respondents' self-assessments in a variety of domains, and to also investigate (when possible) potential biases in their findings due to different reporting styles. The anchoring vignettes approach they use is one potential method for overcoming biases due to different rating styles across groups.

Sara McLanahan along with colleagues McFarland, M. (Florida State University), Reichman, N. (Rutgers Robert Wood Johnson Medical School), and Goosby, B. (University of Nebraska), used data from the Fragile Families and Child Wellbeing Survey linked to respondents' medical records to examine the association between grandparents' education and birth outcomes and to explore potential pathways underlying this relationship. Results showed that having a grandfather with less than a high school education was associated with a 93-gram reduction in birth weight, a 59% increase in the odds of low birth weight, and a 136% increase in the odds of a neonatal health condition when compared with having a grandfather with a high school education or more. These associations were partially accounted for by mother's educational attainment and marital status as well as by prenatal history of depression, hypertension, and prenatal health behaviors, depending on the specific outcome. These findings call for heightened attention to the multigenerational influences of educational attainment for infant health.

C. Jessica Metcalf's health research focuses on the following areas of research: a) characterizing the landscape of immunity to support public health, and b) developing a framework for understanding the evolution of immune function. The landscape of immunity is shaped by vaccination and natural infection. Characterizing immunity acquired via vaccination coverage is core to targeting and reinforcing public health efforts, and yet considerable uncertainty remains. The Metcalf lab has helped develop techniques for evaluating spatial heterogeneity in vaccination coverage, and exploring its consequences in the context of a major disruption (e.g. ebola outbreak). In the context of natural infection, human movement shapes both the introduction of pathogens into unaffected populations, but can also shape major movements of susceptible individuals – aggregation can create conditions favorable to increasing transmission and large outbreaks. They utilize novel data-streams such as mobile phone call data records to capture both the patterns of seasonal human aggregation and its effects on transmission for directly transmitted pathogens (measles, rubella), but also patterns of local introduction for a broader range of infections (measles to malaria) for a range of countries and contexts. Patterns of re-introduction are of increasing relevance in a public health landscape where disease elimination and eradication remain a central concern.
Climatic drivers may shape both human movement and pathogen ecology. They are working on describing the climate influences on human movement at a range of scales and to titrate the relative importance of these direct and indirect effects for a range of pathogens. This will open the way to longer term predictions of the outcome of climate change on human movement and the burden of infectious disease. To date, they have revealed the driving force of human aggregation for rubella dynamics in Kenya and are expanding this analysis across pathogens and contexts to encompass the effects of human movement on measles control in Pakistan and malaria in Madagascar. Seasonal human movement is a focus of this research thread and they are working with collaborators to build links to climate phenomenon.

Individual immunity is a powerful force and one whose effects can scale up to affect pathogen transmission dynamics and the disease burden for entire populations (a process underlying the concept of herd immunity). Despite this importance, the fundamental drivers of immune function remain obscure, partly as a result of challenges in articulating and estimating the core trade-offs that shape immunity. The Metcalf lab has been working to identify tractable sub-questions in this area, such as the evolution of the timing of maternal immunity, but also to extend previously developed methods to model within host dynamics with the aim of providing insight into key effectors and mechanisms that can then be considered in a broader evolutionary context. The lab also works on theoretical models considering the microbiome; it is increasingly recognized that microbiota can play a key role in host defense, a natural extension in considering the evolution of immune function.

Metcalf, C.J.E. and Barret, A. (University of Texas, Galveston) published “Invasion Dynamics of Teratogenic Infections in Light of Rubella Control: Implications for Zika Virus,” in PLoS Curr. The greatest burden for a subset of pathogens is associated with infection during pregnancy. Evidence for teratogenic effects of Zika Virus have highlighted the importance of understanding the epidemiology of such pathogens. Rubella is perhaps the most classic example, and there is much to be learned from the long history of modelling associated with this virus.

They extended an existing framework for modeling age-specific dynamics of rubella to illustrate how the body of knowledge of rubella dynamics informs the dynamics of teratogenic infections more broadly, and particularly the impact of control on such infections in different transmission settings. During invasion, the burden in women of childbearing age is expected to peak, but then fall to low levels before eventually levelling out. Importantly, as illustrated by rubella dynamics, there is potential for a paradoxical effect, where inadequate control efforts can increase the burden. Drawing on the existing body of work on rubella dynamics highlights key knowledge gaps for understanding the risks associated with Zika Virus. The magnitude and impacts of sterilizing immunity, plus antigenic maps measuring cross-protection with other flaviviruses, and the magnitude of transmission, as well as likely impact of control efforts on transmission are likely to be key variables for robust inference into the outcome of management efforts for Zika Virus.

Metcalf, C.J.E., Lessler, J. (Johns Hopkins University), Chaisson, L. (Johns Hopkins University), Kucirka, L. (Johns Hopkins University), Bi, Q. (Johns Hopkins University), Grantz, K. (University of Florida, Gainesville), et al. published “Assessing the Global Threat from Zika Virus,” in Science. First discovered in 1947, Zika virus (ZIKV) infection remained a little-known tropical disease until 2015, when its apparent association with a considerable increase in the incidence of microcephaly in Brazil raised alarms worldwide. There is limited information on the key factors that determine the extent of the global threat from ZIKV infection and resulting complications. Here, they review what is known about the epidemiology, natural history, and public health effects of ZIKV infection, the empirical basis for this knowledge, and the critical knowledge gaps that need to be filled.

considerable burden for health care systems across China. Yet this burden displays important geographic heterogeneity that directly affects the local persistence and the dynamics of the disease, and thus the ability to control it through vaccination campaigns. Here, they use detailed geographic surveillance epidemic models to estimate the critical community size (CCS) of HFMD associated enterovirus serotypes CV-A16 and EV-A71 and they explore what spatial vaccination strategies may best reduce the burden of HFMD. They found CCS ranging from 336,979 (±225,866) to 722,372 (±150,562) with the lowest estimates associated with EV-A71 in the southern region of China where multiple transmission seasons have previously been identified. Their results suggest the existence of a regional immigration-recolonization dynamic driven by urban centers. If EV-A71 vaccines doses are limited, these would be optimally deployed in highly populated urban centers and in high-prevalence areas. If HFMD vaccines are included in China's National Immunization Program in order to achieve high coverage rates (>85%), routine vaccination of newborns largely outperforms strategies in which the equivalent number of doses is equally divided between routine vaccination of newborns and pulse vaccination of the community at large.

Metcalf, C.J.E., Wesolowski, A (Harvard University), Mensah, K. (WHO National Reference Laboratory, Institut Pasteur de Madagascar), Brook, C. (University of Southampton, UK), Andrianjamasy, M. (WHO National Reference Laboratory, Institut Pasteur de Madagascar), Winter, A. et al published “Introduction of Rubella-Containing-Vaccine to Madagascar: Implications for Roll-Out Across Low-Income Countries,” published in Journal of the Royal Society Interface. Few countries in Africa currently include rubella-containing vaccination (RCV) in their immunization schedule. The Global Alliance for Vaccines Initiative (GAVI) recently opened a funding window that has motivated more widespread roll-out of RCV. As countries plan RCV introductions, an understanding of the existing burden, spatial patterns of vaccine coverage, and the impact of patterns of local extinction and reintroduction for rubella will be critical to developing effective programs. As one of the first countries proposing RCV introduction in part with GAVI funding, Madagascar provides a powerful and timely case study. They analyze serological data from measles surveillance systems to characterize the epidemiology of rubella in Madagascar. Combining these results with data on measles vaccination delivery, they develop an age-structured model to simulate rubella vaccination scenarios and evaluate the dynamics of rubella and the burden of congenital rubella syndrome (CRS) across Madagascar. In addition, they evaluate the drivers of spatial heterogeneity in age of infection to identify focal locations where vaccine surveillance should be strengthened and where challenges to successful vaccination introduction are expected. Their analyses indicate that characteristics of rubella in Madagascar are in line with global observations, with an average age of infection near seven years, and an impact of frequent local extinction with reintroductions causing localized epidemics. Modelling results indicate that introduction of RCV into the routine program alone may initially decrease rubella incidence but then result in cumulative increases in the burden of CRS in some regions (and transient increases in this burden in many regions). Deployment of RCV with regular supplementary campaigns will mitigate these outcomes. Results suggest that introduction of RCV offers a potential for elimination of rubella in Madagascar, but also emphasize both that targeted vaccination is likely to be a lynchpin of this success, and the public health vigilance that this introduction will require.

Metcalf, C.J.E., Grenfell, B., Farrar, J., Cutts, F., Basta, N., Graham, A.L., et al. published “Serological Surveys: Generating Key Insight into the Changing Global Landscape of Infectious Disease,” in Lancet. A central conundrum in the study of infectious disease dynamics is to define the landscape of population immunity. The proportion of individuals protected against a specific pathogen determines the timing and scale of outbreaks, and the pace of evolution for infections that can evade prevailing humoral immunity. Serological surveys provide the most direct measurement to define the immunity landscape for many infectious diseases, yet this methodology remains underexploited. To address this gap, they propose a World Serology Bank and associated major methodological developments in serological testing, study design, and quantitative analysis, which could drive a step change in our understanding and optimum control of infectious diseases.
Metcalf, C.J.E. published “Invisible Trade-offs: Van Noordwijk & de Jong and Life History Evolution,” in American Naturalist. Metcalf started her Ph.D. in 2000 as a part of a cohort of graduate students delighted with the prospect that evolutionary biology could be used to predict and explain patterns of traits observed in nature. They were surrounded by a wealth of wonderful theory at varying levels of abstraction from reality, and their goal was to apply this theory to data from the specific systems that they studied. Making predictions about traits in evolutionary biology invariably involves discussions of trade-offs. Everything eventually comes back to survival and fertility, and if there is nothing to hold back survival (or fertility), you can predict nothing more interesting than that survival (or fertility) should be maximized. Consequently, almost every graduate student in her cohort was looking for a trade-off. Not one could find one. They thought Darwinian demons were unlikely. They knew that, somewhere, allocation decisions must have a cost; but in systems ranging from birds to plants, none of them had any success in quantifying anything that looked like one fitness component going up while another came down. In Metcalf’s system, plants that grew better also survived better and often produced more seeds. And then one of them stumbled across van Noordwijk and de Jong’s 1986 paper in The American Naturalist. The logic starts from the basic premise that resources not allocated to survival (S) will go to reproduction (R). The innovation is that the fraction of resources allocated to each demographic rate (B), but also the absolute amount of resources available (A), are assumed to vary across individuals (indicated by the lines with different values of A and B). From this basis, van Noordwijk and de Jong precisely define when survival and reproduction are expected to positively covary and when they should negatively covary as a function of the variance in allocation (B) and acquisition (A). As well as the startlingly powerful visualization of a subtle idea (in a figure whose existence van Noordwijk told me was suggested by an anonymous reviewer), this paper also provides a relatively simple yardstick for applying the key concept to natural systems. Although “units” of resource are notoriously hard to pin down, van Noordwijk and de Jong contend that if whatever is being measured has a broadly monotonic relationship with energy, then positive correlations will suggest dominance of acquisition and negative correlations dominance of allocation. In practice, when the number of traits exceeds two, identifying whether allocation or acquisition is dominating can rapidly become complicated, but the insight remains profound. Overall, although decades of research in evolutionary ecology have thrown up an array of evidence for trade-offs (from the nearly ubiquitous seed-size/seed-number trade-off in plants, to evidence for antagonistic pleiotropy in a number of systems), trade-offs are arguably less ubiquitous than anticipated by basic life-history theory. Various lines of research suggest that negative relationships are probably lost in the noise of multiple allocation decisions involving multiple labile traits and complex associated signaling pathways. Indeed, most of the mechanisms that give rise to trade-offs remain a mystery, despite the fact that characterizing trade-offs is likely to be essential to elucidating the determinants of variation in natural systems. It can be argued that much of ecology and evolution comes down to trying to describe the processes that push distributions of traits around. Thinking clearly about the drivers of this variation can be rather counterintuitive, but van Noordwijk and de Jong provided them with a wonderfully clear template for starting to do so.

