

College of Human Environmental Sciences - FY05 Research Abstracts

DEPARTMENT OF DESIGN, HOUSING, AND MERCHANDISING

Body Armor-Sewn Products Production Phases

Twenty-five percent of all injuries incurred by our forces in Iraq and Afghanistan affect the arms and 35% affect the legs. Fast medical treatment and use of antiballistic vests and helmets are considered responsible for higher survival rates for this war. A collaborative product development and limited production study was undertaken by OSU as a sub-contract with a private company and the prime funding from U.S Naval Research Laboratory. Development of limb body armor using soft anti-ballistic materials to provide National Institute of Justice Level IIA protection against small arms and shrapnel, compatible with the standard Interceptor vest issued to the U.S. Army and Marine Corps, was the goal. QuadGard® was the result. Units were designed and produced in limited quantities at OSU, then sent to medical personnel treating the troops and to military installations for wear testing and feedback. The units were then modified and more quantities were produced and submitted for additional obstacle course testing and warfare simulations. Results were positive and an order for 4,500 units from the U.S. Marine Corps will be met by an Oklahoma sewn products manufacturer in fall 2005.

Sponsor: FSTechnology

PIs: Donna Branson, Cheryl Farr, Semra Peskoz

Course Development of "Environmental Issues" for Designers and Merchandisers

This project develops, evaluates, and disseminates a science-based course that educates interior and apparel students about environmental sustainability. "Cradle to cradle" design model, exemplified by case studies, is introduced in this course. Students in this course submitted two research proposals to EPA's National Student Design Competition for Sustainability (P3 Award).

Sponsor: National Science Foundation

PIs: Huantian Cao, Lisa Vogel, Cheryl Farr

Enhancing Health and Safety through Personal Protective Equipment

Research on four product development studies was performed in support of meeting objective one of this NC-170 regional research project. Objective one states, "Improve protection and human factor performance of personal protective equipment through product development." Multiple refereed presentations and manuscripts were developed and disseminated through professional conferences, refereed journals, and targeted trade journals.

Sponsor: Oklahoma Agricultural Experiment Station

PI: Donna Branson

Enhancing Oklahoma Academic and Small Business Community Competitiveness for Doing Business with China

This project seeks to improve students' level of international understanding and knowledge of China through curriculum internationalization and to enhance Oklahoma small business communities' capabilities to do business with China. To address the three areas of greatest need as identified by survey respondents (i.e., understanding of cultural/business practice differences, legal environment issues, and market development), this project intends to develop the following major outputs: a comprehensive educational and training package, multimedia, and a portal website (i.e., China DESK).

Sponsor: United States Department of Education

PIs: Byoungjo Jin, Donna Branson, Cheryl Farr, Glenn Muske
Ryerson University: Hong Yu

Exploratory Development of Smart Textiles for Chemical Detection

A smart textile prototype that can detect toxic chemicals (i.e., cyanide and organophosphate) is under development. This smart textile is based on the spectral shift of colorant porphyrin when bound with specific chemicals. Chemical detection sensor components are integrated into textile, such that the fabric serves as the sensor platform.

Sponsor: National Science Foundation

PIs: Huantian Cao, Donna Branson

College of Arts and Sciences: James Harmon

High School Financial Planning Program

The National Endowment for Financial Education High School Financial Planning Program® (HSFPP) is a six-unit program available to schools (and non-formal educational organizations) free of charge. It is designed to help teach older youth about the basics of sound money management. The PI acts as coordinator and facilitator, promoting the HSFPP as part of Oklahoma Cooperative Extension Service programming efforts.

Sponsor: National Endowment for Financial Education

PI: Joyce Jones

Mediating Exposure to Environmental Hazards through Textile Systems

Porphyrin has spectral shift when bound with diazinon, a widely used pesticide. The spectral shift was observed in solution and porphyrin dyed cotton fabric. This property can be used to develop a chemical detection smart textile and to provide better protection for agriculture workers.

