

A HISTORY OF THE  
BEHAVIORAL AND  
SOCIAL SCIENCES  
RESEARCH LECTURE SERIES

1995-2013



National Institutes of Health  
*Office of Behavioral and Social Sciences Research*

# A HISTORY OF THE BEHAVIORAL AND SOCIAL SCIENCES RESEARCH LECTURE SERIES: 1995-2013

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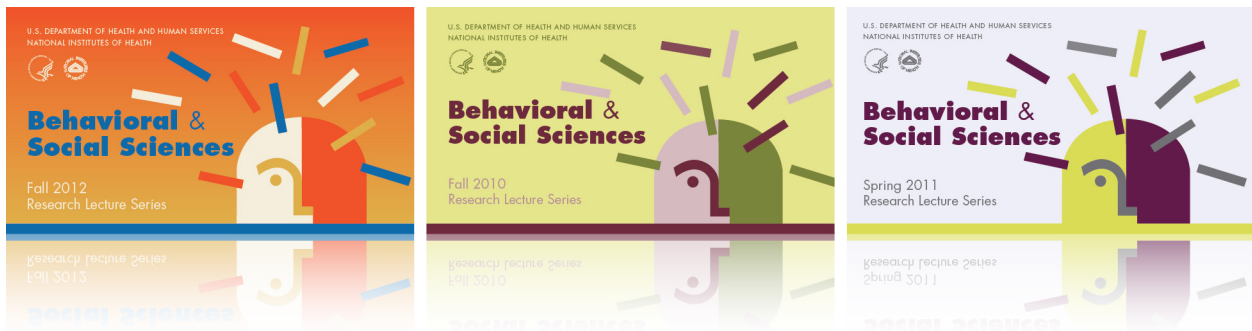
# Introduction

Created by Congress in 1995, the Office of Behavioral and Social Sciences Research (OBSSR) stimulates behavioral and social sciences research throughout the National Institutes of Health (NIH) and integrates these areas of research into NIH health research to improve understanding, treatment, and prevention of disease. Since then, OBSSR has sponsored a monthly lecture series on behavioral and social science topics funded by the NIH or relevant to the NIH mission to “seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.”

The OBSSR Lecture Series has four main goals:

- To recognize the valuable lessons about human health learned from the social and behavioral sciences.
- To identify research questions that are new, bold, or both.
- To provide the opportunity for researchers to highlight their work for NIH program staff.
- To foster new collaborative relationships among social and behavioral scientists at NIH; other federal agencies; academic institutions in the surrounding Washington, DC, area; and the general public.

A planning committee based at OBSSR consults with staff from other NIH Institutes and Centers to select prominent behavioral and social scientists to invite as speakers. These lectures provide NIH staff and members of the public with overviews of current research on topics of broad scientific and social interest. The lectures take place on a monthly basis. Each lecture lasts approximately 45 minutes and is followed by questions and discussions. Occasionally, OBSSR organizes mini-symposia (typically lasting 90–120 minutes) featuring several speakers on a single topic instead of lectures by a single speaker. The average audience size is approximately 30–40 people, but some lectures draw close to 100 participants.



# Matilda White Riley Lectures



Every year, one lecture is reserved for the Matilda White Riley Lecture. Dr. Riley (1911-2004) was the Associate Director for Behavioral and Social Research at the National Institute on Aging (NIA). She served as the senior NIH spokesperson on the behavioral and social sciences, encouraged coordination of behavioral and social science research among NIH Institutes and Centers, and essentially laid the groundwork for OBSSR.

The Dr. Matilda White Riley Award honors an individual whose research has advanced behavioral and social scientific knowledge in areas within the NIH mission. The recipient of this award, chosen through a rigorous nomination and selection process, is a scientist whose research reflects Dr. Riley's vision of the role of social and behavioral research on improving health. Dr. Riley believed in the ability of social and behavioral science to develop important interventions to improve the lives of people of all ages.