Metcalf, C.J.E., Grenfell, B., Takahashi, S. (Princeton University, Department of Ecology and Evolutionary Biology), Liao, Q. (Chinese Center for Disease Control and Prevention), Van Boeckel, T. (Princeton University, Department of Ecology and Evolutionary Biology), Xing, W. (Chinese Center for Disease Control and Prevention), et al. co-authored “Hand, Foot, and Mouth Disease in China: Modelling Epidemic Dynamics of Enterovirus Serotypes and Implications for Vaccination,” published in PLoS Medicine. Hand, foot, and mouth disease (HFMD) is a common childhood illness caused by serotypes of the Enterovirus A species in the genus Enterovirus of the Picornaviridae family. The disease has had a substantial burden throughout East and Southeast Asia over the past 15 y. China reported 9 million cases of HFMD between 2008 and 2013, with the two serotypes Enterovirus A71 (EV-A71) and Coxsackievirus A16 (CV-A16) being responsible for the majority of these cases. Three recent phase 3 clinical trials showed that inactivated monovalent EV-A71 vaccines manufactured in China were highly efficacious.
A71 vaccination would be necessary to eliminate each ot provide a temporary immunizing effect against multiple serotypes of enterovirus. The results predict that the EV-A71 and CV-A16 serotypes provide a temporary immunizing effect against each other. Achieving high coverage rates of EV-A71 vaccination would be necessary to eliminate the ongoing transmission of EV-A71, but serotype replacement by CV-A16 following EV-A71 vaccination is likely to be transient and minor compared to the corresponding reduction in the burden of EV-A71-associated HFMD. Therefore, a mass EV-A71 vaccination program of infants and young children should provide significant benefits in terms of a reduction in overall HFMD burden.

Weekly reports of HFMD incidence from 31 provinces in Mainland China from 1 January 2009 to 31 December 2013 were used to fit multi-serotype time series susceptible–infected–recovered (TSIR) epidemic models. They obtained good model fit for the two-serotype TSIR with cross-protection, capturing the seasonality and geographic heterogeneity of province-level transmission, with strong correlation between the observed and simulated epidemic series. The national estimate of the basic reproduction number, $R_0$, weighted by provincial population size, was 26.63 for EV-A71 (interquartile range [IQR]: 23.15, 31.34) and 27.13 for CV-A16 (IQR: 23.15, 31.34), with considerable variation between provinces (however, predictions about the overall impact of vaccination were robust to this variation). EV-A71 incidence was projected to decrease monotonically with higher coverage rates of EV-A71 vaccination. Across provinces, CV-A16 incidence in the post-EV-A71-vaccination period remained either comparable to or only slightly increased from levels prior to vaccination. The duration and strength of cross-protection following infection with EV-A71 or CV-A16 was estimated to be 9.95 wk (95% confidence interval [CI]: 3.31, 23.40) in 68% of the population (95% CI: 37%, 96%). Their predictions are limited by the necessarily short and under-sampled time series and the possible circulation of unidentified serotypes, but, nonetheless, sensitivity analyses indicate that the results are robust in predicting that the vaccine should drastically reduce incidence of EV-A71 without a substantial competitive release of CV-A16.

The ability of their models to capture the observed epidemic cycles suggests that herd immunity is driving the epidemic dynamics caused by the multiple serotypes of enterovirus. The results predict that the EV-A71 and CV-A16 serotypes provided a new path to locally persistent chaotic epidemics via subtle shifts in seasonal transmission patterns. Theory suggests these cycles can be disrupted by high amplitude seasonal fluctuations in transmission rates, resulting in deterministic chaos. However, persistent deterministic chaos has never been observed, in part because sufficiently large oscillations in transmission rates are uncommon. Where do they occur, the resulting deep epidemic troughs break the chain of transmission, leading to epidemic extinction, even in large cities. Here they demonstrate a new path to locally persistent chaotic epidemics via subtle shifts in seasonal patterns of transmission, rather than through high-amplitude fluctuations in transmission rates. They base their analysis on a comparison of measles incidence in 80 major cities in the prevaccination era United States and United Kingdom. Unlike the regular limit cycles seen in the U.K., measles cycles in U.S. cities consistently exhibit spontaneous shifts in epidemic periodicity resulting in chaotic patterns. They show that these patterns were driven by small systematic differences between countries in the duration of the summer period of low transmission. This example demonstrates empirically that small perturbations in disease transmission patterns can fundamentally alter the regularity and spatiotemporal coherence of epidemics.

Bughardt, L. (University of Minnesota), Metcalf, C.J.E., and Donohue, K. (Duke University) published “A Cline in Seed Dormancy Can Conserve the Environment Experienced During Reproduction Across a Range of Arabidopsis thaliana,” in American Journal of Botany. Understanding the factors shaping range limits is
critical given current changes in climate as well as human-mediated introduction of species into novel environments. Phenological responses to climate influence range limits by allowing plants to avoid conditions that decrease population growth rates. Studying these processes is a challenge due to the joint contributions of both genetic and environmental variation to phenology. Using a previously developed model that predicts phenology of three dormancy "genotypes" in four locations spanning the European range of Arabidopsis thaliana, they examined how variation in seed dormancy influences the environmental conditions experienced by reproductive individuals and how those conditions influence reproductive potential. They calculated two metrics: temperature experienced during reproduction and the length of thermal window available for reproduction. Seed dormancy levels determine whether a spring-flowering life cycle is expressed and thus determine the reproductive environment. A genetic cline in seed dormancy across the range reduces differences in reproductive environment and increases the thermal opportunity for reproduction before conditions become unfavorable for survival. Counter-intuitively, these putatively local genotypes are predicted to reproduce in slightly cooler conditions in the south than in the north, suggesting that maternal environmental effects on average could induce deeper dormancy in southern seeds reinforcing the observed genetic cline. However, within a location, they found large individual level differences. Phenological adjustments of early life stages can contribute to the maintenance of consistent reproductive environments experienced by individual plants across ranges despite variable environmental conditions over time and space.

Metcalf, C.J.E., Graham, A. (Princeton University, Department of Ecology and Evolutionary Biology), Martinez-Bakker, M. (University of Michigan), and Childs, D. (University of Sheffield, UK) co-authored “Opportunities and Challenges of Integral Projection Models for Modeling Infectious Diseases and Their Dynamics,” which was published in the Journal of Animal Ecology. This article’s four main points are summarized below.
1. Epidemiological dynamics are shaped by and may in turn shape host demography. These feedbacks can result in hard to predict patterns of disease incidence. Mathematical models that integrate infection and demography are consequently a key tool for informing expectations for disease burden and identifying effective measures for control.
2. A major challenge is capturing the details of infection within individuals and quantifying their downstream impacts to understand population-scale outcomes. For example, parasite loads and antibody titres may vary over the course of an infection and contribute to differences in transmission at the scale of the population. To date, to capture these subtleties, models have mostly relied on complex mechanistic frameworks, discrete categorization and/or agent-based approaches.
3. Integral Projection Models (IPMs) allow variance in individual trajectories of quantitative traits and their population-level outcomes to be captured in ways that directly reflect statistical models of trait–fate relationships. Given increasing data availability, and advances in modelling, there is considerable potential for extending this framework to traits of relevance for infectious disease dynamics.
4. Here, they provide an overview of host and parasite natural history contexts where IPMs could strengthen inference of population dynamics, with examples of host species ranging from mice to sheep to humans, and parasites ranging from viruses to worms. They discuss models of both parasite and host traits, provide two case studies and conclude by reviewing potential for both ecological and evolutionary research.

Ellis Monk’s research focuses on the comparative examination of social inequality, especially with respect to race and ethnicity, in global perspective. This research uses both quantitative and qualitative methods, while drawing heavily upon contemporary theories of social cognition and categories. By deeply engaging with issues of measurement and methodology, it examines the complex relationships between social categories and social inequality; and extends into topics such as social demography, health, aging, social psychology, sociology of the body, political sociology, and comparative/historical sociology.

In addition to working on a variety of projects that correspond to these areas of interest, Monk is also completing a book manuscript, which is the first comparative, mixed-methods examination of the
social and economic significance of skin tone and hair as markers of ethnoracial division in the U.S. and Brazil. It illustrates how these markers of ethnoracial division determine differential treatment in intimate, commercial and public spheres alike. These findings are mined to contribute to current (and historical) debates on the foundations and lived reality of ethnoracial inequality in the Americas, "colorism" in global perspective, and theories of group formation.

