PennState
Social Science
Research Institute

Annual Report 2015 - 2016

www.ssri.psu.edu

Inside This Report

Our Mission

The Social Science Research Institute fosters novel, interdisciplinary research in the social and behavioral sciences that addresses critical human and social problems at the local, national, and international levels. We do so by bringing together researchers from different disciplines around emerging areas of study and by providing consultation, financial support, and shared infrastructure and services to social and behavioral scientists at Penn State.

Housed within the Office of the Vice President for Research, the SSRI is one of five university-wide research institutes at Penn State.

Letter From the Director

Susan McHale, Ph.D

Since its launch in 2001, Penn State's Social Science Research Institute (SSRI) has promoted innovation and excellence in research within the social and behavioral sciences. Research in this broad field ranges from studies of large-scale social forces, including socio-economic, political, and socio-cultural processes and influences, to dynamics in smaller group settings such as families, school classrooms, and work organizations. It also encompasses research on behavior, ranging from overt actions to underlying psychological processes including cognitive, affective, and motivational functioning. There is also emphasis on the role of human behavior in adapting to change, in resilience in the face of challenge, and in effecting change--in the self as well as in the social and physical environments. Indeed, social science research extends from the genome to the globe, and its impacts range from the development of evidence-based social policies that target vulnerable populations, to education programs aimed at learning and skill building, to everyday behavioral practices that promote health and prevent disease.

Penn State social scientists are nationally and internationally renowned, and the University boasts many nationally ranked programs. For example, 2015 SCOPUS data (Source: SciVal.com, accessed on August 10, 2016) show that nine social science fields at Penn State are ranked in the top five universities in the country for research productivity, including ranking first in lifespan and life course studies, second in the field of communication and in tourism, leisure and hospitality management, and third in demography and in the field of education. According to the National Science Foundation's most recent report on total science and engineering research expenditures (Source: ncsesdata.nsf.gov/herd/2014/), Penn State ranks second in the field of sociology and fourth in the field of psychology. Importantly, experts in these fields come from departments and colleges across Penn State. The scope of Penn State social science positions our faculty to answer the recent call from the National Institutes of Health Office of Behavioral and Social Science Research (OBSSR) for research that crosses levels of analysis, from the macro- and micro-contextual, to the behavioral, and to the underlying physiological processes that together shape human health and development.

The SSRI's 2015-2016 Annual Report presents some of the recent research by Penn State's social and behavioral scientists. We focus this year on projects that align with the Institute's 2014-2019 strategic research themes: the human system, social disparities, smart and connected health, innovative methods, and dissemination and implementation science (see box to the right). These articles portray just a sampling of the many groundbreaking, interdisciplinary research projects led by Penn State's social and behavioral scientists. In describing these projects, the Annual Report also highlights the SSRI's research units and activities, the growing number and scope of supports by the SSRI's units, and the success of the SSRI's seed program in our faculty's efforts to win external funding for their research.

Within the SSRI, a major accomplishment of this academic year was the competitive renewal of our Population Research Institute's (PRI) core grant by the Eunice Kennedy Shriver National Institute for Child Health and Human Development (NICHD). PRI has been funded by the NICHD since 1990 and is one of only 21 such longstanding institutes in the nation. PRI provides strategic resources to support innovative, high impact population research to Penn State faculty in five colleges across the University (see page 29). Another achievement was the expansion of our Federal Statistical Data Research Center (RDC) to incorporate a branch in the Philadelphia area. This new partnership includes the Federal Reserve Bank of Philadelphia, Drexel University, and the University of Pennsylvania. The RDC provides researchers with secure access to restricted economic, demographic, and health data collected by the U.S. Census Bureau, the National Center for Health Statistics, and the Agency for Healthcare Research and Quality. This academic year also saw the establishment of the Center for Educational Disparities Research (CEDR), directed by Paul Morgan, professor of education. Co-sponsored by SSRI and the College of Education, CEDR is aimed at closing educational opportunity gaps faced by minority and low-income children (read more on page 23). Finally, three new SSRI co-funded faculty members joined the the Network on Child Protection and Well-Being: Sheridan Miyamoto, assistant professor of nursing; Carlomagno Panlilio, assistant professor in education; and Hannah Schreier, assistant professor of biobehavioral health. These faculty members join six other Network faculty hired in the past three years who are working together to advance teaching,

research, and community engagement in the area of child maltreatment. Searches for three additional Network faculty are underway.

SSRI's co-funded faculty reflect the partnerships between the Institute and academic units around the University. In total, SSRI provides salary support for 37 faculty members from 12 departments in five colleges (see page 9). These co-funded faculty members continue to make significant contributions to social science research at Penn State.

As I hope this report communicates, the social and behavioral sciences remain a vibrant component of Penn State research. In the coming year, the Social Science Research Institute, through its infrastructure and support mechanisms, will continue to promote and enhance this vital work.

Susan McHale, Ph.D.
Director

2014 - 2019 Strategic Research Themes

The Human System: How environments and experiences get under the skin to affect stress and immune functions, social, cognitive, and affective neural processes, and gene-related mechanisms—and the ways in which these bio-psycho-social processes both shape and are shaped by human behavior, health and development.

Social Disparities: Discovery of causes and consequences and development of evidence-based policies and practices for remediating widening gaps in the health, education, and community resources of vulnerable populations, including children, youth, elders, and their families—toward sustaining a diverse and changing population in a global society.

Smart and Connected Health: Health and mental health promotion and disease prevention and treatment using novel methodologies (electronic devices, social media, human-technology hybrids), "big data" analytics, and other innovations for enhancing health and health behavior and optimizing health care and health care delivery using evidence-based practices and policies toward a sustainable health system.

Innovative Methods: Novel approaches to research design, data collection, security, and archiving, and modeling and analysis pertaining to our targeted foci and beyond.

Dissemination and Implementation Science: The scientific study of best methods for translating knowledge into policies, programs, practices, and products that achieve broad and sustained uptake and use toward enhancing the health and well-being of individuals, their communities, and the larger society.

Social Science Research Institute

The SSRI Welcomes
New Directors

The SSRI announces several new directors who have joined its leadership team. Their knowledge and expertise will help advance the SSRI's mission of fostering innovative, interdisciplinary research.

Kristie Auman-Bauer
Director,
Communications Core

Li Ge
Web Developer,
Communications Core

Paul Morgan, Ph.D.
Director,
Center for Educational Disparities Research

Nilam Ram, Ph.D.
Director,
Quantitative Developmental Systems Methodology Core

The SSRI's 12 units provide consultation, financial support, and shared infrastrucure and services to social and behavioral scientists at Penn State.

Together, the units advance the Institute's mission of fostering interdisciplinary research that addresses critial human and social problems

SSRI Centers and Institutes

CHILDREN YOUTH AND FAMILIES

Center for Educational Disparities Research
Director: Paul Morgan, Ph.D   cedr.ssri.psu.edu

The Social Science Research Institute and College of Education have teamed up to establish the Center for Educational Disparities Research (CEDR) which aims to close the opportunity gaps faced by minority and low-income children. CEDR is an extension of Penn State's Educational Risk Initiative (ERI) and will support and build upon research focused on educational inequality and the means by which it can be remedied. Educational disparities can result from children having untreated disabilities, being raised in less-advantaged homes and communities, and receiving lower-quality schooling. These disparities can extend over the life course, affecting adult employment outcomes, health and well-being. CEDR will support researchers of varied backgrounds—including sociology, developmental psychology, demography, educational and school psychology, and educational policy—by allowing them greater access to external funding, multi-disciplinary team opportunities, proposal assistance and mentoring and networking events.

Clearinghouse for Military Family Readiness
Director: Daniel Perkins, Ph.D.   **Associate Director: Keith Aronson, Ph.D**   militaryfamilies.psu.edu

The Clearinghouse focuses on issues pertaining to children, youth, and families via interdisciplinary applied research as well as evaluation, implementation science and outreach to advance the health and well-being of military service members and their families. The Clearinghouse uses a rigorous vetting process to place programs on a continuum of evidence, ranging from "ineffective" to "effective." They support professionals as they make informed decisions about which programs fit specific situations and are worth the investment. Clearinghouse research and evaluation scientists also employ sound innovative methods to conduct process and outcome evaluations of programs and services being used with military families. In addition, Clearinghouse implementation specialists provide education, consultation, and support to guide the professional successfully through the steps of effective, evidence-informed programming. Finally, the Clearinghouse develops learning products (e.g., instructor-led training, computer-based training, webinars, discussion boards, mlearning, elearning, pod casts, and blended learning) for Service members, family members, and professionals.