The Sixth  
Matilda White Riley Lecture  
in the Behavioral and Social Sciences

Sponsored by  
the Office of Behavioral and Social Sciences Research, OBSSR

**Social Connections and Health**

October 31, 2013

Isabelle J. Van der Vaeghe, Ph.D., The University of Chicago

The Fifth  
Matilda White Riley Lecture  
in the Behavioral and Social Sciences

Sponsored by  
the Office of Behavioral and Social Sciences Research, OBSSR

**Social Isolation and Health**

June 2, 2011

John T. Cacioppo, Ph.D., The University of Chicago

The Fourth  
Matilda White Riley Lecture  
in the Behavioral and Social Sciences

Sponsored by  
the Office of Behavioral and Social Sciences Research, OBSSR

**Long Life in the 21st Century**

JUNE 18, 2010

James L. Coxson, Ph.D., Oxford University

Third Annual  
Matilda White Riley Lecture  
in the Behavioral and Social Sciences

Sponsored by  
the Office of Behavioral and Social Sciences Research, OBSSR

**Looking for Causes in All the Wrong Places: Upstream Social Determinants of Downstream Health Disparities**

JUNE 10, 2008

John S. Nelson, Ph.D., New England Research Institutes, Inc.

The Matilda White Riley Lecture  
in the Behavioral and Social Sciences

Sponsored by the  
Office of Behavioral and Social Sciences Research,  
OBSSR

**INAUGURAL LECTURE**  
David Mechanic, Ph.D.  
Rutgers University  
**Population Health:  
Challenges for Science and Society**

May 22, 2006

# The Lectures

## BEHAVIORAL SCIENCE

The lectures have focused on a broad range of topics within behavioral science, ranging from the relationship between the brain and health, the role of genetics in behavior, and innovative behavioral interventions.

Many of the earlier lectures addressed the relationship between the brain and behavior. For example, Richard Davidson, Ph.D., University of Wisconsin, gave a presentation in 1999 on the emergence of affective neuroscience and “the emotional brain” (funded by NIA and the National Institute of Mental Health [NIMH]). In 2000, Kenneth Pugh, Ph.D., of Haskins Laboratories, discussed his functional neuroimaging studies, funded by the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD), that aimed to establish a link between brain and behavior for reading disability. These and other studies discussed during the OBSSR lectures were facilitated by improvements in brain-imaging technologies, such as positron emission tomography and magnetic resonance imaging.

A few lectures were based on research that has taken advantage of the genetics revolution facilitated by the NIH-sponsored Human Genome Project to explore the relationship between genes and behavior. In 2000, Klaus Miczek, Ph.D., Tufts University, discussed the long-lasting consequences of brief episodes of aggression on gene expression, amines, and drug abuse. John Hewitt, Ph.D., University of Colorado at Boulder, gave a presentation in 2002 on genetic and family influences on substance abuse and antisocial behaviors during adolescence. A 2011 talk by Colleen McClung, Ph.D., University of Pittsburgh, addressed the impact of a mutation in the *Clock 19* gene on mania and the possibility of reversing this effect with lithium.

Several lectures have linked other aspects of biology to behavior and health. In 1997, Susan Schiffman, Ph.D., Duke University Medical Center, gave a presentation on the role of taste and smell in health-related behaviors. She noted that the approximately two million adults in the United States with taste or smell disorders are at increased risk of developing nutritional deficiencies and diseases, including diabetes and hypertension, which require adherence to a specific diet. Martha McClintock, Ph.D., University of Chicago, discussed the effects of pheromones on mammalian and human behavior in 1999. In 2010, Jill Becker, Ph.D., University of Michigan, described a multidisciplinary (behavioral and

neurochemical) approach to understanding the effect of estradiol on the misuse of alcohol and other drugs of abuse in females. Dr. Becker described animal data showing that the rapid effects of estradiol on the ascending dopamine system enhance females' motivation to take cocaine and other drugs. Other lectures offered a biopsychological perspective on obesity (Kelly Brownell, Ph.D., Yale University, in 1996) and shed light on the effects of sleep and circadian rhythm on alertness (Mary Carskadon, Ph.D., Brown University, in 2002).

