

FISCAL YEAR
2017



RESEARCH
ABSTRACTS

COLLEGE OF HUMAN
SCIENCES

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FY2017 RESEARCH ABSTRACTS

COLLEGE OF HUMAN SCIENCES

Great Plains Interactive Distance Education Alliance (GPIDEA)

Oklahoma State University is a member institution in the Great Plains Interactive Distance Education Alliance, a partnership of public universities providing access to education by collaboratively delivering high quality, online academic programs. Member universities recruit, admit and graduate students, deliver instruction, and contribute to alliance leadership and maintenance. Alliance membership is a selective process that engages institutional leadership at all levels. The College of Human Sciences participates in these academic programs: 1) Family Financial Planning master's program, 2) Gerontology master's program, 3) Dietetics master's program, 4) Family and Community Services master's program, and 5) Retail Merchandising Leadership master's program.

Sponsors: Great Plains Interactive Distance Education Alliance, partner universities

PI/PD: Shiretta Ownbey

DESIGN, HOUSING AND MERCHANDISING

A Multi-Dimensional Approach to Meet 21st Century Retailing Education and Industry Challenges for India and the US

The purpose of this project is to foster collaboration between the U.S. and India within retailing education. This year, seven modules and an assessment plan were developed and prepared to launch during a compressed 10-day synchronously offered graduate course to students from several states.

Sponsors: Iowa State University, United States-India Educational Foundation

PI/PDs: Cosette Armstrong, Jane Swinney

Improving Safety and Health of Wildland Firefighters Through Personal Protective Clothing

Fit and comfort concerns related to protective clothing of female wildland firefighters will be communicated to apparel manufacturers and federal government agencies. This initial dialog will be the first step in making necessary changes in styles to improve personal protective clothing for female wildland firefighters with enhanced functionality via enhancements in protective, physiological, and aesthetic attributes.

Sponsor: Oklahoma Agricultural Experiment Station

PI/PDs: Adriana Petrova, Semra Peksoz

Interactions of Individual, Family, Community, and Policy Contexts on the Mental and Physical Health of Diverse Rural Low-Income Families

Conduct extensive higher order analyses in all waves of quantitative and qualitative data to further explore factors that create barriers or enhance the physical and mental health of diverse rural low-income families.

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Gina Peek

Oklahoma Healthy Homes: Youth Component for Healthy Homes

The long-term goal of the project is to provide education and resource information that will reduce housing deficiencies and risks associated with childhood diseases and injuries. As the electronic delivery system for the Healthy Homes Solutions Toolkit, the focus of this project is to provide information that can help educators and consumers address housing deficiencies and risks. The objective is to add value to the Healthy Homes Solutions Toolkit curriculum.

Sponsors: University of Missouri, United States Department of Agriculture – National Institute of Food and Agriculture

PI/PD: Gina Peek

Pattern Drafting for Cap Cover

The objectives of this project were to design a cap frame cover, produce a technical package and production patterns, produce alpha prototypes, and construct a sample in final fabric.

Sponsor: Individual

PI/PD: Mary Ruppert-Stroescu

Personal Protective Technologies for Current and Emerging Occupational Hazards

Current events from hurricanes to sabotage of transportation systems highlight the importance of improving personal protective equipment for “first responders” and “first receivers” as well as members of the agricultural community. The project addresses the needs of all three groups and facilitates transfer of best practices among them.

Sponsor: Oklahoma Agricultural Experiment Station

PI/PDs: Semra Peksoz, Adriana Petrova, Mary Ruppert-Stroescu

Place Attachment in Coworking Environments

This study examines design features that assist coworkers with enhancement of place attachment. Attributes common to coworking environments include shared spaces, nonrestrictive occupations, and an environment that caters to a multitude of jobs and industries and encourages comingling. Data have been collected in coworking offices in Midwestern metropolitan areas using visual research methods, specifically photo-elicitation, which incorporates photos into individual research interviews to better understand a participant’s viewpoint. Design features related to the four dimensions of place attachment will be analyzed: place dependence, place identity, social bonding, and nature bonding.

Sponsor: Interior Design Educators Council

PI/PD: Mihyun Kang

HOSPITALITY AND TOURISM MANAGEMENT

Building Tourism and Marketing Strategies for Oklahoma Wines

This project is to increase agritourism as it relates to the viticulture and enology industries and advance the marketing of Oklahoma produced grapes and wine. Specifically, this project is conducting market research to identify visitor profiles and examine visitor perceptions as well as conduct a needs assessment of producers as it relates to continued development and marketing. This information will be used to develop critical and executable marketing strategies to increase awareness and visitation to Oklahoma wineries.

Sponsor: Oklahoma Department of Agriculture, Food and Forestry

PI/PDs: Stacy Tomas, Jing Yang

Farm-to-Table Movement in Oklahoma: Barriers and Facilitators of Local Food Sourcing from Oklahoma Producers to Restaurants

The purpose of the project is to investigate what deters and what facilitates farm-to-foodservice sourcing in Oklahoma from the perspective of both the producer and restaurateur. The project also aims to understand the foodservice demand for local foods and identify key success factors in establishing local food sourcing. A qualitative component will include a series of interviews with Oklahoma farmers/producers and restaurateurs to identify perceived local food sourcing barriers and facilitators. Findings from the interviews will be used to design an on-line survey that will then be distributed among a greater sample of farmers and restaurateurs as phase two of the project. Results of the project will be utilized to develop timely and fact-based educational and training materials to assist Oklahoma local foods movement.

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Lisa Slevitch

Hospitality Consulting and Research Services

This project provides a tailored project design and methodology. A project will include project timing, measurements, milestones, reporting, analysis, resources, and involvement of other subject matter experts.

Sponsor: Oriole Holdings, LLC

PI/PDs: David Davis, Dar Yasseri

Oklahoma State Parks Hospitality Training

Specially developed training curriculum for OTRD for Oklahoma State Parks in the area of customer service and hospitality was needed to improve and enhance visitor services. The training was developed in consultation with the Oklahoma Tourism and Recreation Department and was delivered to all Oklahoma State Park employees that have direct contact with visitors. Fourteen four-hour training sessions were held across the state at specified state parks within each region. Employees who participated in the trainings also received a copy of the curriculum, as well as a workbook of additional resources.