Network on Child Protection and Well-Being
Director: Jennie Noll, Ph.D.   **Assistant Director: Sandee Kyler, M.S**   protectchildren.psu.edu

The Network focuses on children, youth, and their families in work aimed at building a sustainable network of researchers and practitioners who produce new knowledge, foster the design and evaluation of novel approaches to the prevention, detection, and treatment of child abuse and neglect, create interdisciplinary education opportunities and experiences for Penn State students, and put the products of these efforts to work in communities throughout Pennsylvania and beyond. The Network also serves as the University's coordinating entity for the dissemination of communications, public awareness, student engagement, and services pertaining to child protection and well-being information and initiatives.

Computational and Spatial Analysis Core
Academic Director: Guangqing Chi, Ph.D.   **Managing Director: Dan Nugent, M.S.**   csa.ssri.psu.edu

The Computational and Spatial Analysis (CSA) Core promotes and enhances social science at Penn State by assisting researchers in incorporating geographic information into their research in creative and state-of-the-art ways. The Core includes staff with expertise in spatial statistics, advanced spatial analysis, exploratory spatial data analysis, spatial econometrics, and customized programming for geographic information systems (GIS), and it provides an online, interactive WebGIS platform. The CSA Core also is ramping up on methodological innovations that use mobile technology in the collection of spatial data and social media data. In addition, the staff provides essential services to support collection of intensive spatiotemporal data on individuals and in specific contexts and construction of contextual and ecological databases, as well as geospatial data acquisition, archiving, and management. Further, the CSA Core provides training in GIS and spatial analysis to SSRI affiliates and students.

Federal Statistical Research Data Center
Director: Mark Roberts, Ph.D.   psurdc.psu.edu

Penn State is home to one of 23 Federal Statistical Research Data Centers located across the country, including a new branch in Philadelphia. These centers provide researchers with secure access to restricted economic, demographic, and health data collected by the U.S. Census Bureau, the National Center for Health Statistics, and the Agency for Healthcare Research and Quality. It is a vital resource for Penn State faculty and graduate student researchers in the fields of economics, business, demography, statistics, sociology, and health services. The center is supported by the Offices of the President and Vice President for Research, SSRI, PRI, University Libraries, and the Colleges of Agricultural Sciences, Health and Human Development, Liberal Arts, and Science and a grant from the National Science Foundation.

Quantitative Developmental Systems Methodology Core
Director: Eric Loken, Ph.D.   quantdev.ssri.psu.edu

The Quantitative Developmental Systems Group (QuantDev), which is jointly supported by the SSRI and the College of Health and Human Development, has a three-fold mission:

(1) developing new methods and improving on existing methods for the study of human behavior using innovative measurement, study design, and analysis techniques, and using these techniques to study a range of issues including those related to positive behavior, health, neuroscience and education outcomes, and the dynamics of individuals and groups; (2) developing user-friendly algorithms and platforms for making these methods widely available for social science researchers working on ecological momentary assessment, dynamical systems, Big Data, and other innovative person-specific and time intensive data applications; and (3) consulting and collaborating with a broad range of social scientists on research projects that span multiple levels and time-scales of behavior (cells to society, milliseconds to millennia, cradle to grave).

Population Research Institute

Director: Jennifer Van Hook, Ph.D.   **Associate Director: Michelle Frisco, Ph.D.**   pop.psu.edu

The PRI aims to advance the scientific understanding of human population dynamics by providing research supports to over 80 faculty affiliates and associates. Priority research areas include Communities, Neighborhoods and Spatial Processes, Immigration and Immigrant Integration, Social Change and Changing Families, Health and Inequality, and Crime and Punishment. The PRI houses Penn State's dual-title degree in Demography, which has been supported by a training grant from the NICHD since 1999. The PRI is one of 21 federally funded population research institutes in the United States and has been supported by an infrastructure grant from the NICHD since 1991.

Social, Life, and Engineering Sciences Imaging Center

Director: Michele Diaz, Ph.D.   www.imaging.psu.edu

The SLEIC fosters research in the social, behavioral, biological, engineering, and materials sciences where imaging methodologies play a central role. The SLEIC staff provides instrumentation, technological and domain expertise, educational opportunities, and financial support for conducting magnetic resonance imaging and electrophysiology experiments.

Survey Research Center

Director: Joshua Smythe, Ph.D.   www.survey.psu.edu

The SRC provides survey research services to faculty, graduate students, and institutional investigators. It promotes and contributes to the science of survey research methodology, assists investigators to prepare effective proposals for external funding, and educates members of the Penn State community on best practices and emerging developments in the survey research field, which includes its graduate certificate program in survey research. The SRC houses the Dynamic, Real-time, Ecological, Ambulatory Methodologies (DREAM) initiative with the mission of supporting researchers in the use of emerging mobile technologies.

SERVICE CORES

Administrative Core

Director: Sherry Yocum

The Administrative Core, in addition to its budgetary and human resources activities, is responsible for the tracking and evaluation activities pertaining to the SSRI's research supports. This includes Level 1 and Level 2 seed grants, facilitated research projects, Faculty Fellows Program, SLEIC and GIA Pilot Hours, grant proposal consultation with SSRI unit directors and co-directors around SSRI and external funding, and the SSRI/CYFC co-funded faculty.

Communications Core

Director: Kristie Auman-Bauer

The mission of the Communications Core is to promote SSRI research that addresses critical human and social problems by engaging a broad community of stakeholders in the Institute's activities via news releases, news letters, social media and website development. Additional efforts are directed at increasing the visibility of important social science research to the broader community. The Communications Core also provides internal communications support to SSRI faculty, staff, and students.

Information Technology Core

Director: Joe Broniszewski

The IT Core provides strategic IT vision, leadership, and solutions to the faculty, staff, and students within the SSRI to enable them to meet their research goals, deliver results, and enhance the SSRI's position at Penn State and throughout the research community.

People in the SSRI (2015-2016)

LEADERSHIP

Susan McHale, Ph.D.
Director / Distinguished Professor, Human Development and Family Studies

Keith Aronson, Ph.D.
Associate Director / Senior Research Associate, Biobehavioral Health

Joshua Smyth, Ph.D.
Associate Director / Professor, Biobehavioral Health and Medicine

INTERNAL ADVISORY BOARD

Kristie Auman-Bauer
Director, Communications Core

Yosef Bodovski
GIS Research Analyst

Joseph Broniszewski
Director, Information Technology Core

Guangqing Chi, Ph.D.
Academic Director, Computational and Spatial Analysis Core / Associate Professor, Rural Sociology and Demography

Michele Diaz, Ph.D.
Director, Social, Life, and Engineering Sciences Center / Associate Professor, Psychology

Diana Crom
Operations Manager, Survey Research Center

Eric Loken
Quantitative Developmental Systems Methodology Core / Research Associate Professor, Human Development

Jennie Noll, Ph.D.
Director, Network on Child Protection and Well-Being / Professor, Human Development and Family Studies

Daniel Nugent
Managing Director, Data, Programming and Statistical Core

Daniel Perkins, Ph.D.
Director, Clearinghouse for Military Family Readiness / Professor, Family and Youth Resiliency and Policy

Eric Plutzer, Ph.D.
Academic Director, Survey Research Center / Professor, Political Science and Sociology

Mark Roberts, Ph.D.
Director, Federal Statistical Research Data Center / Professor, Economics

Jennifer Van Hook, Ph.D.
Director, Population Research Institute / Professor, Sociology and Demography

Sherry Yocum
Director, Administrative Core

DEANS' ADVISORY BOARD

Ann Crouter, Ph.D.
Dean, College of Health and Human Development / Professor, Human Development

Mukund Kulkarni, Ph.D.
Chancellor, Penn State Harrisburg / Professor, Business Administration

David Monk, Ph.D.
Dean, College of Education / Professor, Education (Educational Leadership)

Richard Roush, Ph.D.
Dean, College of Agricultural Sciences / Professor, Entomology

Neil Sharkey, Ph.D.
Vice President, Office of the Vice President for Research / Professor, Kinesiology, Orthopedics and Rehabilitation

Sheila Vrana, Ph.D.
Interim Vice Dean, Research and Graduate Studies, College of Medicine / Associate Professor, Pharmacology

Susan Welch, Ph.D.
Dean, College of the Liberal Arts / Professor, Political Science

STEERING COMMITTEE

Karen Bierman, Ph.D.
Distinguished Professor, Psychology, Human Development and Family Studies

Kathleen Bieschke, Ph.D.
Head, Department of Educational Psychology, Counseling, and Special Education / Professor, Counseling Psychology

Orfeu Buxton, Ph.D.
Associate Professor, Biobehavioral Health

Jonathan Foulds, Ph.D.
Professor, Public Health Sciences and Psychiatry

Lisa Gatzke-Kopp, Ph.D.
Associate Professor, Human Development and Family Studies

Benjamin Levi, M.D., Ph.D.
Professor, Pediatrics and Humanities

Shannon Monnat, Ph.D.
Assistant Professor, Rural Sociology, Demography and Sociology

Jennifer McCall-Hosenfeld, M.D.
Assistant Professor, Medicine and Public Health Services