Sponsor: Oklahoma Agricultural Experiment Station

PI: Huantian Cao

Medicare Touch: Reaching You

This collaborative educational effort is designed to inform Oklahoma beneficiaries about current Medicare issues and concerns. Working with Customer Service and Provider Education staff from Chisholm Administrative Services, the PI is developing a series of newsletters (available both in English and Spanish) for distribution throughout the state by County Extension Educators.

Sponsor: BlueCross BlueShield of Oklahoma

PI: Joyce Jones

The Impact of the Near Environment on People's Psychological and Physical Well Being

Following the research and development of the project program, the multi-disciplinary team is combining expertise in Interior Design, Landscape Architecture, and Construction Management to design a group home to serve as a prototype for residential care of dually diagnosed (mentally ill/developmentally disabled) adolescents in Oklahoma.

Sponsor: Oklahoma Developmental Disabilities Council

PIs: Theodore Drab, Carol Bormann, Lisa Vogel, Bill Beitz

College of Engineering, Architecture and Technology: Mark Pruitt

Ultra-Lightweight Modular Cooling System

OSU continued the cooling vest research via a Homeland Security Advanced Research Projects Agency Phase I sub-contract with a private company. The goal of the research was the development of a smaller cooler unit to be interfaced with a cooling garment. OSU's contribution was to produce a limited number of cooling vests and to conduct a focus group with first responders to obtain their feedback on the cooling vest. User feedback was positive and technical hurdles were overcome with the cooler unit.

Sponsor: NanoPore, Inc.

PIs: Donna Branson, Huantian Cao

DEPARTMENT OF HUMAN DEVELOPMENT AND FAMILY SCIENCE

1970 Ralph Nader Study Group on Nursing Homes

The research project involves a small task force of young ladies from Miss Porter's prestigious school in Farmington, CT, commissioned in 1970 by Ralph Nader, to explore nursing home conditions in America. This newest study explores how task force members' lives were affected, personally and professionally, by this experience.

Sponsor: Bartlett Endowment Fund

PIs: Lance Robertson, Cindy Brown

2004 Oklahoma Social Indicator Survey

Five state agencies participated in the 2004 Oklahoma Social Indicator Survey (OSIS 2004), a random household survey of adults who reside in Oklahoma. OSIS is an annual "omnibus" survey, where individual organizations define and pay for questions that are of special interest to them. Data from the survey provides useful and technically sound information for researchers and public policy decision makers about characteristics, attitudes, and behaviors of Oklahoma residents. The participating agencies use the information for market analysis, needs assessment, project evaluation, and organizational planning. OSIS will be conducted annually by the Bureau for Social Research and will serve as an ongoing social monitoring function for the state of Oklahoma.

Sponsors: Oklahoma Partnership for School Readiness, Oklahoma Department of Rehabilitation Services, Oklahoma Department of Mental Health and Substance Abuse Services, Oklahoma Department of Wildlife Conservation, Oklahoma Corporation Commission.

PI: Christine A. Johnson

2005 Oklahoma Child Care Market Rate Survey

The focus of this study was to determine the average cost of child care (i.e., market rate) in the state of Oklahoma. A second objective of the study was to gather information on the persons providing care for children, such as number of teachers/assistants, staff turnover rates, starting wages and benefits, years of experience, and highest level of education achieved. Directors of child care centers and providers of family child care homes were interviewed to gather the data. Findings from the study will help establish ODHS reimbursement rates for child care subsidies to low income families.

Sponsor: Oklahoma Department of Human Services, Division of Child Care

PI: Christine A. Johnson

2005 SoonerStart Family Survey

SoonerStart provides early intervention services to young children (age's birth to three years) with developmental disabilities and their families. Specifically, the program provides assistance to families by helping them develop skills needed to deal effectively with their child's disability and skills to promote better family functioning. Over 300 current and former SoonerStart family members were interviewed to assess overall satisfaction with the program and to evaluate the services received. Findings from the study revealed very high levels of satisfaction with the program (96% reported satisfaction). In addition, 90% of family members reported an increased ability to interact effectively with their child.