Sponsor: Oklahoma Tourism and Recreation Department

PI/PD: Stacy Tomas

Traveler's Profile and Destination Image Study

The aim of this project was to assess the profile of individuals who visit Guthrie, Oklahoma. The researchers will seek to understand the perceptions of the city of Guthrie as a travel destination.

Sponsor: City of Guthrie

PI/PD: Li Miao

HUMAN DEVELOPMENT AND FAMILY SCIENCE

A Community Approach to Care Education: Empowering Rural Hospitals and Caregivers to Engage in Exceptional Care of Rural Elders

This health education project targets rural, family caregiving as a critical health issue. This team is mobilizing the Family and Consumer Science Educator network to be the go-to resource on Care Education by developing an original curriculum and robust evaluation processes. Through a train-the-trainer model, our Care Education team is working directly with rural Family and Consumer Science Educators who will ultimately serve rural hospital health professionals and family caregivers. Given that rural health and caregiving are complex issues, the Care Education team is thrilled to be working with state and federal partners to ensure the success and scalability of this important project.

Sponsor: United States Department of Agriculture – National Institute of Food and Agriculture

PI/PDs: Whitney Bailey

Design, Housing and Merchandising: Emily Roberts

College of Education: Sara Gordon

ABCD - USA Consortium Research Project

The purpose of the project is to prospectively determine the neurodevelopmental and behavioral predictors and consequences of substance use on children and adolescents. The study involves 21 data collection sites across the country and will enroll a total of 10,000 children. In Tulsa, we are collecting data on 700 nine and ten-year-old children. The study will follow the children and families over 10 years, and will examine factors that influence brain development and mental health.

Sponsors: Laureate Institute for Brain Research, National Institutes of Health

PI/PD: Amanda Morris

Age Simulation Suit GERT Project

The purpose of the project was to create a hands-on immersive experience that will generate increased awareness and knowledge of normative age-associated changes in sensory, mobility, and biomechanical functioning. The target audience included N = 32 able-bodied participants. Average age of participants was 51 years. Older participants were paired with younger participants through a series of simulated AOL activities (e.g. cooking, medication preparation, sit/standing, and walking) while wearing age simulation suit equipment. Results indicate that participation in the ADL exercises using the age simulation suit produced more realistic expectations regarding aging for all participants. Furthermore, the combined use of ADL activities with a wearable aging simulation suit resulted in increased feelings of empathy. The findings have implications for using age simulation clothing for caregiver training and education

Sponsors: Donna Cadwalader Research & Development Grant, Oklahoma Home and Community Education, Inc., Oklahoma State University Foundation

PI/PDs: Alex Bishop

Design, Housing and Merchandising: Gina Peek

CareerAdvance: Outcomes Study, Health Profession Opportunity Grants University Partnership- Child Assessment

This research project is designed to study the expansion of CareerAdvance, an adult workforce development program run by the Community Action Project of Tulsa County (CAP). CareerAdvance supports the career development of low-income parents with children enrolled in CAP's early learning centers.

Sponsors: Northwestern University, United States Department of Health and Human Services, Administration for Children and Families

PI/PD: Amanda Morris

Center for Integrative Research on Childhood Adversity

The Center for Integrative Research on Childhood Adversity (CIRCA) is the nation's first interdisciplinary center focused on understanding and mitigating the effects of childhood adversity on health. The long-term goal of CIRCA is the development of more effective and sustainable prevention and intervention strategies to interrupt the cycle of generational trauma and toxic stress. CIRCA will develop and study interventions for children and adolescents at risk for negative outcomes associated with adverse experiences. Achieving these goals promotes and enhances the mission of Oklahoma State University as a land-grant institution dedicated to using research knowledge to improve the lives of the citizens of the state and the nation.

Sponsor: National Institutes of Health

PI/PD: Jennifer Hays-Grudo

Center on Child Abuse and Neglect

The Center on Child Abuse and Neglect offers assessment and treatment for children who have been abused or neglected, adolescent sex offenders, and women and the children of women who used inappropriate substances during pregnancy. This project supports two OSU students who provide oversight of qualitative data, core check qualitative data, and enter data for analyses.

Sponsor: University of Oklahoma

PI/PD: Lana Beasley

Children, Youth, and Families At-Risk: The North Carolina State University and Oklahoma State University Together for a Better Education Program

The purpose of this five-year project is to implement and evaluate the JUNTOS project designed to increase academic performance and reduce dropout among Latino youth. Objectives are to 1) empower Latino parents to become more involved in and supportive of the educational goals of their children, 2) promote Social Emotional Learning in youth and link them with existing community resources designed to enhance their academic performance, and 3) provide youth with opportunities to develop positive peer affiliations and life skills through diverse activities and exposure to career opportunities.

Sponsors: North Carolina State University, United States Department of Agriculture – National Institute of Food and Agriculture

PI/PD: Ron Cox

Community Action Project of Tulsa Family Life Study Extension: Evaluation of a Model Dual-Generation Program

This research project is designed to study the expansion of CareerAdvance, an adult workforce development program run by the Community Action Project of Tulsa County (CAP). This project includes longitudinal data collection on the impact of a workforce development program for parents of children attending Head Start. It will examine the effects of the program on children's social and emotional development. Initial results indicate gains in education among parents as well as gains in self-esteem and motivation. Initial results of the program are promising, with CareerAdvance parents earning more education and employment in targeted sectors, as well as increased levels of children's attendance in quality preschools.

Sponsors: Northwestern University, Foundation for Child Development

PI/PD: Amanda Morris

Daily Peer Interactions and Enduring Relationship Attributes as Predictors of Adolescent Sleep

Given critical role that peer relationships play in the prediction of physical and mental health (e.g., obesity, depression) during adolescence, the current pilot study will explore links between peer relationships and adolescent chronic sleep deficiency. The first aim of this study will be to delineate variation in amount of adolescent sleep by daily peer electronic communication (e.g., texting). Second, we will identify enduring negative peer relationship attributes (e.g., victimization, conflict) that predict variation in amount of adolescent sleep.