Scott McDonald, Ph.D.
Associate Professor, Education (Science Education)

Claudia Mincemoyer, Ph.D.
Professor, Agriculture and Extension Education

Paul Morgan, Ph.D.
Associate Professor, Education

Daniel Perkins, Ph.D.
Professor, Family and Youth Resiliency and Policy

Rachel Smith, Ph.D.
Associate Professor, Communication Arts and Sciences and Human Development and Family Studies

Catherine Surra, Ph.D.
Director, Behavioral Sciences and Education / Professor, Human Development and Family Studies

Krista Wilkinson, Ph.D.
Professor, Communication Sciences and Disorders

Stephen Wilson, Ph.D.
Associate Professor, Psychology

CO-FUNDED FACULTY

Brian Allen, Psy.D.
Assistant Professor, Pediatrics

Rhonda Belue, Ph.D.
Associate Professor, Health Policy and Administration

Kristin Buss, Ph.D.
Professor, Psychology

Orfeu Buxton, Ph.D.
Associate Professor, Biobehavioral Health

Soo-yong Byun, Ph.D.
Associate Professor, Educational Theory and Policy

Guangquing Chi, Ph.D.
Associate Professor, Agricultural Economics, Sociology, and Education

Sy-Miin Chow, Ph.D.
Associate Professor, Human Development and Family Studies

H. Harrington Cleveland, Ph.D.
Associate Professor, Human Development and Family Studies

Michelle Diaz, Ph.D.
Associate Professor, Psychology

Jennifer Frank, Ph.D.
Assistant Professor, Education, Curriculum and Instruction

Michelle Frisco, Ph.D.
Associate Professor, Sociology and Demography

Lisa Gatzke-Kopp, Ph.D.
Associate Professor, Human Development and Family Studies

Charles Geier, Ph.D.
Assistant Professor, Human Development and Family Studies

Christine Heim, Ph.D.
Professor, Biobehavioral Health

Marianne Hillemeier, Ph.D.
Professor, Health Policy and Administration and Demography

Cynthia Huang-Pollack, Ph.D.
Associate Professor, Psychology

Kent Hymel, M.D.
Child Abuse Pediatrician

Kathleen Keller, Ph.D.
Assistant Professor, Nutritional Sciences and Food Science

Derek Kreager, Ph.D.
Associate Professor, Sociology and Criminology

Sheridan Miyamoto, Ph.D.
Assistant Professor, College of Nursing

Shannon Monnat, Ph.D.
Assistant Professor, Rural Sociology, Demography, and Sociology

P. Karen Murphy, Ph.D.
Professor, Educational and School Psychology and Special Education

Jenae Neiderhiser, Ph.D.
Professor, Psychology

Jennie Noll, Ph.D.
Professor, Human Development and Family Studies

Carlo Panlilio, Ph.D.
Assistant Professor, Education

Koraly Perez-Edgar, Ph.D.
Associate Professor, Psychology

Daniel Perkins, Ph.D.
Professor, Family and Youth Resiliency and Policy

David Puts, Ph.D.
Associate Professor, Anthropology

Kai Schafft, Ph.D.
Associate Professor, Education, Educational Leadership and Rural Sociology

Suzy Scherf, Ph.D.
Assistant Professor, Psychology

Hannah M.C. Schreier, Ph.D.
Assistant Professor, Biobehavioral Health

Idan Shalev, Ph.D.
Assistant Professor, Biobehavioral Health

Gregory Shearer, Ph.D.
Associate Professor, Nutritional Sciences

Chad Shenk, Ph.D.
Assistant Professor, Human Development and Family Studies

Joshua Smyth, Ph.D.
Professor, Biobehavioral Health and Medicine

Shedra Amy Snipes, Ph.D.
Assistant Professor, Biobehavioral Health

Robert Turrisi, Ph.D.
Professor, Biobehavioral Health

Jennifer Van Hook, Ph.D.
Professor, Sociology and Demography

Nicole Webster, Ph.D.
Associate Professor, Youth and International Development

Krista Wilkinson, Ph.D.
Professor, Communication Sciences and Disorders

SSRI Events (2015-2016)

Fourth Annual Network Conference Explores Early-Life Stress and Trauma
September 30 - October 1, 2015

The Penn State Network on Child Protection and Well-Being's annual conference, 'New Frontiers in the Biology of Stress, Maltreatment and Trauma,' brought together 15 of the world's top researchers in psychology, genomics, immunology and neuroscience to discuss new advances in resilience and reversibility for the damaging effects of early-life adversity. Topics ranged from the effect of childhood stress on immune function, to trauma's impact on brain development, to interventions and coping strategies that can be implemented by families and during pregnancy to curb the genetic distress that trauma may cause. The conference analyzed trauma from many angles, and each session concluded with a panel discussion and translation period that allowed for interaction between speakers and attendees.

Penn State Symposium Aims to Reconstruct African-American Narratives
October 26-27, 2015

The Penn State Social Science and Population Research Institutes brought together 18 leading researchers in sociology, demography, psychology, human development and public health, as well as several community organizers and activists, for the 23rd annual National Symposium on Family Issues. The event examined the roles that families can play in the well-being of African-American men and boys and the ways in which programs and policies can help advance the health and development of this typically underserved and understudied group. The conversation focused on stereotypes and societal pressures that black males face, ways in which families can educationally inspire and engage young black men, health factors that impact this population, and large-scale measures that can be taken to enact positive change. The symposium was was funded in part by a grant from the Eunice Kennedy Shriver National Institute of Child Health and Human Development.

10th Annual De Jong Lecture
November 13, 2015

The De Jong Lecture is supported by the Caroline M. and Gordon F. DeJong Lecture-ship in Social Demography Endowment. It is administered jointly by the Department of Sociology and the Population Research Institute. This year's lead speaker was Dr. Arland Thornton, Professor of Sociology and Research Professor at the Population Studies Center and Survey Research Center at University of Michigan. He presented "Developmental Idealism: Its Global Dissemination and Social and Demographic Effects". Discussants were David Baker, Professor of Education and Sociology, Penn State University; and Sarah Hayford, Associate Professor, T. Denny Sanford School of Social and Family Dynamics, Arizona State University.

'Sex Trafficking: Vulnerabilities and Solutions' Awareness Event
April 9, 2016

State officials, students, advocates, trafficking survivors and specialists joined together in April in order to raise awareness and identify solutions for the pervasive problem of sex trafficking. This daylong discussion was hosted by the Penn State Network on Child Protection and Well-Being in collaboration with the Colleges of Communications, Nursing and Information Sciences and Technology, and addressed trafficking's multi-faceted impact. Technological mechanisms to stop trafficking were highlighted, as well as legislative aspects of the crime, stories from survivors, vulnerabilities for at-risk children and a community discussion about ways in which the $99 billion industry of sex trafficking can be brought to a halt.
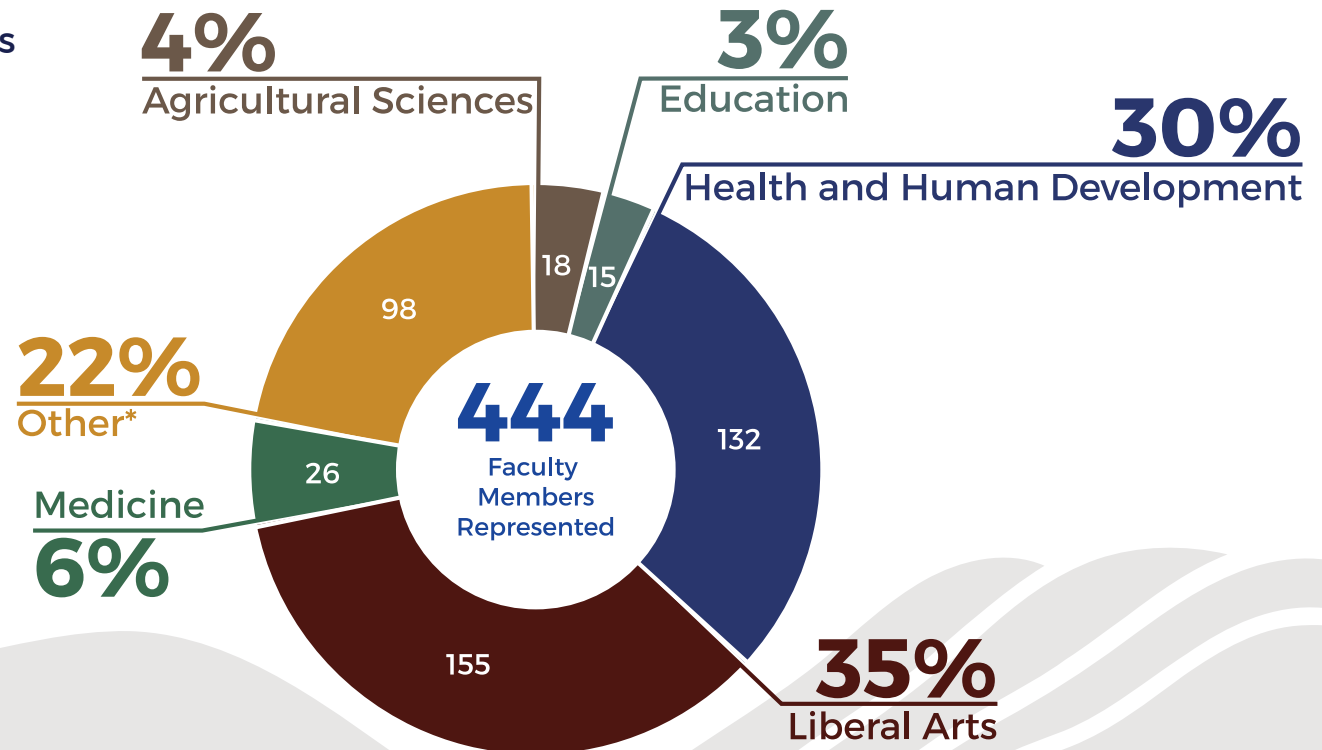
SSRI by the Numbers