Several of the presentations focused on understanding memory, emotions, and learning. In 1995, Bennett Shaywitz, M.D., and Sally Shaywitz, M.D., both of Yale University, discussed the organization of the brain for reading and language. Other lectures addressed the differences between memory and experience (Daniel Kahneman, Ph.D., Princeton University, in 2002); understanding and remediating learning failures (James McClelland, Ph.D., Carnegie Mellon University, in 2002); and the challenges of measuring emotions (Lisa Feldman Barrett, Ph.D., Boston College, in 2010).

Since the OBSSR Lecture Series began, presenters have discussed innovative behavioral interventions, some of which were developed with NIH funding. These include behavioral interventions to reduce HIV risk in adolescents (John Jemmott, Ph.D., Princeton University, in 1998) and the use of interactive multimedia (including an interactive multimedia dietary change game funded by the National Cancer Institute [NCI] and an internet program funded by the National Heart, Lung, and Blood Institute [NHLBI]) to change children's diets and physical activity (Tom Baranowski, Ph.D., Baylor College of Medicine, in 2004). Other lectures explored the barriers to translating research findings into effective behavioral interventions, such as the challenges of implementing patient decision support interventions (also known as decision aids) to promote shared decision making by patients and health care providers (Dominick Frosch, Ph.D., University of California, Los Angeles, in 2012) and the health effects of low adherence to effective interventions by practitioners and patients (Brian Haynes, M.D., Ph.D., McMaster University, in 2010).



## Mini-symposium on Mindfulness Meditation and Health

A day-long mini-symposium in 2004 addressed the potential benefits of mindfulness meditation on mental and physical diseases and conditions. The event featured the following presentations:

- **Clinical Applications of Mindfulness-Based Stress Reduction (MBSR) in Medicine and Psychiatry: Origins, Interventions, and Outcomes** by Jon Kabat-Zinn, Ph.D., University of Massachusetts Medical School: MBSR combines body scans, sitting and walking meditation, and mindful hatha yoga in diverse settings. MBSR reduces the physical and psychological symptoms of many disorders, including psoriasis, secondary prostate cancer, and anxiety and panic disorder.
- **Prevention of Relapse in Recurrent Depression with Mindfulness-Based Cognitive Therapy** by Zindel Segal, Ph.D., University of Toronto: Mindfulness-based cognitive therapy, which is similar to MBSR, aims to normalize patterns of cognitive activity experienced during unhappiness so that depressive moods are mild/transient and do not escalate to more severe affective states in patients with a history of depression.
- **Dialectical Behavior Therapy: A Mindfulness-Based Behavioral Therapy** by Marsha Linehan, Ph.D., University of Washington: Six randomized clinical trials showed that this therapy is superior to comparison treatments for reducing suicide attempts and self-injury; premature drop-outs; inpatient and emergency room admissions and days; and drug abuse, depression, hopelessness, and anger, and impulsiveness.
- **Affect, Health, and Meditation: Perspectives from Affective Neuroscience** by Richard Davidson, Ph.D., University of Wisconsin: A randomized, controlled study showed that mindfulness meditation alters brain and immune function in healthy adults.
- **Mindfulness Meditation Interventions with Cancer Patients** by Linda Carlson, Ph.D., University of Calgary: Mindfulness meditation significantly reduced mood disturbance and stress symptoms in men and women with Stage 1–4 cancer. This treatment helps patients cope with stress, reduce the extent to which their disease defines their identity, and participate in their own recovery.
- **Psychological Stress in Coronary Artery Disease Patients** by Srikanth Ramachandruni, M.D., Brevard Professional Network: A randomized study compared the effects of MBSR to education and usual care on myocardial ischemia induced by mental stress in patients with coronary artery disease.



## SOCIOLOGY, ECONOMICS, AND POLICY RESEARCH

Lectures drawn from related areas including sociology, economics, and policy research have been wide ranging and topical. Issues addressed the influences of social relationships on health, health disparities, the impact of state and federal health policies, health economics (including behavioral economics), and comparative effectiveness research.