In “The Consequences of “Race and Color” in Brazil,” published by Ellis P. Monk, in Social Problems, Monk states that the vast majority of quantitative research on ethnoracial inequality uses census categories. In this article, however, he questions whether census categories (in Brazil) are the most adequate measure for estimating ethnoracial inequality. Using the first nationally representative survey to include interviewer-rated skin color data in Brazil (LAPOP 2010), he examines: (1) the association between skin color and stratification outcomes, (2) how using multiple measures of race may reveal different information about inequality across different outcomes, and (3) whether census race categories and skin color should be considered equivalent or analytically distinct concepts. Monk finds that skin color is a stronger predictor of educational attainment and occupational status among Brazilians than race (operationalized as census race-color categories used in virtually all research on ethnoracial inequality in Brazil). Centrally, this study finds that “race” and “color” are analytically distinct concepts given that they are empirically distinct, even though they are often conflated in everyday life and by social scientists. The implications of these findings for the study of ethnoracial inequality in Brazil and beyond are discussed, with a focus on directions for future research.

Elizabeth Paluck’s research is motivated by two basic ideas. The first idea is that social psychological theory offers potentially useful tools for changing society in constructive ways. The second idea is that studying attempts to change society is one of the most fruitful ways to develop and assess social psychological theory. Much of her work has focused on prejudice and intergroup conflict reduction, using large-scale field experiments to test theoretically driven interventions.

Through field experiments in Central and Horn of Africa and in the United States, Paluck has examined the impact of the mass media and interpersonal communication on tolerant and cooperative behaviors. She has found support for a behavioral change model based on social norms and group influence. To change behavior, she suggests, it may be more fruitful to target citizens’ perceptions of typical or desirable behaviors (i.e., social norms) than their knowledge or beliefs. How do social norms and behaviors shift in real world settings? Some initial suggestions from this research include peer or role model endorsement, narrative communication, and group discussion. Paluck’s work in post-conflict countries has led to related research on political cultural change and on civic education. She is also interested in social scientific methodology—particularly causal inference and behavioral measurement.

Elizabeth Paluck, published “How to Overcome Prejudice,” in Science. What do social scientists know about reducing prejudice in the world? In short, very little. Of the hundreds of studies on prejudice reduction conducted in recent decades, only ~11% test the causal effect of interventions conducted in the real world. Far fewer address prejudice among adults or measure the long-term effects of those interventions. The results reported by Broockman and Kalla (on page 220) are therefore particularly important. The authors show that a 10-min conversation with voters in South Florida reduced prejudice against transgender people and increased support for transgender rights for at least three months.

Elizabeth Paluck, Shepherd, H. (Rutgers University), and Aronow, P. (Yale University) published “Changing Climates of Conflict: A Social Network Experiment in 56 Schools,” in the Proceedings of the National Academy of Sciences. Despite a surge in policy and research attention to conflict and bullying among adolescents, there is little evidence to suggest that current interventions reduce school conflict. Using a large-scale field experiment, they show that it is possible to reduce conflict with a student-driven intervention. By encouraging a small set of students to take a public stance against typical forms of conflict at their school, their intervention reduced overall levels of conflict by an estimated 30%. Network analyses reveal that certain kinds of students (called “social referents”) have an outsized influence over social norms and behavior at the
school. The study demonstrates the power of peer influence for changing climates of conflict, and suggests which students to involve in those efforts. Theories of human behavior suggest that individuals attend to the behavior of certain people in their community to understand what is socially normative and adjust their own behavior in response. An experiment tested these theories by randomizing an anti-conflict intervention across 56 schools with 24,191 students. After comprehensively measuring every school’s social network, randomly selected seed groups of 20–32 students from randomly selected schools were assigned to an intervention that encouraged their public stance against conflict at school. Compared with control schools, disciplinary reports of student conflict at treatment schools were reduced by 30% over one year. The effect was stronger when the seed group contained more “social referent” students who, as network measures reveal, attract more student attention. Network analyses of peer-to-peer influence show that social referents spread perceptions of conflict as less socially normative.

In “Norm Perception as a Vehicle for Social Change,” published in Social Issues and Policy Review, Tankard, M. (RAND Corporation) and Paluck, E. ask how can we change social norms, the standards describing typical or desirable behavior? Because individuals’ perceptions of norms guide their personal behavior, influencing these perceptions is one way to create social change. And yet individuals do not form perceptions of typical or desirable behavior in an unbiased manner. Individuals attend to select sources of normative information, and their resulting perceptions rarely match actual rates of behavior in their environment. Thus, changing social norms requires an understanding of how individuals perceive norms in the first place. The authors describe three sources of information that people use to understand norms—individual behavior, summary information about a group, and institutional signals. Social change interventions have used each source to influence perceived norms and behaviors, including recycling, intimate-partner violence, and peer harassment. The authors discuss conditions under which influence over perceived norms is likely to be stronger, based on the source of the normative information and individuals’ relationship to the source. Finally, they point to future research and suggest when it is most appropriate to use a norm change strategy in the interest of behavior and social change.

Martinson, M. (University of Washington) and Tienda, M. published “Birthing, Nativity and Maternal Depression: Australia and the United States,” in International Migration Review. This study analyzes two birth cohort surveys, the Longitudinal Study of Australian Children and Early Childhood Longitudinal Study, to examine variation in maternal depression by nativity, duration of residence, age at migration, and English proficiency in Australia and the United States. Both countries have long immigrant traditions and a common language. The results demonstrate that U.S. immigrant mothers are significantly less depressed than native-born mothers, but maternal depression does not differ by nativity in Australia. Moreover, the association between duration of residence and maternal depression is not linear: Recent arrivals and long-term residents exhibit the highest depression levels. Lack of English proficiency exacerbates maternal depression in Australia, but protects against depression in the United States. Differences in immigration regimes and welfare systems likely contribute to the differing salience of nativity for maternal depression.

Marta Tienda authored “Economic Implications of Demographic Change: Diversity Dividend or Deficit?” which was published in Business Economics. The economic implications of demographic change depend on steadfast investments in research and development; replenishment of the human capital stock diminished by retiring Baby Boomers; and raising college attainment rates. This way the United States can leverage its diverse, fast-growing population to harness a demographic dividend—the productivity boost enabled by declining fertility—while also fueling economic growth, restocking the Social Security system, and bolstering global competitiveness.

1960, children from larger families obtained more education, in large part because they had richer and more educated parents. By century's end, these patterns had reversed. Consequently, fertility differentials by income and education historically raised the average education of the next generation, but they now reduce it. Relative to the level of average education, the positive effect of differential fertility in the past exceeded its negative effect in the present. While the reversal of differential fertility is unrelated to changes in GDP per capita, women's work, sectoral composition, or health, roughly half is attributable to rising aggregate education in the parents' generation. The data are consistent with a model in which fertility has a hump-shaped relationship with parental skill, due to a corner solution in which low-skill parents forgo investment in their children. As the returns to child investment rise, the peak of the relationship shifts to the left, reversing the associations under study.

Charles F. Westoff and Ejembi, C. (Ahmadu Bello University, Nigeria) published “Trends in Reproductive Behavior in Nigeria,” in DHS Further Analysis Reports No. 101. This study is based on three Demographic and Health Surveys conducted in Nigeria, in 2003, 2008, and 2013. The study was undertaken against the background of a persistently high rate of population growth in Nigeria, caused primarily by a high fertility rate that has shown few signs of decline. The United Nations medium population projection for Nigeria shows an increase from 282 million in 2015 to about 400 million by 2050, even with an assumed substantial decline in fertility. The present analysis explores the components and some of the covariates of fertility in Nigeria, recent trends, and potential future changes. One objective is to assess the extent to which various components of reproduction and their changes in Nigeria since 2003 can be explained at the macro level of the country’s 37 states as well as at the individual level. Trends in age at marriage, reproductive preferences, contraceptive use, teenage fertility, child mortality, and total fertility are described. The covariates of these reproductive components highlight the importance of women’s education, child mortality, monogamy, religion, and exposure to television and radio. Residence in the South of Nigeria is consistently associated with lower fertility. The most important determinants of fertility decline in Nigeria are increases in women’s education and decreases in child mortality. However, while declines in child mortality in recent years have been considerable, they have not yet translated into substantial declines in fertility, and increases in women’s education have been very slow.

“Between- and Within-Occupation Inequality: The Case of High-Status Professions,” published by Yu Xie, Killewald, A. (Harvard University) and Near, C. (University of Michigan), in The ANNALS of the American Academy of Political and Social Science. In this article, the authors present analyses of the roles of education and occupation in shaping trends in income inequality among college-educated workers in the United States, drawing data from two sources: (1) the 1960–2000 U.S. Censuses and (2) the 2006–2008 three-year American Community Survey. They also examine in detail historical trends in between-occupation and within-occupation income inequality for a small set of high-status professionals, with focused attention on the economic well-being of scientists. This research yields four findings. First, education premiums have increased. Second, between-occupation and within-occupation inequality increased at about the same rates for college graduates, so that the portion of inequality attributable to occupational differences remained constant. Third, scientists have lost ground relative to other similarly educated professionals. Fourth, trends in within-occupation inequality vary by occupation and education, making any sweeping summary of the roles of education and occupation in the overall increase in income inequality difficult.

Xu, H. (University of Michigan) and Xie, Y. published “Assessing the Effectiveness of Anchoring Vignettes in Bias Reduction for Socioeconomic Disparities in Self-Rated Health among Chinese Adults,” in Sociological Methodology. The authors investigate how reporting heterogeneity may bias socioeconomic and demographic disparities in self-rated general health, a widely used health indicator, and how such bias can be adjusted by using new anchoring vignettes designed in the 2012 wave of the China Family Panel Studies (CFPS). The authors find systematic variation by sociodemographic characteristics in thresholds used by respondents.
in rating their general health status. Such threshold shifts are often nonparallel in that the effect of a certain group characteristic on the shift is stronger at one level than another. They find that the resulting bias of measuring group differentials in self-rated health can be too substantial to be ignored. They demonstrate that the CFPS anchoring vignettes prove to be an effective survey instrument in obtaining bias-adjusted estimates of health disparities not only for the CFPS sample but also for an independent sample from the China Health and Retirement Longitudinal Study. Effective adjustment for reporting heterogeneity may require vignette administration only to a small subsample (20 percent to 30 percent of the full sample). Using a single vignette can be as effective as using more in terms of anchoring, but the results are sensitive to the choice of vignette design.