SSRI CONSULTATIONS

An important service of the Social Science Research Institute is the provision of pre-award consultation by SSRI directors for faculty members pursuing grants in the social and behavioral sciences. During 2015-2016, SSRI Unit and Associate Directors met with 444 faculty members. Of these, 434 were affiliated with Penn State and came from 90 departments and units. The number of consultations by college is illustrated below.

SSRI Pre-Award Consultations

- Agricultural Sciences
- Education
- Health and Human Development
- Liberal Arts
- Medcine
- Other*

Other includes Colleges of Arts & Architecture, Communications, Earth and Mineral Sciences, Engineering, IST, Law, Nursing, Office of the VP for Research, Penn State Commonwealth Campuses, Science, Libraries, Administrative units, and external faculty.

4%
Agricultural Sciences

3%
Education

30%
Health and Human Development

22%
Other*

6%
Medicine

35%
Liberal Arts

98 18 15 132 155 26

444
Faculty Members Represented

SSRI SEED GRANTS

The SSRI's grant program began in 1998. The Level 1 and Level 2 funding mechanisms are designed to assist Penn State faculty members to form interdisciplinary research teams directed at pursuing external funding. Here is an overview of the outcomes realized by Level 1 and Level 2 grants since the program's inception.
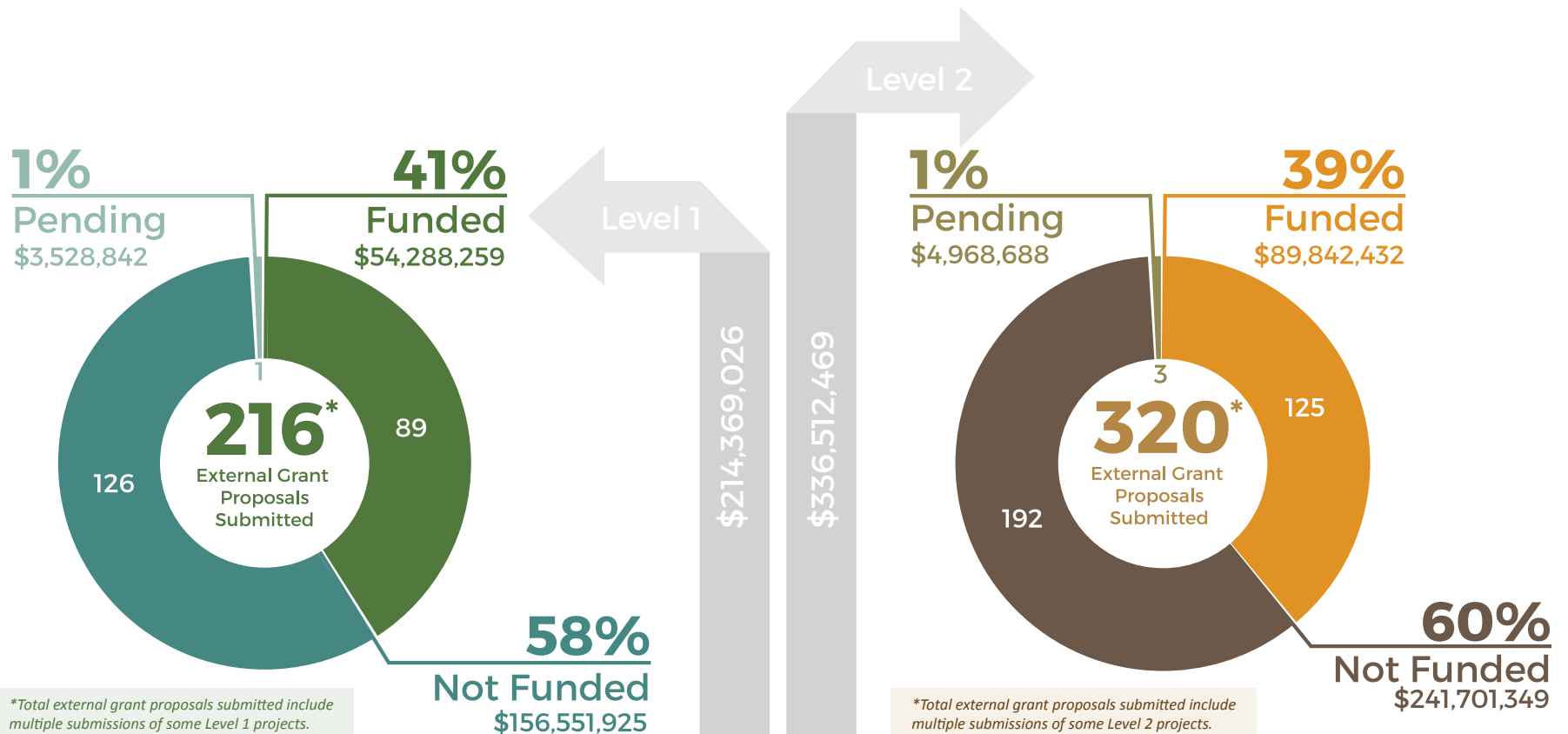
External Grant Proposals Resulting from Level 1 Seed Grants

Level 1 funds are typically used to form collaborative research teams to develop mutual interests, connect with other experts across the university, and build new research projects.

External Grant Proposals Resulting from Level 2 Seed Grants

Level 2 funds primarily support feasibility and pilot studies that provide the basis of competitive external grant proposals.

External Grant Proposals Submitted

Level 2

Level 1

1%
Pending
$3,528,842

41%
Funded
$54,288,259

1

89

126

216*
External Grant
Proposals
Submitted

58%
Not Funded
$156,551,925

$214,369,026

$336,512,469

1%
Pending
$4,968,688

39%
Funded
$89,842,432

3

125

192

320*
External Grant
Proposals
Submitted

60%
Not Funded
$241,701,349

*Total external grant proposals submitted include multiple submissions of some Level 1 projects.

*Total external grant proposals submitted include multiple submissions of some Level 2 projects.

2014-2019 Strategic Research Themes

The Human System

Head trauma screening tool to save lives

Social Disparities

Adolescent painkiller abuse a big problem for small towns, rural areas
College of Education professor files amicus brief before U.S. Supreme Court
New center supports researchers investigating educational inequities

Smart and Connected Health

Study to determine how stress affects health

Aiding addictive and problem behaviors research through IT

Innovative Methods

Twitter data powerful resource for researchers

Social networks in prisons impact prisoner health and re-entry

$13 million grant to continue funding for new social science research methods

Dissemination and Implementation Science

The power of yoga in the cvm

Clearinghouse for Military Family Readiness wins award for community impact

Head trauma screening tool to save lives

Kent Hymel, pediatrician at Penn State's Hershey Children's Hospital and Network for Child Protection faculty member, is heading up development of a new screening tool that could revolutionize the way head trauma is diagnosed, and could save the lives of an estimated 100 children per year.

Hymel's tool aims to take better measures to assess if a child's head trauma is abuse-related, in order to more accurately diagnose an injury and protect a child from future harm. According to Hymel, there is often an overlap in symptoms of accidental head trauma and trauma from child abuse, causing doctors to occasionally miss potential warning signs of maltreatment and forego the extra hospital tests that would verify abuse cases.

"The screening tool is simple and completely safe," said Hymel. "All doctors have to do is ask themselves [four questions]. It's a matter of if doctors will consider the screening tool and apply it."

To effectively incorporate Hymel's process, doctors must look at four factors pertaining to the child's injury: if the child stopped breathing at any point; if they have bruising on the torso, ears or neck; if they experience subdural bleeding—bleeding beneath the membrane that protects the brain and spinal cord; or if they have complex skull fractures. If any of those answers are yes, Hymel's tool then suggests that the child should be fully evaluated for abuse.