Several presenters addressed the health benefits of social relationships and the health risks of social isolation. In 1997, Lisa Berkman, Ph.D., Harvard School of Public Health, summarized studies indicating that the most socially isolated individuals have the highest risk of illnesses that lead to death. Also in 1997, Sheldon Cohen, Ph.D., Carnegie Mellon University, highlighted the benefits of diverse social ties for reducing the risk of the common cold. The 2012 Dr. Matilda White Riley Award recipient, Linda Waite, Ph.D., of the University of Chicago, revisited this topic and again showed that people with more and better-quality social connections have better physical and emotional health and greater longevity than those who are less well connected. Other lectures focused on the diversity of responses to death of a spouse (Camille Wortman, Ph.D., State University of New York, in 2004); the influence of psychosocial factors on genetic expression of breast cancer (Sarah Gehlert, Ph.D., Washington University in St. Louis, in 2009); and scaling up the social networks revolution in health (James Fowler, Ph.D., University of California, San Diego, in 2013).

The relationship between culture and health is a related theme, exemplified by lectures on sociological and ethnographic perspectives on violence (Delbert Elliott, Ph.D., University of Colorado at Boulder, in 1996), adaptation and selection effects of migration on health among the Vietnamese immigrants (Mark VanLandingham, Ph.D., Tulane University, in 2003), and the impact of religion on health in later life (Neal Krause, Ph.D., University of Michigan, and Richard Sloan, Ph.D., Columbia-Presbyterian Medical Center, both in 2003). In 2009, Bernice Pescosolido, Ph.D., Indiana University, reviewed the history of research on mental illness and stigma and recommended future research directions.

Reflecting the growing immigrant population in the United States and increasing awareness that ethnic minority and/or underserved populations have poorer health than the general population, the lecture series has focused substantially on research related to health disparities since at least 1997. In that year, James House, Ph.D., University of Michigan, reported findings from his research funded by NIA and NHLBI which indicated that social inequalities in health are due to multiple psychosocial risk factors – smoking,

## Behavioral Economics, Classical Economics, Public Policy, Politics, and Health

The field of behavioral economics offers novel solutions to some challenges in public health. In 2011, George Loewenstein, Ph.D., Carnegie Mellon University, discussed the rationale for behavioral economics, novel behavioral interventions in health stemming from his own research, and issues that need to be addressed for behavioral economics to have a continuing and constructive influence on policy. Dr. Loewenstein concluded that behavioral economics provides many useful tools and approaches but can potentially play a negative role if it substitutes for rather than complements the types of policies favored by traditional economics.

lack of exercise, and immoderate eating and drinking – that cannot be overcome by improved health care alone. Redford Williams, Ph.D., Duke University Medical Center, identified additional psychosocial risk factors for life-threatening illnesses, including low socioeconomic status, hostile personality, and job strain. Several presenters discussed research strategies for developing interventions to mitigate health disparities. In 2001, Raynard Kington, M.D., Ph.D., OBSSR, gave a lecture on the importance of understanding how the health of U.S.-born versus foreign-born African Americans could influence U.S. health disparities. In 2010, Eugenia Eng, Dr.P.H., University of North Carolina at Chapel Hill, presented on the use of community-based participatory research principles and the Undoing Racism framework to conduct systems change intervention research.

A few presenters have emphasized women's health and gender differences. In 1998, Margaret Chesney, Ph.D., University of California, San Francisco, provided an overview of women's health research and potential models for the integration of competing approaches in the research. In 2003, Shelley Taylor, Ph.D., University of California, Los Angeles, reported that animal and human studies focused on stress responsiveness have focused disproportionately on males. Dr. Taylor posited that the fight-or-flight response is more characteristic of males, whereas females usually respond to stress by tending (e.g., caring for offspring) and befriending (e.g., turning to their social groups for assistance, protection, and social support).