Migration and Development


Alicia Adserà and Ferrer, A. (University of Waterloo, Canada) published their article, “Occupational Skills and Labour Market Progression of Married Immigrant Women in Canada,” in Labour Economics. Using confidential files of the 1991-2006 Canadian Census, combined with information from O*NET on the skill requirements of jobs, they explore whether immigrant women behave as secondary workers, remaining marginally attached to the labour market and experiencing little career progression over time. The results show that the current labour market patterns of female immigrants to Canada do not fit this profile, as previous studies found, but rather conform to patterns recently exhibited by married native women elsewhere, with rising participation and wage progression. At best, only relatively uneducated immigrant women in unskilled occupations may fit the profile of secondary workers, with slow skill mobility and low-status job-traps. Educated immigrant women, on the other hand, experience skill assimilation over time: a reduction in physical strength and an increase in analytical skills required in their jobs relative to those of natives.

Rafaela Dancygier’s book, Dilemmas of Inclusion: Muslims in European Politics, is forthcoming. It states that as Europe’s Muslim communities continue to grow, so does their impact on electoral politics and the potential for inclusion dilemmas. In vote-rich enclaves, Muslim views on religion, tradition, and gender roles can deviate sharply from those of the majority electorate, generating severe trade-offs for parties seeking to broaden their coalitions. Dilemmas of Inclusion explains when and why European political parties include Muslim candidates and voters, revealing that the ways in which parties recruit this new electorate can have lasting consequences. Drawing on original evidence from thousands of electoral contests in Austria, Belgium, Germany, and Great Britain, Dancygier sheds new light on when minority recruitment will match up with existing party positions and uphold electoral alignments and when it will undermine party brands and shake up party systems. She demonstrates that when parties are seduced by the quick delivery of ethno-religious bloc votes, they undercut their ideological coherence, fail to establish programmatic linkages with Muslim voters, and miss their opportunity to build cross-ethnic, class-based coalitions. Dancygier highlights how the politics of minority inclusion can become a testing ground for parties, showing just how far their commitments to equality and diversity will take them when push comes to electoral shove. Providing a unified theoretical framework for understanding the causes and consequences of minority political incorporation, and especially as these pertain to European Muslim populations, Dilemmas of Inclusion advances our knowledge about how ethnic and religious diversity reshapes domestic politics in today’s democracies.
link between skin shade, perhaps the most noticeable phenotypical characteristic, and wages for immigrants from five regions: (1) Europe and Central Asia; (2) China, East Asia, South Asia, and the Pacific; (3) Latin America and the Caribbean; (4) Sub-Saharan Africa; and (5) the Middle East and North Africa. Using data from the New Immigrant Survey, a nationally representative multi-cohort longitudinal study of new legal immigrants to the United States, the authors found a skin shade penalty in wages for darker immigrants. However, disaggregating by region of origin shows that this finding is driven exclusively by the experience of immigrants from Latin America; the wage penalty for skin tone is substantial for self-reported nonblack Latin American immigrants. The effects of colorism are much less pronounced or nonexistent among other national-origin populations. Furthermore, although a skin shade penalty is not discernible among African immigrants, findings show that African immigrants experience a racial wage penalty.

Douglas Massey and an interdisciplinary team of researchers continue work on the Latin American Migration Project (LAMP). The Latin American Migration Project (LAMP) is a multidisciplinary research effort between investigators in various countries of Latin America and the United States. LAMP, which is currently based at Princeton University and the University of Guadalajara, was born in 1998 as an extension of the Mexican Migration Project (MMP). LAMP’s purpose is to extend this research to migration flows originating in other Latin American countries. LAMP started surveys in Puerto Rico, and expanded later with fieldwork carried in Dominican Republic, Haiti, Guatemala, Nicaragua, Costa Rica, El Salvador, Colombia, Ecuador, and Peru. In addition, a modified version of the LAMP survey was implemented in Paraguay to study migration from that country to Argentina. Most recently, using a revised version of the survey, fieldwork started in Uruguay in order to understand migration flows arriving to Uruguay from Cuba, Dominican Republic, Peru, and Venezuela. The LAMP allows to compare the characteristics and behavior of documented and undocumented migrants; understand the various migration flows emanating from these countries; and support longitudinal analysis on these migration processes (Roa Martinez ed., 2016).

“Why Border Enforcement Backfired,” written by Douglas S. Massey, Pren, K., Durand, J. (Centro de Investigación y Docencia Económicas) was published in American Journal of Sociology. In this article the authors undertake a systematic analysis of why border enforcement backfired as a strategy of immigration control in the United States. They argue theoretically that border enforcement emerged as a policy response to a moral panic about the perceived threat of Latino immigration to the United States propounded by self-interested bureaucrats, politicians, and pundits who sought to mobilize political and material resources for their own benefit. The end result was a self-perpetuating cycle of rising enforcement and increased apprehensions that resulted in the militarization of the border in a way that was disconnected from the actual size of the undocumented flow. Using an instrumental variable approach, they show how border militarization affected the behavior of unauthorized migrants and border outcomes to transform undocumented Mexican migration from a circular flow of male workers going to three states into an 11 million person population of settled families living in 50 states.

Intrator, J. (Applied Predictive Technologies), Tannen, J., and Massey, D. published “Segregation by Race and Income in the United States 1970-2010,” in Social Science Research. A systematic analysis of residential segregation and spatial interaction by income reveals that as income rises, minority access to integrated neighborhoods, higher levels of interaction with Whites, and more affluent neighbors also increase. However, the income payoffs are much lower for African Americans than other groups, especially Asians. Although Hispanics and Asians have always displayed declining levels of minority-white dissimilarity and rising levels of minority-white interaction with rising income, income differentials on these outcomes for Blacks did not appear until 1990 and since then have improved at a very slow pace. Given their higher overall levels of segregation and income’s limited effect on residential attainment, African Americans experience less integration, more neighborhood poverty at all levels of income compared to other minority groups. The degree of Black spatial disadvantage is especially acute in the nation’s 21 hypersegregated metropolitan areas.
The article, “The Precarious Position of Latino Immigrants in the United States: A Comparative Analysis of Ethnosurvey Data,” was published by Douglas Massey, Durand, J. (Centro de Investigación y Docencia Económicas), and Pren, K., in The ANNALS of the American Academy of Political and Social Science. A majority of Mexican and Central Americans living in the United States today are undocumented or living in a marginal, temporary legal status. This article is a comparative analysis of how Mexican and non-Mexican Latino immigrants fare in the U.S. labor market. The authors show that despite higher levels of human capital and a higher-class background among non-Mexican migrants, neither they nor Mexican migrants have fared very well in the United States. Over the past four decades, the real value of their wages has fallen across the board, and both Mexican and non-Mexican migrant workers experience wage penalties because they are in liminal legal categories. With Latinos now composing 17 percent of the U.S. population and 25 percent of births, the precariousness of their labor market position should be a great concern among those attending to the nation’s future.

“The Double Disadvantage: Unauthorized Mexicans in the U.S. Labor Market,” written by Durand, J. (Centro de Investigación y Docencia Económicas), Massey, D., and Pren, K. was published by the ANNALS of the American Academy of Political and Social Science. From 1988 to 2008, the United States’ undocumented population grew from 2 million to 12 million persons. It has since stabilized at around 11 million, a majority of whom are Mexican. As of this writing, some 60 percent of all Mexican immigrants in the United States are in the country illegally. This article analyzes the effect of being undocumented on sector of employment and wages earned in the United States. They show that illegal migrants are disproportionately channeled into the secondary labor market, where they experience a double disadvantage, earning systematically lower wages by virtue of working in the secondary sector and receiving an additional economic penalty because they are undocumented. Mexican immigrants, in particular, experienced a substantial decline in real wages between 1970 and 2010 attributable to their rising share of undocumented migrants in U.S. labor markets during a time when undocumented hiring was criminalized.

Donato, K. (Vanderbilt University) and Massey, D. published “Twenty-First-Century Globalization and Illegal Migration,” in the ANNALS of the American Academy of Political and Social Science. Also labeled undocumented, irregular, and unauthorized migration, illegal migration places immigrants in tenuous legal circumstances with limited rights and protections. The authors argue that illegal migration emerged as a structural feature of the second era of capitalist globalization, which emerged in the late twentieth century and was characterized by international market integration. Unlike the first era of capitalist globalization (1800 to 1929), the second era sees countries limiting and controlling international migration and creating a global economy in which all markets are globalized except for labor and human capital, giving rise to the relatively new phenomenon of illegal migration. Yet despite rampant inequalities in wealth and income between nations, only 3.1 percent of all people lived outside their country of birth in 2010. They expect this to change: threat evasion is replacing opportunity seeking as a motivation for international migration because of climate change and rising levels of civil violence in the world’s poorer nations. The potential for illegal migration is thus greater now than in the past, and more nations will be forced to grapple with growing populations in liminal legal statuses.

Douglas Massey’s article, “The Mexico-U.S. Border in the American Imagination,” was published by the Proceedings of the American Philosophical Society. The border between Mexico and the United States is not just a line on a map. Nor is it merely a neutral demarcation of territory between two friendly neighboring states. Rather, in the American imagination, it has become a symbolic boundary between the United States and a threatening world. It is not just a border but the border, and its enforcement has become a central means by which politicians signal their concern for citizens’ safety and security in a hostile world. It has become routine for politicians and pundits to call federal authorities to task for failing to "hold the line" against a variety of alien invaders—communists, criminals, narcotics traffickers, rapists, terrorists, even microbes.

In this paper, Massey offers a brief history of the Mexico-U.S. border as a symbolic demarcation in the American mind before discussing its rise to prominence in recent years. After documenting the
concrete expression of the border’s rising prominence in terms of the U.S. enforcement effort, he reviews the dysfunctional consequences of border enforcement as a public policy and conclude by considering why, after decades of obviously counterproductive results, defending the border continues to be such a potent political metaphor in American political discourse.

Douglas Massey, Rugh, J. (Brigham Young University), Steil, J. (Massachusetts Institute of Technology), Albright, L. (Northeastern University) published “Riding the Stagecoach to Hell: A Qualitative Analysis of Racial Discrimination in Mortgage Lending,” in *City & Community*. Recent studies have used statistical methods to show that minorities were more likely than equally qualified whites to receive high-cost, high-risk loans during the U.S. housing boom, evidence taken to suggest widespread discrimination in the mortgage lending industry. The evidence, however, was indirect, being inferred from racial differentials that persisted after controlling for other factors known to affect the terms of lending. Here they assemble a qualitative database to generate direct evidence of discrimination. Using a sample of 220 statements randomly selected from documents assembled in the course of recent fair lending lawsuits, they code texts for evidence of individual discrimination, structural discrimination, and potential discrimination in mortgage lending practices. The authors find that 76 percent of the texts indicated the existence of structural discrimination, with only 11 percent suggesting individual discrimination alone. They then present a sample of texts that were coded as discriminatory to reveal the way in which racial discrimination was embedded within the social structure of U.S. mortgage lending, and to reveal the specific microsocial mechanisms by which this discrimination was effected.