Sponsor: Oklahoma Center for the Advancement of Science and Technology

PI/PD: Michael Criss

Dayspring Reflective Consultation

Dayspring therapy providers will be seen individually for reflective consultation either weekly or bi-weekly, as specified by Dayspring to ensure that providers receive opportunities to reflect on issues raised by their clinical cases which utilize the model Child Parent Psychotherapy and/or infant mental health specific cases. Periodic group reflective consultation has been held and is on-going as appropriate with above mentioned provider.

Sponsor: DaySpring Services of Oklahoma

PI/PD: Amanda Morris

Early Childhood Partnership Project

The project is designed to facilitate the enrollment of four and five-year old children residing within the Stillwater Public School (SPS) District into an inclusive Pre-Kindergarten and Kindergarten educational program. This project implements Oklahoma State Department of Education and SPS's educational criteria including, but not limited to, family activities and involvement, literacy concepts/skills, mathematical concepts/skills, science concepts/skills, and social development and growth.

Sponsor: Stillwater Public Schools

PI/PD: Diana Ross

Evaluation of Home Visitation Programs Provided by the State

This project will evaluate and measure the quality of home visitation programs provided by the state to identify problem areas and enhance the growth of home visitation programs in the state of Oklahoma.

Sponsor: University of Oklahoma Health Sciences Center

PI/PD: Lana Beasley

Evaluation of "Talking is Teaching" Tulsa Campaign

This evaluation is designed to examine the effectiveness of the "Talking Is Teaching" campaign activities and examined usage of literacy toolkits and engagement in activities being promoted through the campaign. Initial results indicate that components of the program are successfully impacting parents' attitudes and behaviors toward talking, reading, and singing to babies. Programming that is more relationship-based (e.g., involving a nurse educator or reading group) seems to be most effective.

Sponsor: The Opportunity Institute

PI/PD: Amanda Morris

Expanding the Cycle of Opportunity: Simultaneously Educating Parents and Children in Head Start

The purpose of this project is to conduct a randomized trial on the impact of a dual-generation education program, Education Pathways Program, for parents and their children in the Community Action Project's Head Start programs. An implementation study on the key strengths and challenges of intervention, and how it can better serve Head Start families will be conducted. Findings will have implications for how dual-generation approaches affect family processes and well-being and how best to integrate this approach into Head Start programming.

Sponsors: Northwestern University, United States Department of Health and Human Services, Administration for Children and Families

PI/PD: Amanda Morris

Giving Our Quietest Children a Voice: Using Assistive Technology to Promote Independence in Young Children

The purpose of the project is to examine how the systematic collaboration among team members who support young children with limited communication abilities influences the use of Assistive Technology (AT) by four young children within inclusive classrooms at the OSU Child Development Lab and to examine how following the recommended steps identified by the Quality Indicators for Assistive Technology impacted the children's successful use of AT to communicate. Findings demonstrated that collaborative team interactions positively impacted the successful use of AT by the young children. Adhering to the QIAT steps impacted each child's communication abilities in different, yet positive ways.

Sponsors: Bartlett Family Grant for Promoting Independent Living among Individuals with Physical Disabilities, Oklahoma State University Foundation

PI/PDs: Gretchen Cole-Lade, Dianna Ross

College of Education: Claudia Otto

HATCH: Holistic Assessment of Tulsa Children's Health

The long-term goal of this research program is to understand women's reproductive health and fertility over the life course and adverse pregnancy and birth outcomes. The objective of the research project is to determine biopsychosocial mechanisms linking maternal early adversity, unplanned pregnancy, and poor birth outcomes. Information from this study will be used to develop an intervention for mothers with the aim of reducing unplanned pregnancies and improving birth outcomes. Study recruitment is ongoing.

Sponsor: National Institutes of Health

PI/PD: Karina Shreffler

Juntos Against Alcohol Tobacco and Drug Use Intervention Trial

Juntos Se Puede (Together We Can) is a community-based, culturally-appropriate, psychoeducational intervention that shows significant promise to reduce stress and ATOD (alcohol, tobacco and other drugs) use among Latino youth in new settlement areas. Before an efficacy trial is conducted, a feasibility trial is designed to answer two sets of questions. First, what are the most efficient recruitment and retention strategies for Latino immigrant families? What engages parents and youth in the program? Second, how will Latino youth and their families respond to requests to provide biomarkers used to determine cumulative stress burden, as assessed by allostatic load? What relationships exist between common psychosocial factors and allostatic load among Latino youth?

Sponsor: National Institutes of Health

PI/PD: Ron Cox

Juntos: Together for a Better Education and Success for At-Risk Youth in Iowa Communities

The project will provide program evaluation expertise to Iowa State University. OSU will coordinate data collection protocols, instrumentation, data management, and data analyses for the project.

Sponsors: Iowa State University, United States Department of Agriculture – National Institute of Food and Agriculture

PI/PD: Ron Cox

Legacy for Children Spanish Evaluation

This study is evaluating the Centers for Disease Control and Prevention's Legacy for Children group parenting program. Funds are used to strengthen data collection for parenting groups, including Spanish groups, being implemented in Tulsa, OK. Specifically, funds are used for staff to help collect comparison data and to code observational data of parent-infant interactions.

Sponsors: University of Oklahoma Health Sciences Center, United States Department of Health and Human Services, Administration for Children and Families

PI/PD: Amanda Morris

Legacy Parenting Initiative - Tulsa Children's Project

The purpose of this project is to provide a highly unique and integrated set of proven interventions to maximize the health and development of the families enrolled in Tulsa Educare, Inc., and in the community. The interventions focus on improving parenting in low-income families and include the evaluation of the George Kaiser Family Foundation's Faith-based literacy program as well as parenting programs at Educare and in the community. Results indicate that the programs are reaching families, and are improving parenting attitudes and behaviors.

Sponsors: George Kaiser Family Foundation, Oklahoma State University Foundation

PI/PDs: Amanda Morris, Jennifer Hays-Grudo

Minding the Gap in Early Childhood Education: A Lay Advisor Approach

The purpose of the project was to: a) identify and train community lay advisors to deliver one of two home-based parent involvement curricula as a means of fostering healthy early childhood development among families living in poverty; and b) evaluate program outcomes among children, families, and lay advisors. Findings indicate that developmental progress was made by children in both treatment groups; families reported significant increases in parenting efficacy and empowerment; lay advisors connected families with community resources that families likely would have gone without; and lay advisors demonstrated substantial professional development.