In his years working in pediatrics, Hymel has seen where unchecked abuse can lead. He recalled the case that inspired him to develop the screening tool, in which a physically abused child was sent to the hospital nine times following head trauma, but was not once evaluated as potentially abused. According to Hymel and his colleagues, the system fails children in instances like these.

"It continued to haunt me. I just never could forget that child and kept toying in my mind with 'how can we do better?'," he said.

Up to this point, Hymel's tool has been purely theoretical, based on evidence and patterns of past abuse cases, both diagnosed and misdiagnosed. Hymel describes the development of the screening measure as a process with various phases.

"In the first phase, we developed or derived the rule. We used data to tell us what the rule could be, what would work as a screening test and how it would perform."

Phase two involved looking back at past head trauma cases, applying the rule and seeing how many children the tool would have caught and potentially saved from repeat abuse.

At present, Hymel is in phase three, and has applied for a grant in order to implement the rule and test its efficacy in actual hospital settings. Hymel has recruited eight pediatric intensive care units in eight different hospitals to participate in this study and, hopefully, measure the tool's impact in clinical settings.

Four hospitals will implement the measure, asking the evaluative questions when examining a child with head trauma, and four will serve as control groups. Hymel hopes to gain a better understanding of doctors' willingness to employ the tool and see if there are any barriers of use. He says that, in this trial, the doctors are truly the subjects.

"We hope to be able to prove that, if we get them to follow the recommendations of the screening tool, we would improve the accuracy of screening overall," Hymel said. "It's a lot to ask. You have to keep it simple and plan the research in such a way that it doesn't interfere too much with their work. These doctors are very busy people. They've really been very generous."

Hymel said that the prediction rules should allow doctors to screen more widely for abuse cases and help eliminate potential bias. According to Hymel, though doctors aim to operate without any assumptions, the data show that more single-parent families and racial minorities were screened for abuse, while most missed abuse cases came from white families with two parents in the home.

Additionally, the tool may remove the parental discomfort that can come with suggesting a child be thoroughly examined for abuse. Since doctors would be basing their evaluations on the four specific criteria instead of conjecture, Hymel believes that the process of abuse evaluation would be less stigmatized and evenly catch more abused children across the board.

"Doctors are understandably afraid to accuse someone falsely of abuse or to make a conclusion when they don't have absolute certainty," Hymel said, "The screening tool casts a broad net to not miss any cases. I think if doctors can justify their decisions to work up the child for abuse based on these specific measures, then parents won't feel as scrutinized."

Overall, Hymel is confident that his screening measure is making strides in the right direction, and he is looking forward to the next phase of implementation.

"We believe it's simple and sensitive," he said, "And we believe we'll save lives."

Hymel leads the Pediatric Brain Injury Research Network, a group of pediatric investigators that assisted in this research.

Authored by Noelle Rosellini

Kent Hymel, M.D.

Child Abuse Pediatrician

Strategic Research Themes

The Human System

Innovative Methods

Shannon Monnat, Ph.D.

Assistant Professor,
Rural Sociology
Demography and Sociology

Strategic Research Themes

Social Disparities

Adolescents who live in rural areas and small towns and cities are more likely to abuse prescription painkillers than adolescents who live in large urban areas, according to sociologists.

Adolescents -- youths between 12 and 17 -- in rural communities are 35 percent more likely to have abused prescription painkillers in the past year than adolescents living in large cities. Adolescents who live in small cities have a 21 percent greater likelihood of abusing prescription painkillers than their large urban counterparts.

"Over 1.3 million adolescents abused prescription opioids within the last year," said Shannon Monnat, assistant professor of rural sociology, demography, and sociology at Penn State and SSRI co-funded faculty member. "With this number of adolescents there are major implications for increased treatment demand, risk of overdose and even death from these opioids."

The painkillers that adolescents tend to abuse include OxyContin, oxycodone, Percocet and other morphine-based drugs. According to researchers, females are more likely to abuse prescription painkillers than males.

The researchers suggest there are several reasons for this spread of opioid abuse in rural communities, including an increasing number of painkiller prescriptions written for adolescents, as well as the limited types of medical care available in rural areas.

Rural adolescents are more likely to go to emergency rooms for care, rather than to a primary medical practitioner, said Khary K. Rigg, assistant professor of mental health law and policy, University of South Florida, who worked with Monnat. Emergency room doctors are more likely than primary care doctors to prescribe painkillers.

"There has been a shortage of primary care practitioners in rural areas for a long time," said Monnat. "Often, emergency rooms or urgent care clinics might be the only place for someone to receive treatment in a rural area."

Rural youths are also less likely to understand the risks of painkiller abuse and less likely to have access to treatment facilities, according to the researchers, who reported their findings in the Journal of Rural Health.

Monnat said that rural adolescent painkiller abuse could actually be worse, but several factors often intervene in the youths' favor. For example, rural youths have less access to illicit drugs, receive more positive forms of peer pressure and report stronger religious beliefs.

"Religious beliefs and the fact that their friends are more disapproving of substance abuse appear to be protective factors against painkiller abuse," said Monnat.

Painkillers are particularly dangerous because opioid abuse may not be as evident as other forms of substance abuse, such as alcohol. "Some parents don't even know their children are addicted to painkillers because their kids are functioning well in everyday life," said Monnat. "Opioid abuse is different from drinking, for example, because parents can usually tell if their child is drunk, and it's even different from marijuana use because there are behavioral differences that they may be able to notice if their kid is smoking weed."

The researchers used data from the 2011 and 2012 National Survey on Drug Use and Health that surveyed 32,036 adolescents on last year prescription opioid misuse.

Authored by Matt Swayne

Liliana M. Garces

Associate Professor,
Education Policy studies

Strategic Research Themes

Social Disparities

Dissemination and
Implementation Science

The U.S. Supreme Court case of Fisher v. University of Texas was back in the news this past year and, because of it, Liliana M. Garces, Penn State assistant professor of higher education and Population Research Institute affiliate, was back in the courts.

Garces filed her second amicus curiae, or friend of the court, brief before the Supreme Court concerning that case. She first filed in 2012, and has filed two other amicus briefs on different topics as well.

The Supreme Court examined the constitutionality of the University of Texas' race-conscious admission policy for the second time in three years. "Back in 2012, it was somewhat surprising to many in the social science community that the court would agree to hear a case so soon after endorsing the constitutionality of the practice in 2003 with the Grutter v. Bollinger case,'' Garces said.

"That led the social science community to come together to summarize the extensive research findings showing why Texas was justified in using race as one among many factors in admissions and the limited success of other policies it had in place, like the Top Ten Percent Plan.''

All Texas high school students who graduate in the top 10 percent of their class can be admitted to one of the state's public colleges and universities. But the University of Texas at Austin also uses a holistic admissions policy that considers race.

Abigail Fisher applied to UT-Austin in 2008 and was not in the top 10 percent of her class. Her application was thus considered under the race-sensitive holistic review. She was not admitted, and she opted to attend Louisiana State University, from which she has graduated, but she initiated a lawsuit against the university.

Fisher said she wasn't admitted because of her race and that UT-Austin's race-sensitive holistic admissions policy violated the protection clause of the 14th Amendment.

"Even if race had not been considered, her score wouldn't have been high enough even to have gained admission, yet the court still agreed to hear the case and still found standing, so we'll see what happens in this next round,'' Garces said.

"Part of my work is not just about conducting research for us to better understand the kinds of policies that can expand access and educational opportunity, but also to make sure that research is actually used and has some kind of influence in other areas, in particular the legal arena because legal decisions can have a lasting impact in educational policy.''

This particular amicus brief, Garces said, introduced the latest research that supports UT-Austin's admissions policy and addresses the new legal issues in the case.

"As scholars who study race in education and experts in this area, we are trying to present to the court what the evidence has to say that informs the legal issues,'' Garces said. "The brief is a strong voice from the social science community coming together to support UT-Austin's race-conscious admissions policy.

"It was both challenging and stimulating to work on the brief because it involves working with hundreds of researchers from across the country — experts on this issue — and being the conduit who helps to communicate the work to a different audience. Legal decisions can have a very substantial impact on the work of educators and institutions and should be based on empirically grounded and scientifically tested research,'' she said.

New center supports researchers investigating educational inequities

Large academic achievement and other opportunity gaps are widespread in the U.S., with minority and low-income children consistently at greater risk than their peers.

To address these educational inequities, the Center for Educational Disparities Research (CEDR) is being jointly established by SSRI and the College of Education at Penn State.

According to Paul Morgan, center director and professor of education, the goal of the CEDR is to provide a support system for education-focused research. It is an extension of the Educational Risk Initiative (ERI), which Morgan helped to establish at Penn State four years ago.