“International Migration under the Microscope,” written by Willekens, F. (Max Planck Institute for Demographic Research, Germany), Massey, D., Raymer, J. (Australia National University), and Beauchemin, C. (Institut National d’Études Démographiques, France), was published in *Science*. Although humanitarian crises, such as the ongoing mass exodus from Syria toward Europe, tend to focus global attention on migration, each year millions of people migrate to and from affected countries throughout the world. Progress has been made in understanding drivers of migration, and the authors have relatively good data on immigrant populations, but lack information on how many people leave their country each year to settle elsewhere and who these emigrants are. The impact of migration on the individual and on sending and receiving communities and countries is only partly understood. Economic effects can be very different from the impacts on society and culture; some gain from migration, whereas others lose. The lack of knowledge creates systemic risks and uncertainties and frustrates public debate and the formation of effective policies. As high-level leaders convene to discuss such issues at the first United Nations World Humanitarian Summit, they outline priorities for migration data collection, research, and training.

Much like the United States, Western Europe has experienced massive immigration in the last three decades. Spain, in particular, has been transformed from an immigrant-exporting country to one receiving hundreds of thousands of new immigrants. Today, almost 13 percent of the country’s population is foreign-born. *Spanish Legacies: The Coming of Age of the Second Generation*, was written by internationally known experts on immigration, Alejandro Portes, Aparicio, R. (Universidad Pontificia Comillas, Spain), and Haller, W. (Clemson University). The authors explore how the children of immigrants - the second generation - are coping with the challenges of adaptation to Spanish society, comparing their situation with that experienced by their peers in the United States. Using a rich data set based on both survey and ethnographic material, Spanish Legacies describes the experiences of growing up by the large population of second generation youths in Spain and the principal outcomes of the process - from national self-identification and experiences of discrimination to educational attainment and labor-market entry. The study is based on a sample of almost 7,000 second-generation students who were interviewed in Madrid and Barcelona in 2008 and then followed and re-interviewed four years later. A survey of immigrant parents, a replacement sample for lost respondents in the second survey, and a survey of native-parentage students complement this rich data set. Outcomes of the adaptation process in Spain are systematically presented in five chapters, introduced by real-life histories of selected respondents drawn by the study’s ethnographic module. Systematic comparisons with results from the United States show a number of
surprising similarities in the adaptation of children of immigrants in both countries, as well as differences marked by contrasting experiences of discrimination, self-identities, and ambition.

In the article, “International Migration and National Development from Orthodox Equilibrium to Transnationalism,” published in Sociology of Development, Alejandro Portes reviews theoretical perspectives on migration and development, starting with nineteenth-century political economy theories focused on “colonizing” migrations from England and other European powers and concluding with the emerging literature on immigrant transnationalism and its consequences for sending nations. The general concept of equilibrium has until currently dominated orthodox economic theories of both colonizing and labor migrations from peripheral regions to advanced nations. The counteroffensive, led by Gunnar Myrdal and theorists of the dependency school, centered on the notion of cumulative causation leading to increasing poverty and the depopulation of peripheral sending areas. Both perspectives registered numerous empirical anomalies, stemming from a common view of migration flows as occurring between separate politico-economic entities. An alternative conceptualization of such flows as internal to an overarching global system has improved our understanding of causes and consequences of labor migration and has framed the back-and-forth complexities of these movements captured in the novel notion of transnationalism.

Maria Medvedeva (Princeton University, Princeton Writing Program) and Alejandro Portes’ study, “Immigrant Bilingualism in Spain: An Asset or a Liability Quercus?” published in International Migration Review looks at the ongoing debate about bilingual advantage and examines whether bilingual immigrant youths fare better, as well as, or worse academically than the matching group of monolinguals. Using data from Spain, where close to half of immigrants speak Spanish as their native language, they found no evidence of costs of bilingualism: bilingual youths did benefit from their linguistic skills. Their advantage, however, manifested itself not uniformly across discrete outcomes, but in a direct trajectory toward higher educational attainment. Bilingualism neutralized the possible negative effect of ethnic origins and extended the positive effect of high parental

Magaly Sanchez-R’s project, “International Migration of High Skills Educated and Talent to United States,” is advancing the coding analysis of data. Qualitative data was collected from in-depth interviews with 150 immigrants from different places throughout the world, as well with other key actors in private corporations, policy makers and academia. Principal aspects of the data contain information on in-security and quality-of-life conditions, social services access, global market competition, integration and identity, and diversity and knowledge. After finishing coding from Venezuelans interviews, she is proceeding with Latino, European, Asian and Arabs HSE Interviews coding. Whereas simultaneously she is advancing the analysis for future publication.

Attending by invitation of Dauphine University and La Maison des Sciences de l Homme Paris North, Magaly Sanchez-R participated at the Seminar Global Climate Change, Violent conflicts and International Migration MSH-PN, September 30 Paris where she presented her contribution in the area of global climate change as an opening speaker. Magaly Sanchez-R’s talk in the area of global climate change, violent conflicts and international migration referred to a major concern focused on the repercussions of global climate change for future international migration, as well as for potential conflicts and violence steaming from natural resource alterations. Areas of the world with major vulnerabilities are already exposed to significant side effects from global atmospheric changes, such as high temperatures, desertification, excessive rain, flooding just to refer to likely consequences. Understanding the alarming problems that could emerge, and considering as unprecedented experience, constitutes a serious challenge. Nevertheless, given the seriousness of the issue she calls to an attentive position that should consider the maximum number of possible scenarios.

Magaly Sanchez R, gave a lecture, “Violence Criminelle et Politique a l’origine de la Migration International des personnes très qualifiés. Le cas du Venezuela, at la Ecole des Hautes Etudes en Sciences Sociales EHESS in Paris. In this lecture she accentuated her analysis on the progression of the criminal violence and the complexity of
connections with the political violence, the progressive authoritarianism from the National State, the severe humanitarian crisis and how all this collapse is affecting the majority of population with high cost in terms of human capital.

Magaly Sanchez-R was a featured speaker at the James Madison Program in American Ideals and Institutions Conference, Human Rights in the Americas: Are We Serious? Princeton University, May 6, 2016. Sanchez-R, presented “Humanitarian Crisis in Venezuela: Some Indicators” to illustrate how the situation in Venezuela has been fast declining to the point of a humanitarian crisis and total collapse of the system, with never-seen-before indicators. Given this situation, the official discourse promoted by the Executive continues to deny the crisis and reject the severity of the situation. Accepting the crisis would denote a failed model. Alternatively, the Executive power continues to blame an “economic war” advanced by the “American empire.” Using several demographics indicators, she demonstrated the severity of the humanitarian crisis, proving how the political and socio-economic model imposed in Venezuela 18 years ago has failed, and this collapse is express in the already-growing social crisis in the country, with levels of poverty of 73% in 2016.

At the International Congress of the Latin American Studies Association (LASA) 2016, Magaly Sanchez-R’s presentation, “The Fuzzy Relations between Criminal Economy, Social Actors and National States: Venezuela Scenario,” argues how in Venezuela recent national and international incidents in Venezuela have demonstrated the blurry relations between key political and military actors and the cartels of the criminal economy. In the context of violence and non-control of it, the impunity and expansion of human rights violation by military forces and the fight between paramilitary groups created anarchy, and the total disappearance of quality of life, creating a massive emigration of Venezuelan as well as a forced deportation of Venezuelans-Colombians by the state and military.

Magaly Sanchez-R, in coordination with Karen Pren, Boriana Pratt, and Dawn Koffman made public in the Data Archives of OPR, the quantitative data that resulted from the application of the LAMP’s ethno survey questionnaire to a selected sample of Venezuelan immigrants. The first data collection effort used a snowball sampling strategy and applied a modified ethno survey schedule to Venezuelan immigrants located in areas of Venezuelan settlement throughout the United States. Although Ethno surveys usually originate in sending communities and only later expand to include interviews in destination Areas. Venezuela’s present insecurity and political turmoil made sending-side surveys impossible. Although most Interviews were carried out among Venezuelans living in the United States, a few were conducted with Venezuelan residents of other countries. http://opr.princeton.edu/archive/hse/

Marta Tienda has been working on several papers about intermarriage that focus on variations by nativity, age at migration and marriage markets. During her sabbatical, she successfully revised three manuscripts, two of which are forthcoming and another that is undergoing a second revision. In addition, she began a fourth paper about intermarriage that examines how Hispanics’ multiracial identities play out in intermarriage behavior.
2016 Publications

Working Papers

Center for Health and Wellbeing

August 2016

Angus Deaton, Nancy Cartwright, “Understanding and Misunderstanding Randomized Controlled Trials.”

December 2016

Tom Vogl, Marcos A. Rangel, “Agricultural Fires and Infant Health.”

Tom Vogl, Shoumitro Chatterjee, “Growth and Childbearing in the Short-and Long-Run.”

Center for Research on Child Wellbeing

CRCW Working Paper WP16-02-FF
Bruns, Angela, “Partner Incarceration and Women's Nonstandard Work Arrangements.”

CRCW Working Paper WP16-03-FF
Bruns, Angela, The Impact of Partner Incarceration on Women's School Completion.”

CRCW Working Paper WP16-04-FF
Jacobsen, Wade, Pace, Garrett and Ramirez, Nayan, “Punishment and Inequality at an Early Age: Exclusionary Discipline in Elementary School.”

CRCW Working Paper WP16-05-FF
Mincy, Ronald, Pouny, Hillard and Zilanawala, Afshin, “Race, Romance and Nonresident Father Involvement Resilience: Differences by types of involvement.”

CRCW Working Paper WP16-07-FF
Wynn, Colleen, “Paternal Multipartner Fertility and Child Neighborhood Disorder.”