Sponsors: George Kaiser Family Foundation, Oklahoma State University Foundation

PI/PDs: Amy Tate, Michael Merten

Modeling Parent-Child Inter-Brain Emotion Regulation in the Prediction of Adolescent Depressive Symptoms

Depression and emotion management problems contribute to significant public health problems in adolescence and adulthood. Despite evidence that parenting plays an important role in risk and resilience processes related to emotion regulation and depression, extant research has focused primarily on intra-individual emotion regulation and has not examined inter-individual emotion regulation, or how parents' emotion regulation impacts adolescents' emotion regulation and related mental health. Little is known about the impact of parenting on the neurocircuitry underlying adolescents' emotionality and depressive symptomology. To address these gaps, the current study integrates (a) a developmental approach, (b) functional neuroimaging, and (c) longitudinal clinical research to examine how risk and resilience for depression relate to brain activity in parents and adolescents.

Sponsor: National Institutes of Health

PI/PD: Amanda Morris

MOU - Partnership with Tulsa Children's Project

The purpose of this project is to help motivate low-income Tulsa Educare parents to achieve family self-sufficiency through increased workplace income, benefits and career growth opportunities.

Sponsor: Tulsa Educare, Inc.

PI/PD: Jennifer Hays-Grudo

National Core Indicators Adult Consumer Survey – Oklahoma

The purpose of this research is to inform policy and practice within state developmental disabilities service systems using the Nation Core Indicators Adult Consumer Survey. In FY17, face-to-face surveys were conducted with adults with intellectual disabilities regarding where individuals live and work, participation in community activities, relationships with friends and family, health and well-being. Research findings improve State practice and policy and add knowledge to the field regarding quality of life of individuals with intellectual disabilities. Data also informs the State transition plan to meet new Centers for Medicare and Medicaid Services rules for Home and Community Based Services.

Sponsor: Oklahoma Department of Human Services

PI/PDs: Jennifer Jones, Kami Gallus

Oklahoma Good Behavior Game Implementation and Evaluation

The Center for Family Resilience (CFR) has been supporting the implementation of PAX Good Behavior Game (PAX GBG) for approximately one year. The CFR's support has been primarily in the areas of technical assistance, quality improvement activities, and evaluation of PAX GBG implementation at John Glenn Elementary in Oklahoma City, Oklahoma. Broadly, the support system provided by the CFR, with program oversight provided by the Oklahoma Department of Mental Health and Substance Abuse Services, serves as a meaningful tool for building and promoting mental health in Oklahoma. CFR staff attended a national PAX partner training session that will enable the CFR team to provide quality support to elementary school teachers.

Sponsor: Oklahoma Department of Mental Health and Substance Abuse Services

PI/PD: Michael Merten

Parent Child Center of Tulsa Study

The Parent Child Center of Tulsa study is a prospective, mixed-methods study designed to evaluate the efficacy of delivering literacy toolkits and literacy education to women giving birth at local hospitals. Results indicate improvement in literacy building skills; also, the program may be particularly beneficial for families with low levels of education.

Sponsor: George Kaiser Family Foundation

PI/PDs: Amanda Morris, Lana Beasley

Parenting, Energy Dynamics and Lifestyle Determinants of Childhood Obesity: New Directions in Prevention

The purposes of this multi-state research project are to identify successful childhood obesity prevention strategies that include parenting and to translate those strategies for implementation by community and public health professionals. The goals included: 1) reviewing the pertinent literature regarding parent, family, or community obesity-prevention research from the perspectives of nutrition, physical activity, and developmental sciences, 2) arriving at a consensus about the primary correlates of childhood obesity that can be addressed by parent, family, or community obesity prevention programs, and 3) translating and disseminating agreed-upon best practices into messages or webinars for Extension.

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Laura Hubbs-Tait

Practicum for Process and Implementation Evaluation of Community Based Services for Problematic Sexual Behavior of Youths

This project provides oversight for the qualitative aspects of a study examining community-based services for youth who have exhibited problematic sexual behaviors, including conducting individual interviews by telephone, conducting focus groups, organizing transcription data, analyzing data, and blending qualitative data with quantitative data.

Sponsors: University of Oklahoma Health Sciences Center, United States Department of Justice, Office of Juvenile Justice Delinquency Programs

PI/PD: Lana Beasley

Preventing Suspension and Expulsion in Early Care and Education through Targeted Professional Development on Social and Emotional Self-Regulation

This project includes two-parts: 1) Examining classroom and developmental correlates of suspension and expulsion practices in Oklahoma. This part was completed in spring 2017 with a survey to all licensed childcare facilities in Oklahoma; and 2) Developing an evidence-based professional development program for early care and education teachers aimed at improving their self-regulation skills, facilitating self-regulation in very young children, understanding the impact of risk and resilience on adult and child self-regulation development, mindfulness, and reflective practice. This program is currently being piloted in Stillwater Early Head Start programs.

Sponsors: Caplan Foundation for Early Childhood, Oklahoma State University Foundation

PI/PD: Amy Williamson

Project LAUNCH - Infant and Early Childhood Mental Health Work Force Development

This project is a contract to offer workforce development to Oklahoma based mental health clinicians. The professional development program includes a graduate course in Infant Mental Health assessment that was offered through the HDFS department at OSU and 50 hours of reflective consultation towards their endorsement in infant mental health that is still ongoing for participants.

Sponsors: Oklahoma State Department of Health, United States Department of Health and Human Services

PI/PD: Amy Williamson

Reducing Pesticide Exposure among Latino Adolescents through Promotora-Based Interventions

This project implements and evaluates a promotora-based intervention targeted at adolescent farm workers. The intervention will be delivered to two different treatment groups: 1) adolescent only, adolescents receive the adapted adolescent version of La Familia Sana program and 2) family enhanced, adolescent and mother both receive the La Familia Sana program. In addition, there will be a control group where adolescent farmworkers will not be exposed to any pesticide safety program.