The CEDR will build the educational field's knowledge base by identifying risk factors for educational disparities and by evaluating programs or policies that can help decrease these risks. Educational disparities can result from children having untreated disabilities, being raised in less advantaged homes and communities, and receiving lower quality schooling. These disparities can extend over the life course, affecting adult employment outcomes, health and well-being. "Educational inequities can result in societal inequities. Our collective aim is to even the playing field and provide equal opportunities for children," said Morgan.

The new center will provide additional support for researchers addressing educational inequities by increasing their external funding opportunities. The center will support researchers of varied backgrounds, including sociology, developmental psychology, demography, educational and school psychology, and educational policy.

"Researchers will benefit from the expertise of a community of colleagues whose skills can assist them in advancing their planned investigations as well as submitting proposals to external funding organizations," Morgan explained. "Faculty will also help establish multi-disciplinary teams of researchers and support their activities and project development."

The CEDR will also provide a number of services including assistance with proposal writing as well as advice and feedback from a variety of perspectives, course releases for selected faculty, mentoring, panel reviews, and hosting events and speakers.

Multiple successes can already be attributed to the center's predecessor, the ERI. According to Morgan, the ERI was critical in helping a number of faculty obtain external funding from the U.S. Department of Education's Institute of Education Sciences, the National Science Foundation, and the Spencer Foundation.

Penn State faculty with the CEDR include Chrissy Hall, Deborah Schussler, Jenny Frank, Peter Nelson, Julia Bryant, Ashley Patterson, Amy Crosson, Karly Ford, Katerina Bodovski, and Soo-yong Byun (College of Education; David Ramey, Jeremy Staff, Kevin Thomas, and Michelle Frisco (College of the Liberal Arts); and Scott Gest (College of Health and Human Development).

Paul Morgan, Ph.D.

Associate Professor, Education

Strategic Research Themes

Social Disparities

Study to determine how stress affects health

Joshua Smyth, Ph.D.

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David M. Almeida, Ph.D.

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Professor,
Human Development and Family Studies

Strategic Research Themes

Smart and
Connected Health

The Human System

The effects of stress on our health have been in the public and scientific spotlight for many years, yet the ability to measure common stress processes in daily life and identify how it affects our sleep and physical activity is underdeveloped. Penn State researchers were awarded $5 million to identify components of stressful experiences and responses that occur and how they negatively affect these important health behaviors.

Methods of assessing and intervening on stress while it's occurring are just beginning to emerge. David Almeida, project primary investigator and professor of human development and family studies at Penn State explained, "We'll be able to assess how specific features of stressful experiences during the day alters sleep and activity patterns and use this information to develop intervention to mitigate the effects of stress."

Researchers will also be able to pinpoint the specific elements that increase risk. According to project primary investigator Joshua Smyth, professor of biobehavioral health and medicine at Penn State and associate director of SSRI, 'stress targets' can be used to develop and implement interventions that are specifically targeted to moments of risk. "We'll be able to tailor them to the risk components experienced by individuals as they go about their daily lives."

The project will be completed in two phases. In the first phase, researchers will focus on the components or aspects of stress people experience on a daily basis that interfere with their plans for being physically active and getting a good night's sleep. The second phase will devise ways to intervene on those aspects of stress to help people sleep better and be more active.

"What's really exciting is that we will leverage our collective expertise in the areas of stress, ambulatory methodologies, interventions, aging, and health behaviors to examine how the impact of stress on our health behaviors unfolds in real-time and in peoples' natural environment," said another primary investigator, Martin Sliwinski, professor of human development and family studies and director of the Center for Healthy Aging at Penn State. "If we are successful, this research could revolutionize how we study the effects of stress and devise interventions to improve people's health."

According to the research team, the project represents the signature strengths of Penn State and, in particular, the College of Health and Human Development. The multidisciplinary undertaking draws upon expertise from three departments (biobehavioral health, human development and family studies, and kinesiology), two research centers (The Center for Healthy Aging, The Methodology Center), the College of Medicine, and support from the Social Science Research Institute. The project also involves three co-investigators who were former College of Health and Human Development students and post-doctoral fellows who are now faculty at other institutions.

Other Penn State investigators include Stephanie Lanza, scientific director at The Methodology Center and professor of biobehavioral health; David Conroy, professor of kinesiology; Orfeu Buxton, associate professor of biobehavioral health; and Chris Sciamanna, internal medicine specialist, Penn State Hershey Internal Medicine.

Aiding addictive and problem behaviors research through IT

Stephen Wilson, associate professor of psychology at Penn State, studies addictive and negative behaviors affecting health, specifically nicotine addiction in smokers. Although Wilson could monitor smokers in a lab, he found it difficult to accurately study their real-life smoking behaviors outside the lab.

"We were trying to recreate what smokers face outside in the real world, but it's a challenge because there's a lot of constraints in a lab," Wilson said. "To really take the research to the next level, I became very interested in trying to study cravings and other factors in a natural setting."

Wilson found his solution in something most people carry every single day.

Wilson contacted Dynamic Real-Time Ecological Ambulatory Methodologies (DREAM), a service within the Survey Research Center in SSRI that offers researchers new ways to collect data outside the lab through mobile technology.

Established in 2011, DREAM was created as a tool for researchers interested in "ambulatory assessments," a growing research method that involves studying subjects in real time in their natural surroundings.

To collect this data, researchers work with DREAM programmers to develop mobile applications and surveys to meet individual research needs. Rather than having participants answer questions in a laboratory setting, researchers can administer these surveys via cellphones at random times throughout the day over a longer period of time.

According to Joshua Smyth, academic director of DREAM and professor of biobehavioral health and medicine, collecting data through these mobile technologies can have multiple advantages over standard lab-based research.

"I think one of the big advantages is it untethers a person from your research space," Smyth said. "It allows us to collect information wherever and whenever, so it's not only untethered in terms of space but also in terms of time."

For Wilson, this kind of real-time research offers new insights into behaviors that were previously limited by traditional lab settings.

"Studying cravings in the laboratory can be limited in important ways," Wilson said. "You can provoke strong cravings, but if you want to try to understand it as it happens naturally, using mobile technology is a really nice way to do that."

Wilson collaborated with DREAM to program mobile surveys for smokers to take throughout their daily lives. Using DREAM-provided Android cellphones, study participants could either be surveyed randomly throughout the day or at set times. By collecting data from participants as they experienced real-world problems, Wilson was able to observe smokers in a more natural environment.

According to Smyth, trying to harness the data from these natural settings is not a new concept.

"We used to have people wear those old-fashioned pagers. We'd telephone them and they would have a paper diary they'd fill out," Smyth said. "So we've been doing this for a long time."

As interest in these tech-based collection tools grew over the years, researchers at the University realized a need for a centralized resource hub, leading to the formation of DREAM.

In the almost five years since its inception, DREAM has worked on approximately 20 projects spanning a variety of disciplines, according to project manager Erin Locke.

"I'd say the majority of our focus is in psychology, kinesiology, sociology and those types of fields," Locke said. "I think once word gets out about what we do and people see a need for it in different areas we'll continue to grow."

In fact, the service has already started to grow beyond the sphere of Penn State. According to Smyth, DREAM has attracted global attention for its innovation, and the program even offers its services to researchers outside the University.

"Researchers from other universities come here because of the expertise of DREAM. So it is, in fact, something that Penn State is uniquely known for," Smyth said.

With such a technology-focused service, keeping on top of the constantly changing system updates and technology trends is vital to DREAM's success. Android operating systems, which DREAM relies on, are updated frequently, meaning the program is in continuous development to stay ahead of the game.

"It's challenging to stay on top of Android development because every time you get a new phone it's got a new version," Locke said. "So we're always testing on different versions of Android — we're testing our app and new developments on all the current and retro stuff, so we can keep everything up to date."

Although the program is currently focused on mobile applications and surveys, Locke says new ideas are always on the horizon.

"If a researcher requests a feature not currently offered in our application, we're open to their needs," Locke said. "We are continually working on new development, as well."

For Wilson, these mobile interventions create new and exciting possibilities in smoking research.

"Not only can we study people, but we can develop algorithms that predict when someone is going to have trouble," Wilson said. "So when a smoker is at an increased risk of relapsing and going back to smoking, we can use the same technology to send them a message that may help them stay on track, and I think intervention is really where this field is heading."

Authored by Rachel Garman

Stephen Wilson
Associate Professor, Psychology

Strategic Research Themes

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Twitter data powerful resource for researchers

Guangqing Chi, Ph.D.
Academic Director,
Computational and Spatial Analysis Core
Associate Professor,
Rural Sociology and Demography

Strategic Research Themes

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When Hurricane Sandy hit New York and New Jersey in 2012, many people turned to Twitter to share firsthand information about the disaster. Twitter has become a useful social media tool for obtaining and sharing news as it happens, but the data it generates can also be a rich source of information for researchers in a number of different fields, say Penn State researchers.