CRCW Working Paper WP16-08-FF
Schofield, Thomas, Merrick, Melissa and Chen, Chia-Feng, “Reciprocal Associations between Neighborhood Context and Parent Investments: Selection Effects in Two Longitudinal Samples.”

CRCW Working Paper WP16-09-FF

Publications and Papers


Dixon, A.R. "Where Discrimination Lives:


Koss, K.J., Cummings, E.M., Davies, P.T., and Cicchetti, D. "Patterns of Adolescent Regulatory Responses during Family Conflict and Mental Health Trajectories." *Journal of...
2016 Publications

Massey, D.S. "Incidencia de la Violencia y las Redes Sociales en la Migración de Colombianos." In Migración Internacionales: Patrones y...
Determinantes, edited by M.G.R. Martínez. 
Metcalf, C.J., and Barrett, A. "Invasion Dynamics of Teratogenic Infection in Light of Rubella Control: Implications for Zika Virus." PLoS Currents Outbreaks, doi:10.1371/currents.outbreaks.873427b89ab9c75eb90c8db8d8c7c90. 2016.


2016 Publications


Training in Demography at Princeton

Demography has been a topic for graduate study at Princeton since the founding of the Office of Population Research (OPR) in 1936. The field encompasses a wide range of specializations, including substantive and methodological subjects in the social, mathematical, and biological sciences. Research at OPR is characterized by six signature themes: (1) biosocial interactions, (2) children, youth, and families, (3) data and methods, (4) education and stratification, (5) health and wellbeing, and (6) migration and development. OPR faculty associates have broad interests that extend far beyond conventional topics in population analysis. For example, areas of current research among OPR faculty include: poverty and child wellbeing, the biological and socioeconomic correlates of aging and health, population and the environment, reproductive health and technology, family structure, migration and development, epigenetics, biodemography, social epidemiology, and web-based experimentation. Teaching and research specializations are focused on both industrialized countries (primarily the U.S.) and developing nations.

The extensive breadth of research is facilitated by OPR’s links with several other research organizations. The OPR is home to the Bendheim-Thoman Center for Research on Child Wellbeing (CRCW), and it is closely affiliated with the Center for Health and Wellbeing (CHW) and the Center for Migration and Development (CMD).

The program offers four levels of certification in demography available to students enrolled at Princeton: the Ph.D. in Demography, a Department Degree with Specialization in Population, a Joint-Degree Program in Demography and Social Policy (JDP), and a Certificate in Demography.

Ph.D. in Demography

A small number of entering graduate students with a strong interest in population and a strong quantitative background, often in statistics, mathematics, or environmental sciences (though not limited to these fields), will be accepted into a course of study leading to a Ph.D. in Demography. For the Program in Population Studies, applicants are required to submit scores from the Graduate Record Exam (GRE), and for those students whose native language is not English and who have not had advanced training at an English-speaking institution, the Test of English as a Foreign Language (TOEFL) is also required. Application should be made to Population Studies (POP).

As part of this program of graduate training, students are required to demonstrate basic competence in mathematics and statistics, as well as mastery of demography and a related discipline (e.g., sociology, economics, or social policy). Specific requirements include completion of the General Examination, a research paper of publishable quality, and the Ph.D. dissertation. The General Examination consists of three examinations, usually taken over the course of two years, in which the student must demonstrate proficiency in basic demographic theory and methods as well as proficiency in two of the following fields of concentration: economic demography, family demography, fertility/fecundity, health, historical demography, mathematical/statistical demography, migration/immigration, mortality, population and development, population and environment, population policy, poverty/child wellbeing, and urbanization. More detailed information on degree requirements may be obtained from the Director of Graduate Studies or the Graduate Program Administrator.

Departmental Degree with Specialization in Population

The majority of students who study at the OPR are doctoral candidates in the Department of Sociology who choose to specialize in population. To do so, they must complete the general examination in demography and write a dissertation on a demographic subject, supervised by program faculty, as part of their departmental requirements. The degree earned would be a Ph.D. in the discipline, e.g. Sociology.
Joint Degree Program

Students interested in social policy who initially apply to the Joint Degree Program in Social Policy (JDP) may earn a joint degree in Demography and Social Policy. To qualify for a joint degree, the student must fulfill all home departmental requirements, including passing the general examination in demography and writing a dissertation on a topic related to the study of population. In addition, the candidate for the joint degree must pass a general examination in one additional specialized field of population beyond what is required for the standard departmental degree. Permission to do the joint degree is obtained from the Director of Graduate Studies for the Program in Population Studies. It is not necessary to apply for the JDP as part of the application to Princeton. The decision to apply for the joint degree is usually made by students during their second or third year of study.

Certificate in Demography

The Office of Population Research, in connection with the Program in Population Studies, offers a non-degree Certificate in Demography to those who successfully complete four graduate courses in population studies: POP 501/ECO 571/SOC 531, POP 502/ECO 572/SOC 532, one Independent Reading course (POP 700 level), and one elective course pertaining to some aspect of population. The first two are the basic graduate courses in demography: POP 501 is offered in the fall semester and is a prerequisite for POP 502, which is offered in the spring semester. The Independent Reading course entails the completion of an individual or joint research project, under the supervision of an OPR faculty or research staff member. A decision on the fourth course is made together with the Director of Graduate Studies. Applicants are usually enrolled MPA students from the Woodrow Wilson School. The certificate program is intended primarily for training scholars from other disciplines and does not lead to an advanced degree at Princeton.

Training Resources

Training opportunities at the Office of Population Research are enhanced by the strength of its resources, such as The Ansley J. Coale Population Research Collection in the Donald E. Stokes Library, located in Wallace Hall, the home of OPR. It is one of the oldest demography libraries in the world. Founded as OPR's specialized research library, it is now a special library in the Princeton University Library system. The Coale Collection is considered to be the premier collection of demographic material in the country. The highly trained library staff provides superb support to students, assisting them in conducting literature searches of all pertinent databases, tracking and obtaining pertinent material through interlibrary loans, and conducting training classes for students who are interested in learning the latest technological advances in library science to assist them in their research.

The OPR is also home to the Bendheim-Thoman Center for Research on Child Wellbeing (CRCW); additional information about CRCW is available on the OPR website at http://crcw.princeton.edu/. The OPR is also affiliated with the Center for Health and Wellbeing (CHW) and the Center for Migration and Development (CMD). Additional information about CHW is available at http://www.princeton.edu/chw/, and for CMD, at https://cmd.princeton.edu. These centers are fully accessible and utilized by OPR graduate students and visiting scholars and provide excellent funding and research opportunities, conferences, and seminars.

OPR faculty and students organize several lecture series. The Notestein Seminars is a weekly formal seminar given both by distinguished outside speakers and by staff and students of the OPR. The students also organize their own brownbag seminar series in a less formal setting in which they present works in progress or discuss the development of ideas for research topics. The CRCW hosts a regular weekly working group luncheon; the CMD organizes a colloquium series. The CHW holds regular weekly afternoon lectures, as well as co-hosts seminars with other centers and programs. Conferences hosted by the various centers also provide excellent opportunities for trainees to gain familiarity with both the most current research and the leading researchers in the field.
Courses

**POP 501/ECO 571/SOC 531**  
*Survey of Population Problems*  
*Noreen Goldman*  
This course is the first part of a two-course graduate sequence in demography. Students survey past and current trends in the growth of the population of the world and of selected regions and conduct analysis of the components of growth and their determinants and of the social and economic consequences of population change.

**POP 502/ECO 572/SOC 532**  
*Research Methods in Demography*  
*Germán Rodríguez*  
This course is the second part of a two-course graduate sequence in demography. It covers methods used in the study of population, including rates and standardization; techniques designed for the analysis of mortality, nuptiality, and fertility; deterministic and stochastic approaches to population projections; the stationary and stable population models and their application. We pay attention to data quality, and consider survey data as well as vital registration and censuses. The course focuses on classic demographic approaches with pointers to relevant statistical methods where appropriate.

**POP 503**  
*Evaluation of Demographic Research*  
*Noreen Goldman*  
This course is designed for doctoral students in their third year of a specialization in demography. One objective of the course is to examine critically how researchers tackle demographic research questions. A second related goal is to explore the construction of a dissertation and a research paper.

**POP 506/SOC 506**  
*Research Ethics and Scientific Integrity*  
*Elizabeth Armstrong, Harold Shapiro*  
This course examines the ethical issues arising in the context of scientific research. It evaluates the role and responsibilities of professional researchers in dealing with plagiarism, fraud, conflict over authorial credit, and ownership of data. In addition, it undertakes a broader inquiry into conceptions of professional integrity, and the responsibilities that scientists have to their research subjects, to their students and apprentices, as well as to society at large.

**POP 507/WWS 509 /ECO 509**  
*Generalized Linear Statistical Models*  
*Germán Rodríguez*  
The analysis of survey data using generalized linear statistical models. The course begins with a review of linear models for continuous responses and then considers logistic regression models for binary data and log-linear models for count data, including rates and contingency tables and hazard models for duration data. Attention is given to the logical and mathematical foundations of the techniques, but the main emphasis is on the applications, including computer usage.

**POP 508/WWS 598**  
*Epidemiology*  
*Noreen Goldman*  
This course focuses on the measurement of health status, illness occurrence, mortality and impact of associated risk factors; techniques for design, analysis and interpretation of epidemiologic research studies; sources of bias and confounding; and causal inference. Other topics include foundations of modern epidemiology, the epidemiologic transition, reemergence of infectious disease, social inequalities in health, and ethical issues. Course examines bridging of “individual-centered” epidemiology and “macro-epidemiology” to recognize social, economic and cultural context, assess impacts on populations, and provide inputs for public health and health policy.

**POP 509**  
*Survival Analysis*  
*Germán Rodríguez*  
This course focuses on statistical analysis of time-to-event or survival data, introduces hazard & survival functions, censoring mechanisms, parametric & non-parametric estimation, and comparison of survival curves. The course covers continuous and discrete-time regression models, with emphasis on Cox's proportional hazards model and partial likelihood estimation, and discusses competing risk models, unobserved heterogeneity, and multivariate survival models including event history analysis. The course emphasizes basic concepts and techniques as well as social science applications.

**POP 510**
**Multilevel Models**  
*Germán Rodríguez*

This course is an introduction to statistical methods for the analysis of multilevel data, such as data on children, families, and neighborhoods. The course reviews fixed- and random-effects models for clustered and longitudinal data; presents multilevel random-intercept and random-slope models; discusses model fitting and interpretation, centering and estimation of cross-level interactions, and includes extensions to binary and count data using maximum likelihood and Bayesian methods. The course emphasizes practical applications using the multilevel package MLwiN.