Sponsors: University of Texas Health Science Center, National Institute for Occupational Safety and Health

PI/PD: Michael Merten

System of Care: Strengthening our CareNet (SOC2) - Infant and Early Childhood Mental Health Workforce Development

This project is an ongoing contract to offer workforce development to Oklahoma based mental health clinicians in infant mental health. The professional development program includes a graduate course in Infant Mental Health assessment offered each semester and 50 hours of reflective consultation towards their endorsement in infant mental health for each cohort. Additionally, Dr. Williamson provides an ongoing evaluation of the effectiveness of the workforce development initiative.

Sponsors: Oklahoma Department of Mental Health and Substance Abuse Services, United States Department of Health and Human Services

PI/PD: Amy Williamson

The Northwestern University Two-Generation Study (NUGen) of Parent and Child Human Capital Advancement

This study examines the impact of a workforce development program on children and families. The program targets low-income parents. OSU provides expertise specifically on the Two-Generation Exploratory Mechanism Study to focus on child and family outcomes as they relate to children's academic progress and socioemotional development.

Sponsors: Northwestern University, United States Department of Health and Human Services, Administration for Children and Families

PI/PD: Amanda Morris

Tulsa Campaign to Prevent Teen Pregnancy

This project is an evaluation of the Tulsa Teen Pregnancy Prevention (TPP) scale-up efforts under an Office of Adolescent Health grant that was secured by Youth Services of Tulsa. Evaluation support included external observations of program delivery for fidelity monitoring, the development of surveys to understand the process of community mobilization and youth engagement in support of TPP, and an assessment of teen friendly clinic linkages.

Sponsors: Tulsa Campaign to Prevent Teen Pregnancy, United States Department of Health and Human Services, Youth Services of Tulsa

PI/PD: Michael Merten

Tulsa Campaign to Prevent Teen Pregnancy - Data Collection and Evaluation

The project supports the Tulsa Campaign to Prevent Teen Pregnancy (TCPTP) through analyzing and reporting participant level data on TPS district wide implementation of comprehensive sex education, developing a Sex Educator Experience Survey to assess perceived barriers to program implementation, and analyzing and reporting on teen clinic linkages through the Teen Clinic Experience Survey.

Sponsor: Tulsa Campaign to Prevent Teen Pregnancy

PI/PD: Michael Merten

Understanding the Psycho-Physiological Dynamics of Well-Being and Health in Old- Old Age

The purpose of this study was to determine how very old people remain healthy given age-associated decline and impairment. A total of 154 participants, 70 years of age and older, were evaluated. One goal of this study is to comparatively examine experiential and evaluative components of well-being on health outcomes among long-lived adults. Results indicate that family care providers tend to underestimate the functional abilities of the older care recipient, while overrating negative health outcomes. Results have implications relative to how care providers address the mental and physical well-being and quality-of-life in the older care recipient.

Sponsor: Oklahoma Center for the Advancement of Science and Technology

PI/PD: Alex Bishop

Wings of Hope Family Crisis Services Graduate Research Assistantship

To enhance student learning in marriage and family therapy and to support the delivery of mental health services to victims of domestic violence and sexual assault, this grant established the Wings of Hope graduate research assistantship. The graduate student worked in family crisis services at Wings of Hope as part of a clinical assistantship/externship.

Sponsor: Wings of Hope Family Crisis Services

PI/PD: Matt Brosi

Youth Services of Tulsa Graduate Assistantship

To enhance student learning in marriage and family therapy and to support the delivery of mental health services to adolescent youth in an urban setting, this grant establishes the Youth Services of Tulsa graduate research assistantship. The graduate student worked in adolescent mental health at Youth Services of Tulsa as part of a clinical assistantship/externship.

Sponsor: Youth Services of Tulsa

PI/PD: Matt Brosi

NUTRITIONAL SCIENCES

β , β -carotene 9',10'-oxygenase 2 in Hepatic Mitochondrial Function and Obesity

The purpose of this study was to dissect the role of BCO2 in mitochondrial integrity and the consequence in the development of obesity in mice. The project utilized functional biochemistry and omics approaches to assess the underlying mechanism by which BCO2 regulates mitochondrial structure and function (mitochondrial respiration activity) in the wild type and BCO2 knockout mice.

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Daniel Lin

Chickasaw Nation Systems and Environmental Change, Social Marketing, Evaluation and Tribal Partnership

The development and implementation of the Get Fresh! social marketing campaign is a long term commitment for which the return is prevention of obesity and type 2 diabetes among Native Americans living in the Chickasaw Nation boundaries through the establishment of healthy eating habits and a physically active lifestyle. "Stories of Health" from Native Americans living in the Chickasaw Nation boundaries have been developed and tailored for Native American families focusing on promoting physical activity, increasing fruit and vegetable intake, and being healthy together. Indigenous formative assessment on acceptance, comprehension and relevance of the "Stories of Health" is being conducted.

Sponsors: Chickasaw Nation, Oklahoma Department of Human Services, United States Department of Agriculture

PI/PDs: Stephany Parker, Janice Hermann

Chickasaw Nation WIC/OSU Hot Buttons Evaluation

The Chickasaw Nation Nutrition Services (CNNS) has an established history of research collaborations with faculty in the Department of Nutritional Sciences at Oklahoma State University. Through these contracts, CNNS has been able to improve the visibility of the Women, Infants and Children (WIC) program at the national level by reporting science-based outcomes and dissemination of these outcomes in peer-reviewed publications. The research, survey, and focus group evaluation expertise provided by the contracts with OSU will benefit the CNNS WIC program by ensuring the development of evidence- and practice-based outcomes evaluation techniques.

Sponsors: Chickasaw Nation, United States Department of Agriculture

PI/PDs: Stephany Parker, Janice Hermann

Cooking for Kids: Culinary Training for School Nutrition Professionals

The project provides comprehensive training to assist Oklahoma's school food authorities in effectively implementing USDA meal pattern requirements authorized by Healthy and Hunger Free Kids Act. In its 4th year, 817 school nutrition professionals (SNP), representing 157 school districts, have attended 3-day skill development training; and 33 SNP, representing 21 school districts, attended culinary management training. Year-long chef consults have been conducted in 27 school districts. Outcomes include increase in SNPs' knowledge and improved work practices. Student outcomes include increased consumption of whole grains and fruit meal components.