Sponsor: Oklahoma Commission on Children and Youth

PI: Christine A. Johnson

Seventh Annual American Indian Elders Conference

This project is a conference management contract in which the OSU Gerontology Institute manages all logistics associated with this conference. The conference targets Native American elders and specialized service providers. The annual event draws around 350 participants and involves the majority of the tribes in the state as well as Indian Health Services.

Sponsor: Indian Health Services

PI: Lance Robertson

Aging Services Statewide and Tulsa County Interviews

This project examines satisfaction levels of older persons and persons with disabilities who receive formal assistance from the state of Oklahoma. This project examines consumers' satisfaction with services such as Meals on Wheels, Personal Care Aide Programs, and transportation services. The project includes telephone and face-to-face interviews with more than 400 consumers.

Sponsor: Oklahoma Department of Human Services, Aging Services

PI: Whitney Brosi

Assessing Customer Satisfaction for the Oklahoma Tax Commission

A representative telephone survey of businesses that have been audited by the Oklahoma Tax Commission or have received a compliance visit, as well as businesses/citizens who have contacted the agency for taxpayer assistance, will be conducted in 2005-2006. This study will provide data related to customers' perceptions of agency staff (e.g., knowledgeable, competent, helpful, courteous), ratings of

services received (e.g., promptness, ease of obtaining information), satisfaction with outcome of contact, and overall satisfaction with the agency's services. Findings from the study will be used to assess the agency's performance, as well as guide possible improvements in services to better meet the needs of Oklahoma taxpayers.

Sponsor: Oklahoma Tax Commission

PI: Christine A. Johnson

Barriers to Help-Seeking and Treatment Completion for Economically Disadvantaged Parents and Children in Tulsa

This is a one-year, privately-funded research project designed to assess the obstacles that prevent economically disadvantaged parents in Tulsa from getting their young children needed mental and behavioral health services. During the course of the project, 200 parents will be interviewed in their homes by project staff. Another 400 parents will complete telephone interviews.

Sponsor: Anne and Henry Zarrow Foundation

PIs: Glade Topham, Charles Hendrix, Kathleen Briggs

Child Abuse Prevention Statewide Network Coordination

This project provides technical assistance to strengthen 17 District Child Abuse Prevention Task Forces, convene a state Home Visitation Leadership Coalition, provide Healthy Families America training for community-based programs, and assist in developing public education resources.

Sponsor: Oklahoma State Department of Health

PI: Deborah Richardson

Children with Special Health Care Needs - Technical Assistance

Technical assistance was provided to the Oklahoma Department of Health–Maternal and Child Health Division to develop and refine a survey tool to assess barriers to health insurance coverage for families with children who have special health care needs.

Sponsor: John Snow, Inc.

PI: Christine A. Johnson

Cohabitation and Union Formation Patterns

Renowned marriage scholars from the University of Denver contracted the OSU Bureau for Social Research to recruit subjects for a national longitudinal study of dating couples. The study will focus on the couples' dating patterns, level of commitment, living arrangements, and beliefs about marriage. The study will examine which relationships dissolve and which couples choose marriage.

Sponsor: PREP, Inc.

PI: Christine A. Johnson

Early Childhood Education Masters Program for DHS

The College of Human Environmental Sciences and the Oklahoma Department of Human Services (DHS) Division of Child Care are working together to assure the state's child care licensing professionals practice what they preach by furthering their education. DHS is giving support for child care providers who are earning a master's degree in early childhood education from OSU. The students in the program are DHS employees who work for the Division of Child Care's licensing program that monitors the state's childcare programs for compliance with minimum requirements. OSU offers different classes throughout the year and uses a variety of teaching methods such as web-based courses, compressed video, and traditional classrooms in order to accommodate the schedules of the working students.