**Pertinent Courses in Allied Departments**

**ECO 503**  
*Macroeconomic Theory I*  
*Richard Rogerson*

First term of a two-term sequence in macroeconomics. Topics include consumption, saving, and investment; real interest rates and asset prices; long-term economic growth; money and inflation; and econometric methods for macroeconomics.

**ECO 513**  
*Advanced Econometrics: Time Series Models*  
*Ulrich K. Mueller, Mark W. Watson*

Concepts and methods of time series analysis and their applications to economics. Time series models to be studied include simultaneous stochastic equations, VAR, ARIMA, and statespace models. Methods to analyze trends, second moment properties via the auto covariance function and the spectral density function, methods of estimation and hypothesis testing and of model selection will be presented. Kalman filter and applications as well as unit roots, cointegration, ARCH, and structural breaks models are also studied.

**ECO 517**  
*Econometric Theory I*  
*Christopher A. Sims*

A first-year course in the first-year econometrics sequence: it is divided into two parts. The first gives students the necessary background in probability theory and statistics. Topics include definitions and axioms of probability, moments, some univariate distributions, the multivariate normal distribution, sampling distributions, introduction to asymptotic theory, estimation and testing. The second part introduces the linear regression model and develops associated tools. Properties of the ordinary least squares estimator will be studied in detail and a number of tests developed.

**ECO 518**  
*Econometric Theory II*  
*Kirill Evdokimov, Ulrich K. Mueller*

This course begins with extensions of the linear model in several directions: (1) pre-determined but not exogenous regressors; (2) heteroskedasticity and serial correlation; (3) classical GLS; (4) instrumental variables and generalized method of movements estimators. Applications include simultaneous equation models, VARS and panel data. Estimation and inference in non-linear models are discussed. Applications include nonlinear least squares, discrete dependent variables (probit, logit, etc.), problems of censoring, truncation and sample selection, and models for duration data.

**ECO 531**  
*Economics of Labor*  
*Will S. Dobbie, Henry S. Farber, Alexandre Mas*

An examination of the economics of the labor market, especially the forces determining the supply of and demand for labor, the level of unemployment, labor mobility, the structure of relative wages, and the general level of wages.

**ECO 532**  
*Topics in Labor Economics*  
*Orley C. Ashenfelter, Alexandre Mas*

The course surveys both the theoretical literature and the relevant empirical methods and results in selected current research topics in labor economics.

**ECO 562**  
*Economic Development I*  
*Anne Case*

An examination of those areas in the economic analysis of development where there have been recent analytical or empirical advances. Emphasis is given to the formulation of theoretical models and econometric analysis and testing. Topics covered include models of household/farm behavior, savings behavior, equity and efficiency in pricing policy, project evaluation, measurement of
poverty and inequality, and the analysis of commodity prices.

**ECO 563**  
**Economic Development II**  
*Anne C. Case, Angus S. Deaton*  
Selected topics in the economic analysis of development beyond those covered in 562. Topics are selected from the theory and measurement of poverty and inequality; the relationship between growth and poverty; health and education in economic development; saving, growth, population, and development; commodity prices in economic development.

**ECO 565**  
**Health Economics I**  
*Janet M. Currie, Angus S. Deaton*  
Examines health issues in both developed and developing countries. Specific topics include the evolution of health over the life course; the fetal origins hypothesis; the two-way links between socioeconomic status and health; the impact of social safety nets on health outcomes; environmental threats to children's health and development; health insurance and its effects on health; the industrial organization of health care delivery; and the relationship between health and economic growth.

**ECO 566**  
**Health Economics II**  
*Anne C. Case, Angus S. Deaton*  
Examines issues in global health. Specific topics include effects of health on growth and development; health, nutrition and productivity; the relationship between health and height; the relationship between education and health; structural problems in health service delivery in developing countries; and the impact of the AIDS crisis on economic wellbeing; measurement of health and well-being around the world. Prerequisites: PhD-level microeconomics and econometrics.

**POL 572**  
**Quantitative Analysis II**  
*Kosuke Imai*  
This course builds upon POL 571 and introduces students to applied regression analysis in cross-section settings. It begins with the basic principles of statistical inference, and then covers various statistical techniques including linear regression, instrumental variables, structural equation models, maximum likelihood estimation, and discrete choice models. The materials are taught at the level of Hayashi's Econometrics, and Freedman's Statistical Methods. Prerequisite: POL 502 (or permission of instructor) and POL 571.

**POL 574**  
**Quantitative Analysis IV**  
*John B. Londregan*  
An introduction to the basic analytical and computational tools of applied Bayesian statistics. Methods covered include multi-level models, mixture modeling, Bayesian model averaging, and models for missing data and causal inference; computational tools taught include the EM algorithm and the Markov chain Monte Carlo algorithms. Goal of the course is to enable students to build and implement their own model in order to answer a particular research question. Course may be of interest to those in disciplines outside of political science who need to learn the basics of applied Bayesian statistics.

**SOC 500**  
**Applied Social Statistics**  
*Brandon M. Stewart*  
An introduction to basic concepts in probability and statistics with applications to social research. We cover descriptive statistics, sampling distributions, statistical inference for means and proportions (including point estimation, confidence intervals and tests of hypotheses), the comparison of two or more groups, and an introduction to analysis of variance and linear regression. Throughout the course we use the open-source statistical package R to illustrate and apply the techniques. The course is intended to prepare students to take Advanced Social Statistics the following term.
**Advanced Social Statistics**  
*Brandon M. Stewart*  
Thorough examination of the linear regression model with a focus on both the theory underlying the model and the application of regression using contemporary software. Topics include 1) probability theory underlying statistical modeling and hypothesis testing in general, 2) assumptions underlying the linear model, 3) estimation of the model via least squares, maximum likelihood, and Bayesian approaches, 4) diagnosing violations of assumptions, assessing the consequences of violations, and remedying them, and 5) extending the model and estimation methods to other data settings.

**SOC 505**  
**Research Seminar in Empirical Investigation**  
*Dalton Conley*  
Preparation of research papers based on field observation, laboratory experiments, survey procedures, and secondary analysis of existing data banks.

**WWS 507C**  
**Quantitative Analysis (Advanced)**  
*Eduardo Morales*  
Statistical analysis with applications to public policy. The course begins with an introduction to probability theory followed by discussion of statistical methods for estimating the quantitative effects of changes in policy variables. Regression methods appropriate for the analysis of observational data and data from randomized controlled experiments are stressed. The basic level (507B) assumes a fluency in high school algebra and some familiarity with calculus, while the advanced level (507C) assumes a fluency in calculus.

**WWS 508C**  
**Econometrics and Public Policy (Advanced)**  
*Tom S. Vogl*  
Discusses the main tools of econometric analysis, and the way in which they are applied to a range of problems in social science. Emphasis is on using techniques, and on understanding and critically assessing others' use of them. There is a great deal of practical work on the computer using a range of data from around the world. Topics include regression analysis, with a focus on regression as a tool for analyzing non-experimental data, discrete choice, and an introduction to time series analysis. There are applications from macroeconomics, policy evaluation, and economic development. Prerequisite: grounding in topics covered in 507c.

**WWS 511C**  
**Microeconomic Analysis (Advanced)**  
*Christopher A. Neilson*  
This course is an introduction to the use of microeconomics for the analysis of public policy on an advanced level. The emphasis is on both the intuitive and formal logic of economic principles, a deeper perspective on the impacts of typical policy measures, and an introduction to the use of professional microeconomic tools to assess and weigh these policy impacts. One goal is to move students towards the ability to read professional microeconomic literature with appreciation of both its contributions and foibles.

**WWS 511D**  
**Microeconomics Analysis (Accelerated)**  
*Marc Fleurbaey*  
Course covers many key concepts from microeconomic theory, including consumer and producer theory, competitive markets, market power, information and contracts. Emphasis of the course is on developing a formal, model-based treatment of these subjects and applying them to various relevant policy issues. The course is intended for those students who are already familiar with microeconomic concepts (at the level of 511c) and have an appropriate level of mathematical proficiency, including knowledge of multivariate calculus (including constrained optimization), basic probability, and some familiarity with linear algebra.

**WWS 512C**  
**Macroeconomic Analysis (Advanced)**  
*Roland J. Benabou*  
Course offers a broad treatment of macroeconomic theory and policy issues, using the formal methods of modern macroeconomics. Topics will include long-run growth and development, labor, consumption, savings and investment decisions, the role of expectations, short-run fluctuations and stabilization policy, inflation and unemployment, trade and exchange rates. The course is advanced, so that: (i) having had some introductory course in macroeconomics is a prerequisite, and an intermediate-level one is best; (ii) the course requires a solid command of microeconomic theory
(511 c or d) and good comfort with algebra and calculus.

WWS 515B
Program and Policy Evaluation
Jean B. Grossman
This course introduces students to evaluation. It explores ways to develop and implement research based program improvement strategies and program accountability systems; to judge the effects of policies and programs; and to assess the benefits and costs of policy or program changes. Students study a wide range of evaluation tools; read and discuss both domestic and international evaluation examples and apply this knowledge by designing several different types of evaluations on programs of their choosing.

WWS 515C
Program and Policy Evaluation – Impact Evaluation Tools
Lorenzo Moreno
This course presents tools for designing, implementing, and analyzing impact evaluations from a practitioner’s perspective. It explores real-world problems and practical limitations frequently encountered in conducting evaluations and methodological tools to address them. Topics include program operation rules and their implications for design choice, process and standards for assessing evidence, challenges to randomization, sample size determination, complex sample design, and construction of analytic and nonresponse weights. Students will practice addressing these issues through a series of case studies and analytic exercises.

WWS 537/ SOC 537
Social Organization of Cities
Douglas S. Massey
A review of the historical emergence and social evolution of cities and urban life. Course presents current theories regarding the ecological and social structure of urban areas, and how urban social organization affects the behavior and well-being of human beings who live and work in cities.

WWS 562C
Economic Analysis of Development (Advanced)
Anne C. Case
Considers theories and evidence to explain processes of economic development; examines theories of economic growth, and the two-way links between development and poverty, inequality, social institutions, and the family. Policy debates on education, health, and social policy, and governmental and international aid are also covered.