Sponsors: Oklahoma State Department of Education, United States Department of Agriculture

PI/PD: Deana Hildebrand

Eagle Adventure Program

The Eagle Adventure Program is a collaboration between the Chickasaw Nation Nutrition Services' Get Fresh! program and the Nutritional Sciences Department. The program received funding to support Eagle Adventure programming, evaluation, and additional work with tribal partners throughout Oklahoma. The Eagle Adventure is a type 2 diabetes prevention program for children in 1st through 3rd grades. Built on a foundation of the CDC Eagle books and native culture, storytelling and language, children learn how staying healthy and strong can help prevent type 2 diabetes. Children are becoming excited about eating more fruits and vegetables and being physically active.

Sponsor: Blue Cross/Blue Shield of Oklahoma

PI/PDs: Stephany Parker, Janice Hermann

Effect of Wheat Germ Oil (WGO) from Oklahoma Red Winter Wheat on Inflammation, Gut Integrity, and Microbial Population in Obese Mice

Changes in gut microbial population can compromise gut integrity and lead to chronic inflammation which is linked to many chronic conditions such as type 2 diabetes and cardiovascular disease. One natural product that can be tapped for its health benefits is wheat and its by-products. Oklahoma is one of the largest wheat growing states in the country. Wheat germ (WG) is an understudied portion of the wheat grain and contains several bioactive compounds, including large amounts of vitamins and anti-oxidants. The goal of the project is to study the effects of WG from Oklahoma red winter wheat on gut integrity and bacterial population and examine its relationship with inflammation and body weight and composition in obese mice.

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Edralin Lucas

Effects of Maternal Vitamin D Supplementation on Markers of Vitamin D Status and Related Infant and Maternal Health Outcomes in Southern Ethiopia

A placebo-controlled double-blind trial was conducted in Sidama Zone, Southern Ethiopia. Lactating women (n=126) enrolled within two weeks postpartum were randomized to vitamin D3 (15,000 IU/week) or placebo for 12 months. Median 25(OH)D was higher in the vitamin D supplemented group at end-line. All supplemented women were vitamin D sufficient (> 50 nmol/L) by the end of the study. Furthermore, 95% had attained 25(OH)D concentrations > 75 nmol/L compared to 39% in the control group. Weekly vitamin D supplementation safely eliminated vitamin D insufficiency in the study population.

Sponsor: Nutricia Research Foundation

PI/PDs: Barbara Stoecker, Meron Wondimagegnhu

Effects of Strawberries on LDL Cholesterol and Insulin Resistance in Overweight/Obese Adults with the Metabolic Syndrome

In this study we investigated the effects of two dietary achievable doses of strawberries on serum LDL-C, LDL-C particles, glucose (fasting and postprandial) and HbA1c in participants with the metabolic syndrome in a randomized crossover study.

Sponsor: California Strawberry Commission

PI/PD: Arpita Basu

Egg Xanthophylls Prevent Chronic Inflammation in Type 2 Diabetes

Inflammation is one of the causative factors mediating the pathogenesis of diabetes. Xanthophylls, the oxygenated carotenoids, alleviate inflammation in both humans and rodents. Egg is a common but unique food containing highly bioavailable xanthophylls. The project employed structural, chemical, and functional approaches to investigate the molecular targets of egg and its xanthophylls on alleviation of chronic inflammation in type 2 diabetes.

Sponsor: United States Department of Agriculture – National Institute of Food and Agriculture

PI/PDs: Daniel Lin

Center for Veterinary Health Sciences: Ranjith Ramanathan

Expanded Food and Nutrition Education Program Research, Program Evaluation and Outreach

The Expanded Food and Nutrition Education Program (EFNEP) assists low-income families gain the knowledge, skills, attitudes, and behaviors necessary for nutritionally sound diets.

Currently, we are testing new evaluation methods to determine changes in food behaviors brought about by the program. This will provide us with a way to evaluate whether the program promotes positive changes in dietary intake and related behaviors. We conducted a reliability and validity study on items. Items found to generate reliable responses over time were submitted to the national EFNEP Director for the new Food Behavior Checklist. Validity testing of the new instrument is underway.

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Nancy Betts

Fetal Alcohol Syndrome - Evaluating Potential for Nutrition Intervention with Iron

The project will use the Cerner Health Facts and National Health and Nutrition Examination Survey to determine if iron status is lower in newborns diagnosed with fetal alcohol syndrome and pregnant woman who consume alcohol. Completion of this study is expected to identify populations at risk for infants born with fetal alcohol syndrome and high rates of iron deficiency and may benefit from iron supplementation. The knowledge gained from these studies may lead to nutrition strategies to prevent or mitigate the teratogenic effects of alcohol during pregnancy and decrease the incidence of fetal alcohol spectrum disorder.

Sponsor: National Institutes of Health

PI/PD: Winyoo Chohanadisai

Food-Derived Bioactive Components and the Gut as a Therapeutic Target for Osteoporosis

Research has shown that by altering the gut mucosal immune system and microbial populations, postmenopausal bone loss can be prevented. This project is investigating the extent to which the bioactive components in a polyphenolic-rich food, dried plum, can alter gut mucosal immunity using in vitro and in vivo experiments. Additionally, we are studying how the gut mucosal immunological changes induced by dried plum and its bioactive components correlate with changes in bone. The results of this project are allowing our research team to understand how the gut may serve as a target for the treatment of osteoporosis.

Sponsor: Oklahoma Center for the Advancement of Science and Technology

PI/PD: Brenda Smith

Gut Immunomodulating Properties of Phenolic Compounds in Oklahoma Grown Pecans: Potential Health and Long-term Economic Impacts

Oklahomans continue to experience chronic diseases at alarming rates. While genetics and health behaviors contribute to this public health dilemma, the underlying etiology of these diseases involves chronic activation of the immune system. Advances in our understanding of gut mucosal immunity and the ability to use bioactive components in foods to target this system have led us to investigate how other foods rich in phenolics, such as the pecan which is an important Oklahoma crop, effect the gut immune response. Preliminary results show that phenolic compounds from pecans down-regulate inflammatory processes and may target the gut for intervention.