Several invited experts examined the effects of state and federal policies on health. In 2001 and 2008, respectively, William Julius Wilson, Ph.D., Harvard University, and P. Lindsay Chase-Lansdale, Ph.D., Northwestern University, explored the effects of welfare reform on children, young adults, and families. A 2009 lecture by Frederick Altice, M.D., Yale University,

and a 2012 mini-symposium featuring Kim Blankenship, Ph.D., American University, Jeffrey Draine, Ph.D., Temple University, and Adeline Nyamathi, Ph.D., University of California, Los Angeles, described the effects of high incarceration rates on public health, particularly among offenders who are released from prison then re-enter communities.

Several lectures have also assessed the value of economics research for improving health care and delivery. A 2004 presentation by David Cutler, Ph.D., Harvard University, assessed the economic value of the national investment in health care research. In 2013, Jonathan Gruber, Ph.D., Massachusetts Institute of Technology, described the health economics and health services research opportunities made available by the Patient Protection and Affordable Care Act. Other economics lectures informed the emerging field of behavioral economics and health, including a mini-symposium in 2009 (Sendhil Mullainathan, Ph.D., Harvard University, Eldar Shafir, Ph.D., Princeton University, Katherine Baicker, Ph.D., Harvard University, William Congdon, Ph.D., Brookings Institution, Gregory Mills, Ph.D., Harvard University, and Lisa Gennetian, Ph.D., Brookings Institution) and the use of cost-effectiveness analysis (a major focus of the Patient Protection and Affordable Care Act) to improve the return on health care resources expended (Peter Neumann, Sc.D., Tufts University, in 2010).

## **PUBLIC HEALTH/EPIDEMIOLOGY**

Very few lectures in the early years focused on public health, although a handful of talks in the late 1990s and early 2000s addressed epidemiology. In the last few years, however, presenters have explored several issues within this field, such as the use of demography and geography to address health concerns, factors that influence population health, and multidisciplinary approaches to exploring public health.

The early lectures on various epidemiologic issues included a 1998 presentation by Denise Kandel, Ph.D., Columbia University, on the epidemiology and risk factors of smoking and nicotine dependence. Other lectures addressed population trends and family planning in the developing world (Amy Tsui, Ph.D., Carolina Population Center, in 2000), and the implications of genetic epidemiology for behavioral and social approaches to disease prevention (Kathleen Menkangas, Ph.D., Yale University, in 1999).

More recent lectures have focused on the use of demographic or geographic tools to study various health-related issues. In 2009, Jason Boardman, Ph.D., University of Colorado at Boulder, demonstrated the usefulness of demography to understand the role of genetic and

environmental influences on smoking. In 2012, Gary Gates, Ph.D., University of California, Los Angeles, provided a demographic summary of data on the lesbian, gay, bisexual, and transgender population in the United States and the use of these data in policy debates on relationship recognition, parenting, military service, and antidiscrimination statutes. In a 2011 lecture, Ellen Cromley, Ph.D., University of Connecticut, discussed the use of geospatial methods to study health: global and local spatial statistics, spatial regression models, and models of spatially varying processes.

Factors that influence public health have been the focus of several talks starting in the mid-2000s. In 2006, Stephen Manuck, Ph.D., University of Pittsburgh, presented research findings on the association of low/high socioeconomic status in various Census tracts on heart disease risk. In 2012, Danielle Dick, Ph.D., Virginia Commonwealth University, reported on the use of epidemiologic data to explore genetic and environmental influences on the risk of alcohol-related problems. These data were drawn from sources including the Collaborative Study on the Genetics of Alcoholism funded by the National Institute on Alcohol Abuse and Alcoholism (NIAAA); the Child Development Project funded by the NIMH and NICHD; the Avon Longitudinal Study of Parents and Children funded by NICHD; and the Mobile Youth Study funded by the National Institute on Drug Abuse (NIDA). Other recent talks in this area have focused on the application of a population-based, developmental, and ecological framework to study inflammation in humans (Thomas McDade, Ph.D., Northwestern University, in 2011) and the fundamental role of inequality in population well-being (Richard G. Wilkinson, Ph.D., M.D., University of Nottingham, in 2013).