WWS 564 /POP 504
Poverty, Inequality and Health in the World Enrollment
Angus S. Deaton
About well-being throughout the world, with focus on income and health. Explores what happened to poverty, inequality, and health, in the US, and internationally. Discusses conceptual foundations of national and global measures of inequality, poverty, and health; construction of measures, and extent to which they can be trusted; relationship between globalization, poverty, and health, historically and currently. Examines links between health and income, why poor people are less healthy and live less long than rich people.

WWS 571C
Topics in Development: Challenges of Infection, Burden and Control
Bryan T. Grenfell, Adel A. Mahmoud
An exploration of the biological, public health and global dimensions of infectious disease. The basic features of human–microbe interactions by examining several viral, bacterial and parasitic infections are analyzed. Emphasis includes biology, burden of illness and domestic and global forces shaping the expanding threat. Control strategies, including chemotherapy, vaccines and environmental changes; and the role of international organizations such as WHO, UNICEF, and GAVI and the major philanthropies, are considered.

WWS 582A
Topics in Applied Economics – Urban Economics
Esteban A. Rossi-Hansberg
This is a course in urban and regional economics. Course studies the main economic forces that lead to the emergence of cities and regional agglomeration, and the effects on worker productivity, urban amenities, and congestion. Course discusses the problems in measuring these urban characteristics, the methodologies to do it, as well as the design of optimal urban policy. Course also studies the economic theory and evidence on the internal structure of cities, as well
Finally, the course analyzes the role cities play in aggregate economic development.

**WWS 590A / ECO 581L**

**Economic Perspective on Inequality (Half-Term)**

Anne M Piehl

Economics is centrally concerned with models of human capital development, educational attainment, labor market dynamics, unemployment, labor turnover, job duration, wage setting institutions, the role of unions, human capital formation, the relationship between economic status and other aspects of well-being (including health). Economists are essential partners in the behavioral study of preferences and decision making, mobility and redistribution, and the institutions of industrial relations that govern the labor market.

**WWS 590B / POL 598**

**Politics of Inequality and Redistribution**

Rafaela M. Dancygier, Thomas Romer

Study of policy preferences, differential rates of political participation, voting behavior, legislative process, political communication, urban politics and role of race in US political life are central to study of inequality in politics. Though the American case will feature prominently, we will approach issues from a comparative perspective. Thus the course provides introduction to comparative study of welfare states and political economy of advanced industrial countries, including regulation of labor markets and relationship between wage inequality, income distribution and policy preferences for redistribution and social protection.

**WWS 590C / SOC 571**

**Sociological Studies of Inequality**

Douglas S. Massey

This segment of the JDP seminar covers theory and research on social stratification, the major subfield in sociology that focuses on inequality. Course begins by reviewing major theories, constructs, measures, and empirical work on inequality. Weeks two through six focus on institutions that are expected to produce (and reproduce) inequalities, including families, neighborhoods, schools, labor markets, and penal policy.

**WWS 590D**

**Psychological Studies of Inequality**

Susan T. Fiske

Two major areas of psychology make important contributions to the study of social policy and inequality. The first is social psychology, which focuses on inter-group relations, interpersonal perception, stereotyping, racism, aggression, justice and fairness. These are the micro-level building blocks of structural inequalities and processes that are shaped by the larger context of race, ethnic and gender relations. The second domain involves the fields of social-cognition, judgment and decision making, areas of research that study human information processing in a way that is not about individual differences, and often not social.

**WWS 590S**

**Workshop in Social Policy**

Sara McLanahan

A course required for and limited to students in the Joint Degree program in Social Policy. Papers drafted in the year-long course WWS 590a,b,c,d must be revised and submitted to the workshop leader by August 20. Papers will be provided to an expert reader outside of the Princeton faculty, who is invited to join the seminar for sessions devoted to each student paper. Each student will present his/her own paper and simultaneously contribute written critiques of one another’s papers. By the end of the term, students will be required to submit their papers for publication to a leading journal.

**WWS 593A**

**Topics in Policy Analysis (Half-Term) - Lessons from OECD Social Policies**

Alicia Adserá

This course focuses on the opportunities, constraints and roles of women in an increasingly interdependent economy. Topics will include: dynamics & causes of fertility changes & household formation; maternal & infant health; gender & labor market institutions--types of contracts, informality, wage gaps & discrimination, unpaid work; intra-household allocation of resources & differential mortality rates; women's migration--selection & outcomes at destination, family reunification, remittances; differential access to education & health; credit market; & political & property rights.

**WWS 593B/POP 504B**
Topics in Policy Analysis (Half-Term) - Reproductive Health and Reproductive Rights
James Trussell
This course examines selected topics in reproductive health, with primary emphasis on contemporary domestic issues in the United States—such as unintended pregnancy, abortion, adolescent pregnancy, and sexually transmitted infection—but within the context of the international agenda on reproductive rights established in the 1994 Cairo International Conference on Population and Development.

WWS 593C
Topics in Policy Analysis (Half-Term): Game Theory and Strategy
Sylvain Chassang
Introduces some basics about game theory (and perhaps debunk a few myths fostered by the movie "A Beautiful Mind"). Course is designed around the structure of game theoretic models, building from the simple ones to the more sophisticated. At each stage the emphasis will be on applications. These include models of oligopoly, bargaining, military conflict, legislative voting, and the design of the rules under which to negotiate, vote, or hold an auction.

WWS 593E/SOC 585
Topics in Policy Analysis (Half-Term) - Surveys, Polls and Public Policy
Edward P. Freeland
Course aims to improve students' abilities to understand and critically evaluate public opinion polls and surveys, particularly as they are used to influence public policy. Course begins with an overview of contrasting perspectives on the role of public opinion in politics, then examines the evolution of public opinion polling in the US and other countries. Class visits a major polling in the US and other countries. Class visits a major polling operation to get a firsthand look at procedures used for designing representative samples and conducting surveys by telephone, mail and Internet.

WWS 593G
Topics in Policy Analysis (Half-Term) - Surveys, Polls and Public Policy
Marc Fleurbaey
The course presents the economic concepts involved in the evaluation of the socio-economic effects of public policies. It shows how concrete measures and indicators are grounded on ethical principles. It is organized around central ethical debates: Is there an efficiency-equity trade-off? Are there legitimate inequalities? How much priority should be given to the worse-off? Are interpersonal comparisons of well-being impossible? Why not maximize happiness? Should we discount future generations?

WWS 594A
Topics in Policy Analysis (Half-Term) – Policymaking in Diverse Societies
Rafaela M. Dancygier
This course investigates how ethnic diversity influences the policymaking process in democratic societies, with a focus on Europe and the United States. We will first address why and how ethnic diversity shapes individuals' and groups' beliefs, preferences, and behaviors in ways that shape the formulation of policy. Next the course will examine the consequences of ethnic diversity on policy areas that all societies confront (such as redistribution and economic development) as well as policy areas that emerge as a result of diversity (such as affirmative action or immigrant integration).

WWS 594C
Topics in Policy Analysis (Half-Term) - Maternal & Child Health: Culture, Controversy & Policy
Elizabeth Armstrong
Despite the oft-invoked credo of 'women and children first,' policies to promote and protect maternal and child health often seem to receive short shrift in the policy arena. This course explores contemporary issues in maternal and child health, with attention to both the evidence base for policies as well as the cultural norms and values that make strategies to keep mothers and babies healthy surprisingly controversial at times. The focus will be on the U.S., although the readings will include global perspectives and students may choose to focus their course papers on other societies.

WWS 594D
Topics in Policy Analysis (Half-Term) - Controversies in State and Local Health Regulation
Heather H. Howard
This course will address state and local regulation of public health and health care. It will explore the opportunities and limits of government
intervention to promote health and addressing health care deficits, with case examples drawn from New York City, New Jersey and other city and state experiences. The course combines in-depth reading, discussion, lectures, and written assignments; readings will be drawn from current health policy literature, state and local government primary sources, and news analysis.

**WWS 594J**  
Topics in Policy Analysis (Half-Term) - Agriculture & Climate Change: Feeding a Hot & Hungry Planet  
*Timothy D. Searchinger*  
By some estimates, agriculture contributes 30% of world greenhouse gas emissions, including its role in tropical deforestation. Reducing these emissions while producing the additional food needed for an expected 9 billion people in 2050 represents one of the great challenges of our age. This concentrated half semester course will explore the sources of agricultural emissions, agriculture’s role in shaping world land use, the locations and causes of world hunger, and technical and policy options for meeting this challenge.

**WWS 594K**  
Topics in Policy Analysis (Half Term) - The Development Challenge of HIV/AIDS  
*Keith E. Hansen*  
This seminar will review the origins of HIV, the multiple impacts of AIDS, the reasons for sustained global neglect, the foundations of effective prevention & treatment programs, & the urgent need to improve monitoring & evaluation. Special attention will be given to the role of social factors in the epidemic. Course participants will examine the policy-making process related to global public goods, & consider whether the world is better positioned to avert a resurgence of this pandemic or the emergence of the next threat.

**WWS 594T**  
Topics in Policy Analysis (Half-Term) - International Migration and Public Policy  
*Marta Tienda*  
This course examines the historical and contemporary literature on international migration, the policies that enable or impede cross-national migration, and the consequences for the sending and receiving states as well as the migrants themselves. Drawing on contemporary international evidence, students will consider classical and contemporary theories of immigrant adaptation, language acculturation, and ethnic conflict from comparative international evidence.

**WWS 596**  
Controversies in Health Policy – Historical Perspectives  
*Keith A. Wailoo*  
Examines historical pathways in shaping recent health policies. Among the topics examined: Medicare’s history, failed Clinton reforms, and 2010 health legislation as case studies of diverse pathways toward reform; Ritalin as insight into FDA policy, direct-to-consumer drug advertising, and prescription practices; recent vaccine debates which sit at the intersection of science, consumer beliefs, economics, and state health policy; and physician-assisted suicide in medicine, law, and the courts. Emphasis on analyzing role of government, political ideology, consumers, industry, scientists, and regulatory interests in health policy formation.

**WWS 597**  
The Political Economy of Health Systems  
*Uwe E. Reinhardt*  
This course explores the professed and unspoken goals nations pursue with their health systems and the alternative economic and administrative structures different nations use to pursue those goals. The emphasis in the course will be on the industrialized world, although some time can be allocated later in the course to approaches used in the developing countries, if students in the course desire it.