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Brenda Smith

Health Policy Research Scholar

Over the course of the five-year program, the participant will engage in program activities concurrent with and to enhance and enrich the participant's doctoral program. Participant is developing high-level leadership skills through professional coaching, mentoring, networking and an advanced health policy curriculum. The overall intention of the program is to diversify the next generation of leaders and ensure equity in policies to advance a Culture of Health – one that places well-being at the center of every aspect of life.

Sponsor: Robert Wood Johnson Foundation

PI/PD: Teresa Jackson

'HoneySweet' Plum Safety Study

The plum pox virus is a devastating disease that can wipe out complete orchards. Currently, there are no effective ways of eradicating the virus once an orchard is infected. This study is designed to investigate the safety of a genetically modified cultivar of plum, 'HoneySweet', that has been developed to be resistant to the plum pox virus. This multi-disciplinary research effort includes investigators at the USDA-ARS Appalachian Fruit Research Station, Clemson University, and Oklahoma State University. Researchers at OSU are investigating the safety of routine consumption of the 'HoneySweet' plum on clinical indicators.

Sponsor: Clemson University

PI/PD: Brenda Smith

Implication of Caring Practice and Household Food Insecurity on the Nutritional Status, Growth, and Development of Infants in Nutritional Sensitive Intervention Areas in South West Ethiopia

In Ethiopia, childhood malnutrition is both prevalent and serious, and improper feeding and caring practices remain a common problem. This project involved data analysis from 4680 households in southwest Ethiopia. Pregnant women, ages 15-49 were monitored at three-month intervals from the first trimester of pregnancy until delivery, and monitoring of mother-infant dyads continued to 1 year after delivery for a total of 7 data collection points. Key measures included growth, motor milestones and developmental outcomes as well as information on diets of mothers and infants. Data on decision-making, information access and income and expenditures of the household also were collected.

Sponsors: University of California, International Maize and Wheat Improvement Center, United States Agency for International Development

PI/PDs: Barbara Stoecker

Jimma University: Debebe Moges Moshago

Low-Income Older Adults' Use of Food Pantry to Cope with Food Insecurity

Older adult food insecurity is a serious threat facing not only our nation but also Oklahoma. Thus, food banks and food pantries have become a crucial resource for those who are food insecure in Oklahoma. However, older adults who utilize food pantries still have barriers and setbacks that need to be overcome. In order to help older Oklahoma adults with food insecurities, there must be progressive changes made to food pantries. This study is meant to determine the needs and issues facing older adults who obtain food from food pantries to facilitate positive growth among older adults facing food insecurities.

Sponsors: Donna Cadwalader Research and Development Grant, Oklahoma Home and Community Education, Inc., Oklahoma State University Foundation

PI/PDs: Janice Hermann, Gail Gates, Stephany Parker

Nutrient Bioavailability - Phytonutrients and Beyond

This multi-state project addresses the roles of nutrients and phytochemicals and their interactions in reducing the risk of chronic disease. Work related to project objectives included investigation of biomarkers of iron status and their relation to anemia in Ethiopia as well as biomarkers of maternal iron status that predicted infant cognitive outcomes. Another project investigated iodine deficiency in pregnancy and the transfer of iodine to breast milk and ultimately to infants. Understanding factors that determine nutrient bioavailability and targets of action assists in making recommendations to specific stakeholders and ultimately affecting the health of Oklahomans and our nation.

Sponsor: Oklahoma Agricultural Experiment Station

PI/PDs: Barbara Stoecker, Edralin Lucas

Oklahoma Nutrition Education

This science-based program teaches low-income adults and youth about nutrition, health and well-being. It focuses on eating healthy on a budget, increasing physical activity and increasing food safety practices.

Sponsors: Oklahoma Department of Health, United States Department of Agriculture

PI/PDs: Debra Garrard Foster, Diana Romano

Oklahoma Tobacco Settlement Endowment Trust's Healthy Living Program

The University Partnership for Applied Evaluation Research conducts in-depth evaluation of 50 county level coalitions funded to prevent and reduce tobacco use and obesity through strategic actions across businesses, cities and governments, community institutions and organizations and schools using policy, systems and environmental approaches.

Sponsors: University of Oklahoma Health Sciences Center, Tobacco Settlement Endowment Trust

PI/PD: Deana Hildebrand

PEP Grant-FitnessGram Student Outcomes Evaluation

The purpose of this program is to evaluate Putnam City Public School District's ability to meet the United States Department of Education's Physical Education Program Grant. At the end of year 3 of the 3-year project, 49 percent of the 4th and 5th grade students (n=432) met physical fitness criteria; 55 percent were within a healthy weight range; 35 percent reported meeting fruit consumption recommendations; and 24 percent reported meeting vegetable consumption recommendations.

Sponsors: Putnam City Public Schools, United States Department of Education

PI/PD: Deana Hildebrand

Raspberries, Postprandial Metabolism and Type 2 Diabetes Mellitus

This project assessed the effects of raspberries in postprandial glycaemia and lipemia following a high fat fast-food style meal challenge versus control group. The project assessed the effects of raspberries on the postprandial rise of glucose, lipids, and inflammatory biomarkers in adults with type 2 diabetes along with a high fat breakfast meal.

Sponsors: National Processed Raspberry Council, United States Department of Agriculture

PI/PD: Arpita Basu

Regulation of Placenta Growth Factor by Hemodynamics and Reactive Oxygen Species

The overall objectives of this application are 1) to pursue our knowledge of mechanisms regulating PLGF into the new avenue of iron metabolism, and 2) to reveal the mechanism by which a Western diet impairs PLGF regulation.

Sponsor: National Institutes of Health

PI/PD: Stephen Clarke

Resilience and Vulnerability of Beef Cattle Production in the Southern Great Plains under Changing Climate, Land Use, and Markets: Consumer Curriculum Evaluation

Objectives were to understand vulnerability and enhance resilience of beef-grazing systems and safeguard and strengthen production and ecosystem services while mitigating greenhouse gas emissions in the Southern Great Plains. A curriculum, "Does Climate Change Your Plate?" found statistically significant increases in 14 of 16 topics reflecting increases in knowledge of climate and weather, greenhouse gases, ranching adaptations, connections between climate and production and nutritional benefits of beef. There were significant increases anticipated to eat recommended serving sizes, serve beef with vegetables and/or whole grains, buy on price per serving, use recommended cooking methods, healthful convenience items and reduce food waste.