In September 2002, an OBSSR mini-symposium explored the effects of the September 11 attacks on community health. Roxanne Cohen Silver, Ph.D. University of California, Irvine, reported on the national mental health consequences of the attacks and the predictors of posttraumatic stress symptoms and well-being over time. David Vlahov, Ph.D., New York Academy of Medicine, reported on the prevalence, progression, and correlates of post-traumatic stress disorder in New York City residents in the year after the attacks.

Other public health topics have included the use of poverty alleviation programs to improve population health (Paul Gertler, Ph.D., University of California, Berkeley, in 2005); incidence of cardiovascular health and disease, inflammation and immunosenescence, and energy metabolisms in Amerindians in lowland Bolivia (Hillard S. Kaplan, Ph.D., University of New Mexico, in 2011); and the science of injury prevention (Andrea C. Gielen, Sc.D., Johns Hopkins University, in 2012).

## Crisis Maps and Social Behavior: How Information from People Will Change Crisis Planning

Social media are transforming humanitarian operations and providing new information inputs from many directions. An intriguing new development is the “crisis map,” which has been used to map H1N1 influenza outbreaks, ethnic violence, election fraud, and a host of other social and health problems. In a 2010 lecture, Rebecca Goolsby, Ph.D., Office of Naval Research, discussed the crisis map phenomenon and the new social behaviors that it has promoted. Dr. Goolsby examined the future of crisis maps and how the study of “socio-technical behavior” — new patterns of behavior that emerge from people’s reliance on social media and new mobile technologies — can help crisis planners leverage desirable behavior and recognize the new problems that such technology can bring. Finally, Dr. Goolsby offered a short overview of the Office of Naval Research’s use of crisis mapping.

### HUMAN DEVELOPMENT

Human development has been the focus of several lectures from the beginning of the OBSSR Lecture Series. Presenters have explored the intersection between health and the entire range of human development, from fetal development through adolescence to aging. Several experts have also described a life course perspective to study certain health topics.

Lectures on child development have addressed fetal behavioral development (William Smotherman, Ph.D., State University of New York, in 1997); the implications of neural plasticity for behavioral development (William Greenough, Ph.D., University of Illinois, Urbana, in 1997); and the long-term effects of different early childhood care arrangements on children’s health, behavior, school performance, and other indicators of child development through adolescence (Jay Belsky, Ph.D., Pennsylvania State University, and Sandra Hofferth, Ph.D., University of Michigan, in 2001). In 1997, Andrew Cherlin, Ph.D., Johns Hopkins University, explored the results of an NICHD-sponsored study, *Effects of Divorce on Children*, which showed that divorce increases the risk of mental health problems for both boys and girls, but that girls might be more resilient following parental divorce than boys.

Some lectures have addressed childhood obesity, a growing concern in the United States. In the 1998 presentation on results from the NICHD-sponsored National Longitudinal Study of Adolescent Health (*discussed earlier in this section*), J. Richard Udry, Ph.D., University of North Carolina at Chapel Hill, showed a relationship among obesity and race and ethnicity and the number of generations a family has been in the United States. In 2012, Michael S. Rendall, Ph.D., University of Maryland, presented the evolution of child weight status from birth to early adolescence that is modeled on their probability of transitioning into and out of overweight/obesity between different ages.

Several other talks focused on adolescent development, especially risk-taking behaviors. In a 1998 update on the NICHD-sponsored National Longitudinal Study of Adolescent Health, Dr. Udry reported that preliminary analyses of study data showed that peers influence adolescents' decisions to smoke more than parents. In 2008, Linda Mayes, M.D., Yale University, reported that adolescents who have been prenatally exposed to drugs and have grown up in chronic adversity might be especially vulnerable to early addiction because of poor emotional regulatory mechanisms that have a negative impact on inhibition impulse control and decision making. In 2012, Carl Lejuez, Ph.D., University of Maryland, used data from a 5-year longitudinal study funded by NIA on the role of positive reinforcement and an NIAAAA-funded study to highlight the use of behavioral measures to understand and model the development of adolescent risk-taking behavior.