Guangqing Chi, associate professor of rural sociology and demography and director of the Computational and Spatial Analysis (CSA) Core in SSRI at Penn State, and his team have collected 25 terabytes of geo-tagged tweets over the last three years.

"Knowing the demographics of a group is usually the first step in population research, and Twitter offers one of the newest and most rapidly growing Big Data sources," he said. Twitter data is very versatile and can reveal a variety of social, behavioral and emotional information about its users in real time.

While Twitter data has drawn interest in research fields such as computer science, transportation planning, and urban studies, social scientists are resisting using the data. According to Chi, this is because the data is not representative of the population and because we know little about the demographic characteristics of the users. "Previous research focused on predicting only a few demographic characteristics of Twitter users and relied on a small amounts of Twitter data. Also, because Twitter user demographics and language use may change year to year, the prediction methods may be inaccurate. These factors have limited researchers from taking full advantage of the information embedded in Twitter."

In response to these challenges, Chi and his team are developing a set of methods to accurately predict demographics in real time. "Our work has the potential to change the landscape of population research," said Chi. "It could open the door for demographers to take advantage of rich Twitter data and strengthen research in many other social science disciplines that use demographic data."

Their methods are essentially machine-learning algorithm models. "We're not trying to predict demographics of individual Twitter users. Rather, we are predicting the composition of a group of Twitter users and then the demographic composition of the population," Chi explained.

"The approach is based on the premise that it is difficult to make predictions about an individual but is much easier to make predictions about large groups of individuals." His team also utilizes U.S. Census data to compare their findings to determine how effective their models are.

In order to manage the information they've collected more efficiently, Chi and the CSA Core will be building an infrastructure to collect, manage, and analyze it for social science research. Other CSA Core staff members involved in the project include Daniel Nugent, managing director; Cynthia Mitchell, research analysts/programmer; and Yosef Bodovski, research analyst.

The team will be hosting a series of workshops to promote the use of Big Data for social science research and packaging the Twitter data and capacity into a product for collaboration with SSRI researchers. "While other researchers could start data collection on their own, it would be difficult and expensive," said Chi. "Since we've been collecting and analyzing the data for three years, I feel we are ahead of the curve in knowing the potential uses and challenges of Big Data."

For example, there are many social scientists already using Twitter data to determine interests among demographic groups and track behaviors such as cyberbullying. Additionally, researchers could use the data to study user locations, times they are online, commuting patterns, topics of interest and how they change over time.

"Geographically annotated social media is extremely valuable for modern information retrieval." Chi reported. "Twitter data can provide a significant amount of individual social, behavioral and emotional information (social, behavioral, and emotional) that is longitudinal and georeferenced. The latter enables the linkage to other individual-level data, such as patient-based data and social surveys, as well as other environmental data."

SSRI and the Population Research Institute are supporting this work.

Additional researchers participating in this project include Daniel Kifer, associate professor of computer science; Jennifer Van Hook, professor of sociology and demography and director of the Population Research Institute; Lee Giles, professor of information sciences and technology and director of the Intelligent Information Systems Research Laboratory; Corina Graif, assistant professor of sociology and criminology; Stephen A. Matthews, professor of sociology, anthropology, and demography; all of Penn State, as well as Xiaopeng Li, assistant professor of civil engineering at University of South Florida; and Tse-Chuan Yang, associate professor of sociology at SUNY Albany.

Social networks in prisons impact prisoner health and re-entry

Aside from the occasional brush with "Orange is the New Black" on Netflix, many are unfamiliar with the intricacies of the American prison system and the day-to-day lives of the inmates within it. Derek Kreager, professor of sociology and criminology at Penn State and SSRI co-funded faculty memter, is researching inmate networks to demystify the connections that inmates make in prison in order to help them lead healthier, more positive lives within and outside of the system.

"We know a lot about schools, we know a lot about organizations — even gangs — but we don't know a lot about prisons," said Kreager, who hopes to shine a light on this understudied population with three separate studies analyzing inmate relationships.

Kreager's first study — the Prison Inmate Networks Study, also known as PINS — was a longitudinal survey of 140 inmates in a local prison's "honor" unit. Funded by the National Science Foundation and in collaboration with the Penn State Justice Center for Research and a multidisciplinary team of investigators from Ohio State University, Arizona State University, Rutgers University, Simon Fraser University, and the Pennsylvania Department of Corrections, PINS aimed to understand social connections, attitudes and hierarchies within the observed unit over time.

"The intent is to use that information to get a sense of how friendship and status are organized within the unit, and how they relate to outcomes like health, misconduct and preparation for re-entry," said Kreager.

Kreager and his team asked the inmates a series of questions regarding who they got along with best, which fellow inmates they believed were the most influential, which inmates shared information with them and which inmates they traded with

most. Kreager said the responses to these questions create a kind of social "map" that was then compared to participants' health and current behaviors.

According to Kreager, this is the first time an inmate study has been done at this level of sophistication and, in general, there is unanimity among inmates as to who the leaders and social outliers of the group are.

"What we're finding so far is that the people who are at the center of this unit — leaders, people who have the most friends, those who get along with the most people — tend to be the healthiest," said Kreager, noting that many of the men in these leadership positions have longer sentences and have made more of their current situation by focusing on hobbies, health and other pro-social activities.

"The people who are on the edge of this unit tend to be those who have shorter sentences, who are younger," he said. "They tend to show poorer health, and tend to smoke more. Prison for them is temporary."

The next step for Kreager and his team begins this summer as they track the re-entry process for many of the PINS subjects as they are paroled. With this re-entry PINS study, Kreager expects to follow 50-75 of his PINS participants as they exit prison and re-assimilate into society at large. Kreager is looking to monitor the ties that inmates have in prison with family and friends and whether or not those ties meet inmate expectations outside of prison.

The PINS team has already begun monitoring five released inmates and expects to track the rest as they exit over the course of the summer, but for Kreager this is merely the beginning of what he hopes will be a variety of prison inmate network studies.

Since the original PINS unit was a men's honor unit — meaning that nonviolence was a condition for living in the space — Kreager anticipates that future studies of different types of populations will lead to drastically different results. He is currently in the process of applying for funding to recreate the PINS study in three women's prisons in Pennsylvania and Ohio. Kreager already has permission from the two state's departments of corrections to study three women's units — one minimum, one medium, and one high security.

"There's likely to be many differences," he said. "The way women organize within prison is very different than the way men organize."

According to prior research, Kreager said, women in prison are more likely than their male counterparts to connect and form family, group and romantic relationships. Women's prisons may also have higher instances of violence, but fewer fatalities, than men's prisons. Kreager hypothesizes that higher levels of social connectivity and grouping could be the cause of conflict within these units, and hopes that his network methodology will test and clarify that theory. With proper funding, Kreager is looking to launch the project in the summer of 2017 or 2018.

In the meantime, starting this year and running until May 2017, Kreager and his team — with funding from the National Institutes of Health — will again be analyzing inmate communication networks, this time regarding therapeutic substance abuse treatment communities within prison. According to Kreager, these peer communities function much like Alcoholics Anonymous and other similar groups in that inmates will rely on their peers as a support system as they fight to overcome addiction.

Kreager hopes to evaluate how an inmate's connectedness to the group impacts the recovery process, program completion and chances of relapse.

"The people who are most willing to change should engage more and become central to the network," Kreager said. "They're going to be the leaders. We expect the people who really engage with the therapeutic community and who graduate to do best."

In learning how inmate connectedness affects program success, Kreager believes positive change can be brought to inmate substance abuse programs. "This is directly relevant to policy because what we learn can help design better treatment," he said.

Prison betterment and greater understanding is, overall, Kreager's goal with each of the PINS studies. He believes that his work can begin to shine light on prison life and get inmate stories into the public eye.

"There is a huge way to go, I don't think we know enough and — because prisons have been isolated for so long — it's too easy to not provide resources and to let inmates fend for themselves." Kreager said. "In general, what this kind of research does is it removes some of the mystery of what it's like to be in prison, and it brings back the humanity of inmates."

Additional researchers on the project include David R. Schaefer, associate professor, school of human evolution & social change, Arizona State University; Martin Bouchard, associate professor of criminology, Simon Fraser University; Dana L. Haynie, professor of sociology, Ohio State University; Sara Wakefield, associate professor of criminal justice, Rutgers University; Jacob Young, assistant professor of criminology and criminal justice, Arizona State University; and Gary Zajac, director, Penn State Justice Center for Research.