Sponsors: Kansas State University, United States Department of Agriculture – National Institute of Food and Agriculture

PI/PDs: Barbara Brown

Division of Agricultural Sciences and Natural Resources: Daryl Arnall, Jeff Edwards, David Lalman, Tyson Oschsner, Albert Sutherland, Jason Warren

Role of Garlic in Decreasing Cardiovascular Disease Risk by Promoting Reverse-Cholesterol Transport

It is important to examine foods and their bioactive components that show promise for mitigating the negative effects of high-calorie/high-fat (especially saturated fat) diets on cardiovascular disease risk. Among such foods, garlic (*Allium sativum*) has received particular attention due to its anti-hyperlipidemic and anti-cancer properties. The purpose of this project is to examine the extent to which bioactive components present in garlic exhibit their cardioprotective properties through an increase in cholesterol efflux and reduction in cholesterol synthesis in macrophages. Understanding the potential mechanisms through which bioactive components of garlic reduce risk of disease will provide insight into the reduction of developing chronic diseases.

Sponsor: Oklahoma Agricultural Experiment Station

PI/PD: Stephen Clarke

Science, Technology, Research and Innovation for Development (STRIDE)

The aim of this research grant is to mentor and facilitate the visit of an international researcher who will participate in short-term research activities.

Sponsor: U.S. Agency for International Development

PI/PDs: Edralin Lucas, Brenda Smith

Research Scholar: Judith Antonino

Selenium and Thyroid Metabolism among Iodine Sufficient Children

The thyroid response of selenium-deficient children was investigated a year after iodine repletion. Iodized salt coverage increased to 91.6% and median urinary iodine concentration (UIC) increased from 9.3 µg/L at baseline to 167 µg/L at endline. However, nearly half of the children had low serum selenium. Iodine replete (UIC > 100 µg/L) children with serum selenium lower than the optimal cutoff for iodinase activity had significantly lower serum T₃ and elevated TSH suggesting that selenium deficiency is a risk factor for normal iodine metabolism.

Adequate selenium status may increase the effectiveness of the salt iodization program and needs further investigation.

Sponsor: The Micronutrient Initiative

PI/PDs: Barbara Stoecker, Dawd Gashu

SNAP and EFNEP Nutrition Education and Obesity Prevention Center of Excellence: Creating Healthy Local Places

OSU investigators are participating as part of the SNAP and EFNEP Nutrition Education and Obesity Prevention Center of Excellence (NEOPCE) to focus on the use of public health principles and Policy/Systems/Environmental (PSE) interventions to promote healthy eating and prevent obesity in low income populations. Our long-term goal is to reduce the incidence of obesity among low-income families and children through the use of SNAP-Ed and EFNEP PSE approaches that complement and are integrated with direct nutrition education strategies.

Sponsors: University of Tennessee, United States Department of Agriculture – National Institute of Food and Agriculture

PI/PDs: Stephany Parker

Center for Sovereign Nations: Elizabeth Payne

Student Outcome Evaluation

This student outcome evaluation for Schools for Healthy Lifestyles 3rd through 6th grades was conducted to examine 1) progress in student fitness levels measured by FitnessGram and 2) changes in students' health knowledge and behavior as measured by Schools for Healthy Lifestyles' Health Survey. At the end of the year, 55% of randomly selected 4th and 5th grade students (n=472) met physical fitness criteria; 64% were within a healthy weight range; 17% reported meeting fruit and vegetable consumption recommendations.

Sponsors: Schools for Healthy Lifestyles, United States Department of Education

PI/PD: Deana Hildebrand

Tart Cherry Supplementation and Exercise: A Novel Strategy for Osteoporosis Prevention

Despite the development of several osteoporosis pharmacological treatment options over the past two decades, the prevalence of osteoporosis continues to rise. Issues related to patient compliance, side effects and cost of drugs, have limited their effectiveness. Efforts to discover alternative regimens to prevent and treat osteoporosis have recently revealed that the incorporation of tart cherries into the diet can attenuate age-related bone loss by enhancing mineralization. This project is investigating if the combination of tart cherry with an exercise regimen can increase the bone-protective effects of tart cherry and to understand influence of age on this response.

Sponsor: Cherry Marketing Institute

PI/PD: Brenda Smith

The Influence of Tart Cherry Juice on Bone Biomarkers in Older Women

Osteoporosis continues to be a major public health problem in the U.S. and more than 70% of the fractures occur in women. The pursuit of alternative approaches for preventing bone loss or restoring bone has included the investigation of plant-based foods rich in certain types of polyphenolic compounds. These compounds have the capacity to prevent postmenopausal and age-related bone loss in pre-clinical studies. The purpose of this project is to investigate the short-term effect of tart cherry juice consumption on biomarkers of bone metabolism in women, aged 65-80 years.

Sponsor: Cherry Marketing Institute

PI/PDs: Brenda Smith, Edralin Lucas

Work Performance in Men with Trans-Femoral Amputation

Rehabilitation for patients undergoing trans-femoral amputation (TFA) presents great challenges. Despite advances in rehabilitation and prosthetic technology, Oklahomans with TFA struggle with return to regular activities, including work. This project is designed to evaluate the underlying physiological response during recovery from TFA so that more effective rehabilitation programs can be developed. Our laboratory is collaborating with the University of Oklahoma Health Sciences Center to evaluate the changes in serum biomarkers during the recovery and rehabilitation processes.

Sponsors: University of Oklahoma Health Sciences Center, Oklahoma Center for the Advancement of Science and Technology

PI/PD: Brenda Smith

ZIP 12 - A Candidate Gene for Neural Tube Defects and Neurodevelopmental Disorders

The purpose of this study is to identify nutritional strategies for addressing developmental disorders by uncovering novel nutrient-gene interactions which lead to neurodevelopmental pathology.

Sponsor: Oklahoma Center for the Advancement of Science and Technology

PI/PD: Winyoo Chohanadisai