The factors that influence learning, including reading and language development, have figured prominently in other lecture-series talks. Examples include the epigenesis of mathematical thinking (Rachel Gelman, Ph.D., University of California, Los Angeles, in 1998), core knowledge and cognitive development (Elizabeth Spelke, Ph.D., Massachusetts Institute of Technology, in 2000), language acquisition and the emergence of signed and spoken language (Elissa Newport, Ph.D., University of Rochester, in 2006). A 2004 lecture by Guinevere Eden, D.Phil., Georgetown University, addressed the use of functional magnetic resonance imaging to visualize the neural basis of reading acquisition in children. In 2010, Ellen Bialystok, Ph.D., York University, reported that bilingualism results in slower, more effortful linguistic processing than monolingualism but faster, more efficient executive control.

Over the past decade, research has shown that early experiences can have a lifelong influence on health. A 2008 talk by William Chase, Ph.D., Florida State University, focused on factors that enable people to develop and maintain expert performance across the life span.

## The Long Arm of Childhood: The Influence of Early Life Conditions on Adult Morbidity and Mortality

Increasingly, social scientists are examining childhood experiences to better understand the fundamental social causes of adult morbidity and mortality. However, the evidence linking childhood with adult health outcomes is fragmentary, and the mechanisms through which childhood conditions influence health outcomes are not entirely clear. In a 2003 lecture, Mark Hayward, Ph.D., Pennsylvania State University drew on two nationally representative datasets – the Health and Retirement Survey and the National Longitudinal Survey of Older Men – to describe the associations of adult morbidity and mortality with an array of childhood conditions including disease experience, socioeconomic status, family living arrangements, and mother’s work status. Childhood disease experience had direct consequences for adult health outcomes; however, the influence of childhood socioeconomic status on adult health was mediated by educational attainment, adult family income, household wealth, and occupation. Adult lifestyle factors, particularly body mass, mediated the effects of childhood family living arrangements, mother’s work status, and rural residence. These findings suggested that health, economic, and education policies targeted at children’s well-being are implicitly adult health policies through multiplier effects that reach far into the adult life course.

In 2000, Nancy Eisenberg, Ph.D., Arizona State University, and Laura Carstensen, Ph.D., Stanford University, discussed emotion regulation in social context over the life course in childhood, adolescence, adulthood, and old age. A 2005 lecture by Linda Burton, Ph.D., Pennsylvania State University, addressed the life-course implications of childhood “adultification.”

As the U.S. population ages, the need to understand the relationships among aging, health, and the factors that contribute to healthy aging is growing. The OBSSR Lecture Series contributed to this dialogue by sponsoring several lectures on aging and health, one of which focused on normal and abnormal memory in aging adults (Marilyn Albert, Ph.D., Massachusetts General Hospital, in 1996), another on the aging mind (Denise Park, Ph.D., University of Michigan, in 2000), and a third on cognitive-cortical plasticity in aging adults (Arthur Kramer, Ph.D., University of Illinois at Urbana-Champaign, in 2006). A 2009 presentation by Margie Lachman, Ph.D., Brandeis University, discussed results from the NIA-sponsored Midlife in the United States study showing that a combination of social and behavioral factors could slow or compensate for changes associated with aging and also highlighted ways to promote healthy aging by targeting certain lifestyle factors.



## NOVEL TOOLS/METHODS

A few lectures, especially in the last few years, have explored the use of novel technologies or methodologies to conduct behavioral and social science research and to develop interventions for improving health.

The new research tools described by presenters have included diaries (Arthur Stone, Ph.D., State University of New York at Stony Brook, in 2002), geocoding (Nancy Krieger, Ph.D., Harvard University, in 2003), and mathematical and statistical models (Joe Rodgers, Ph.D., Vanderbilt University, in 2013). In 2011, Michael Fetters, M.D., University of Michigan, discussed the challenges and opportunities of mixing and integrating qualitative and quantitative methods using examples from research on virtual patients, a study conducted in four languages of health care quality in a multicultural setting, and adaptive clinical trials. In 2013, Navid Ghaffarzadegan, Ph.D., Massachusetts Institute of Technology, and Joshua D. Hawley, Ed.D., Ohio State University, described the use of mathematical modeling to explore the challenges that the United States faces in maintaining a highly skilled engineering and biomedical sciences workforce.