Authored by Noelle Rosellini

Derek Kreager, Ph.D.
**Associate Professor,
Sociology and Criminology**

Strategic Research Themes

Innovative Methods

The Human System

$13 million grant to continue funding for new social science research methods

Linda Collins
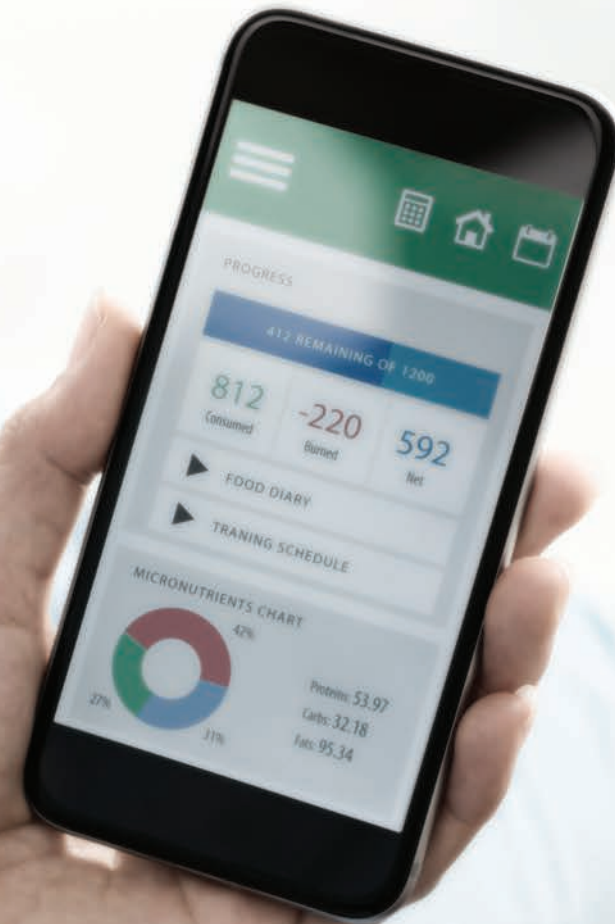**Distinguished Professor, Human Development and Family Studies, Statistics**

Strategic Research Themes

Innovative Methods

Dissemination and Implementation Science

The Methodology Center at Penn State received a $13 million grant from the National Institute on Drug Abuse (NIDA) to support research over the next five years that could lead to innovations like smartphone apps that give recovering drug addicts help when they need it most.

"This grant is the cornerstone of all our scientific funding, providing funding for three of our largest research projects," said Linda Collins, director of The Methodology Center. "Importantly, it is enabling us to launch a new initiative in the area of analysis of complex behavioral data related to substance use and HIV."

These projects are designed to develop research methods for use with newly available types of data. In one project, scientists are examining for whom interventions work -- or fail to work -- and the best timing for intervention delivery. In another, scientists are developing methods for finding the most important variables in data sets with huge numbers of variables, such as genetic data. In the third, scientists are developing algorithms for delivering interventions through smartphones.

The Methodology Center includes about 25 Ph.D.-level researchers and trainees. The research projects in the new grant are headed by Stephanie Lanza, Methodology Center scientific director and professor of biobehavioral health; Runze Li, Verne M. Willaman professor of statistics and professor of public health sciences; and Susan Murphy, H.E. Robbins professor of statistics at The University of Michigan. These projects all serve The Methodology Center's mission to advance public health by improving experimental design and data analysis in the social, behavioral and health sciences.

This will be the fifth NIDA grant awarded to the Methodology Center as a whole, for a total of 24 consecutive years of funding. Along with this five-year grant comes the designation of "Center of Excellence."

"This grant also provides a large part of the infrastructure that supports the Center," said Collins. "It is going to enable us to step up our outreach efforts to include much more online training about the innovative methods we develop."

The Methodology Center was created in 1989, and Collins has served as director since 1994.

Authored by Victoria Indevero

The power of yoga in the classroom

Bringing yoga into the classroom reduces adolescents' emotional distress and anxiety and positively influences school engagement, unexcused absences and other disciplinary actions, according to Jennifer Frank, assistant professor of special education in Penn State's College of Education and SSRI co-funded faculty member.

Transformative Life Skills (TLS) is an evidence-based classroom program that teaches middle and high school students stress-management skills through the practice of yoga and mindful breathing. Developed five years ago by Frank, TLS is a prevention and intervention program that incorporates yoga postures, breathing techniques and meditation as a means to cope with stress.

"Adolescence is a time when many students are at risk for various psychological disorders such as depression and anxiety, which can lead to drug use and various mental health problems," Frank said. "Those risks are heightened for minorities and children from low-income families. We know that yoga reduces stress, but we wanted to see if TLS also was effective in enhancing student learning. Is there a link between the two?"

Frank and fellow researcher Bidyut Bose of the Niroga Institute, a nonprofit organization that promotes health and well-being through mindful yoga, tested the TLS curriculum on a diverse group of students attending a middle school with a high poverty rate located in inner-city Oakland, California.

The study, published in the Journal of Applied School Psychology, shows that students experienced a decrease in reported stress and an improvement in their academic skills. The researchers found significant improvement in students' school engagement as well as a reduction in unexcused absences and detentions. Students' attitudes toward resorting to violence also decreased, and they developed better coping skills.

"All of these things are things we don't really teach in schools," Frank said. "But students need to have these skills in order to be successful in their academics."

Recently recognized as having met or exceeded the research standards set forth by the Collaborative for Academic, Social and Emotional Learning (CASEL), the main governing body that evaluates social and emotional learning programs, TLS demonstrates the important link between social and emotional learning, and academic learning. It is currently one of a handful of yoga/mindfulness programs nationwide to achieve this rating, Frank said.

"They're not just interested in if kids become happier or better behaved," Frank said of the CASEL standards. "They want to know if the skills are linked to learning. And now we can say for sure that they are. We're evidence-based now."

TLS allows for schools to teach social and emotional skills in a way that students enjoy, Frank said, noting their research showed that student participants demonstrated a positive view of TLS.

"The curriculum is very comprehensive. It is manualized and we have demo videos to support it," Frank said, explaining the curriculum comes in the form of a guidebook to assist educators with the different postures and breathing techniques. "We also have extension activities where kids take the content they learned and apply it to their schoolwork, interaction with peers, home and family, and the community."

The TLS curriculum consists of four units: the stress response, physical and emotional awareness, self-regulation and healthy relationships. It also includes a structured professional development strategy so districts can continue to train educators and sustain the program.

More than 35 schools in the greater San Francisco Bay area have already integrated TLS into their programming. Other organizations such as juvenile detention centers also are using the program. Recently, the United Nations learned of the effects of TLS and asked Frank and her colleagues to travel to Palestine to train educators and refugee service providers in TLS.

The researchers are now implementing a coaching program and are planning to pilot a mentoring program that will pair at-risk students with an adult mentor.

Authored by Jessica Buterbaugh

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Strategic Research Themes

Dissemination and
Implementation Science

Clearinghouse for Military Family Readiness wins award for community impact

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Strategic Research Themes

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Penn State's Clearinghouse for Military Family Readiness has been honored by the Association of Public and Land-grant Universities (APLU) as the Northeast regional winner for the 2016 W.K. Kellogg Foundation Engagement Scholarship Award. The center is now a finalist for the national C. Peter Magrath University Community Engagement Scholarship Award.

"The Clearinghouse examines how we can use science to help address unique challenges and questions facing military personnel and their families, and make a positive difference in their lives," said Daniel Perkins, the Clearinghouse's director and a professor of family and youth resiliency and policy within the College of Agricultural Sciences.

"Penn State is extremely proud that the Clearinghouse for Military Family Readiness was recognized by the APLU for this very prestigious award," said Craig Weidemann, Penn State's vice president for outreach and vice provost for online education. "The Clearinghouse is an outstanding example of Penn State's realization of the 21st century land grant and also of engaged scholarship. Dr. Perkins and his team are deeply committed to advancing evidence-based interventions to improve the lives of those who serve and their families."

Since its inception in 2010, the Clearinghouse for Military Family Readiness has provided professionals who deliver direct assistance to military families with information to help identify, select and implement the right evidence-based programs and practices to address wide-ranging family and mental health issues. The center employs nearly 50 researchers, as well five undergraduate and 10 graduate students, who work on applied research projects.

Perkins says professionals and agencies will solicit the Clearinghouse to examine programs already in practice to see what works best for their distinct situations. The center has reviewed more than 1,000 programs in six years and, in 2015, more than 60,000 pages were accessed on its website.

"Part of our goal is to ensure that military families are receiving the best tools to support themselves," said Perkins. "Military families have unique challenges with higher stress and levels of uncertainty and danger, and we owe it to them to do the best we can at providing effective services."

Among several partners, the Clearinghouse currently collaborates with the United States Department of Defense, the Office of Reserve Affairs and the Air Force, Army, Navy and Marine Corps, focusing its research on suicide prevention, child and youth programming, new parent support programs, child abuse neglect and domestic violence.

The APLU's Community-University Engagement Awards Program recognizes colleges and universities that have redesigned their learning, discovery and engagement missions to become more involved with their communities. Three of the W.K. Kellogg Foundation regional winners will receive a cash prize of $5,000, and the national C. Peter Magrath Award winner will receive a $20,000 prize.

The national winner will be announced late 2016.

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