On the use of novel technologies to improve health, a 2013 talk by Holly Jimison, Ph.D., Oregon Health & Science University, described the challenges of interventions that use home monitoring and communications technology—including sensors, mobile apps, and wireless devices—to deliver care in the patient’s home. These technologies can deliver continuous data on a wide range of activities and physiological parameters, including sleep quality, activities of daily living, socialization, physical activity, blood pressure, and blood glucose levels. Dr. Jimison identified an urgent need for research on data-analytic and data-mining techniques to discover new clinical predictors and ways to best use individually tailored models of behavior to improve home health interventions.





## Using Mobile and Wireless Health to Enhance Health: From Engineering to Healthcare around the Globe

Mobile health (mHealth) and wireless health technologies offer the potential to advance research, prevent disease, enhance diagnostics, improve treatment, improve adherence, reduce disparities, increase access to health services, and lower healthcare costs in ways previously unimaginable. The 2012 panel workshop by Santosh Kumar, Ph.D., University of Memphis, Alain Labrique, Ph.D., Johns Hopkins University, and David Gustafson, Ph.D., University of Wisconsin, explored the use of mHealth to enhance measurement, health research, and health outcomes in the United States and the global community. The speakers discussed the use of real-time, continuous, biological, behavioral, and environmental data collected by mHealth technologies to improve understanding of the etiology of health and disease, particularly when integrated with other data such as genomics, biomarkers, and electronic medical records.

## Conclusions

The OBSSR Lecture Series has striven to address its four main goals throughout its 18-year history. The lectures have highlighted the wide range of research topics about health from the social and behavioral sciences. They have also made clear that the social and behavioral sciences—sociology, economics, policy research, epidemiology, demography, geography, economics, political science, and mathematical and statistical modeling—have elucidated a wide array of health issues. These issues have included fetal development through healthy aging, substance abuse, mental health, cardiovascular disease, diabetes, infectious diseases, and cancer.

Many lectures identified research questions that are new and bold. The lectures provided several examples of the contributions of the multidisciplinary research that different NIH Institutes and Centers have sponsored in the behavioral and social sciences, highlighting the value of this research for advancing public health. The numerous NIH Institutes and Centers that have supported the research discussed in the lectures exemplify the broad and transdisciplinary support for behavioral and social science research at NIH. This broad-based support is shown by the fact that these sponsors include Institutes and Centers focused on different populations (e.g., the *Eunice Kennedy Shriver* National Institute of Child Health

and Human Development, National Institute on Aging, and National Institute on Minority Health and Health Disparities), diseases and disorders (e.g., the National Cancer Institute, National Heart, Lung, and Blood Institute, and National Institute on Drug Abuse), and approaches to health care (e.g., the National Institute of Nursing Research and National Center for Complementary and Alternative Medicine).

The types of health issues that arise in the future will also require multidisciplinary responses in which the behavioral and social sciences will play a key role. As new health questions are raised and science evolves, the OBSSR Lecture Series will continue to provide the shared intellectual space needed at NIH for behavioral and social scientists to pose novel questions and find answers using cutting-edge approaches and technologies. As it has done in the past, the OBSSR Lecture Series will keep NIH leaders informed of the unique and critical contributions that behavioral and social sciences can make to the agency's efforts to address its mission.

A recent innovation in the lecture series is the availability of archived webcasts of each lecture. Webcasts of all lectures delivered since November 2011 are now available on the OBSSR website for convenient viewing by researchers and the general public. OBSSR plans to continue videotaping the lectures and posting the archived footage on the Internet.

OBSSR will use this review of the lecture series to refine future cycles of the series. The Office continues to sponsor the monthly lecture series. OBSSR invites employees of NIH and other federal agencies and members of the general public to watch for announcements of upcoming lectures on the OBSSR website and to attend these lectures.

## Acknowledgements

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