Sponsor: Oklahoma Department of Human Services

PIs: Mona Lane, Deborah Norris, Kathleen Briggs

Early Childhood Partnership Project with SPS

The project is a collaboration with the Stillwater Public Schools and the Oklahoma State University Child Development Lab. Stillwater Public School provides the funding to provide alternative educational services to children in the four- and five-year-old classroom.

Sponsor: Stillwater Public Schools

PI: Linda Sheeran

Healthy Families—Canadian, Delaware, and Texas Counties Oklahoma Child Abuse Prevention

This project provides in-home and center-based education and support programs for families giving birth to a new baby through early childhood in three Oklahoma counties. In FY 2005, 92 families with 107 children were provided 1,661 home visits and 174 parent education, support group, and family activity sessions.

Sponsor: Oklahoma Department of Health, Office of Child Abuse Prevention

PI: Deborah Richardson

Help Seeking Scale: Marital Education Form

This project will specifically measure constraints that keep Oklahomans from seeking marital education workshops designed to strengthen marriages as well as marital attitudes in the Oklahoma culture.

Sponsor: Oklahoma Department of Human Services, Family Support Services

PIs: David Fournier, Kathleen Briggs

Indian Health Service Conference

This project is a conference management contract in which the OSU Gerontology Institute manages all logistics associated with this conference. The summer conference targets specialized service providers that work with the Native American population. The annual event draws around 150 participants and involves the majority of the tribes in the state. Indian Health Services is the lead agency on the project.

Sponsor: Indian Health Services

PI: Lance Robertson

Intervening in Family and Peer Context to Decrease Child Overweight

This Families and Schools for Health intervention program targets negative family and peer relationships of overweight children. The overall goal is to decrease children's level of overweight and improve their psychological and social functioning. Intervention will be conducted in the context of families and schools among a sample of 260 overweight children in first grade. Follow-up data will be collected through third grade.

Sponsor: United States Department of Agriculture

PIs: Amanda Harrist, Glade Topham, Laura Hubbs-Tait

Department of Nutritional Science: Tay Kennedy

Legal Service Utilization and Policy Needs of Grandparents Raising Grandchildren

The purpose of this project is to examine service utilization and needs of grandparents raising grandchildren (GRG). This project will be among the first to examine how age and other demographic variables relate to grandparents' service use and needs. Before now, grandparents ranging in age from 22–90 have been grouped together in research, limiting what is known about important sub-groups of those raising grandchildren. These data will include responses from more than 400 grandparents raising grandchildren statewide.

Sponsor: Borchard Foundation Center on Law & Aging

PIs: Whitney Brosi

State of Oklahoma, Legal Services: Richard Ingham

National Issues Forums: An Issue Guide on Domestic Violence

The focus of this project is to develop a National Issues Forums issue guide on intimate partner violence, working in tandem with the Oklahoma Partnership for Public Deliberation. The issue guide will be used in public deliberative forums throughout the U.S., where people will deliberate three approaches to the issue, consider trade-offs, and identify common ground for action.

Sponsor: National Issues Forum Institute

PIs: Renee Daugherty, Sue Williams

Obesity in America Survey: Causes and Solutions

A web survey of members on the American Association of Family and Consumer Sciences (AAFCS) was conducted to determine public voice on the problem of obesity in America. AAFCS is examining obesity as a public policy issue, and the survey findings will be used to create an initial guide for public

deliberation about obesity. The evolving deliberation guide is modeled after those created by the National Issues Forums, a national program which brings people together to deliberate about important public issues such as obesity.

Sponsor: American Association of Family and Consumer Sciences

PIs: Christine A. Johnson, Sue E. Williams

Oklahoma Marriage Initiative – Adoptive Parents Project

Dr. Johnson served on the evaluation team for a special Oklahoma Marriage Initiative project for Oklahoma couples who have adopted a child. The three-year demonstration project focuses on increasing couple relationship satisfaction, decreasing disruptive conflict between parents, and increasing family functioning, including parenting skills and child well-being.

Sponsor: Oklahoma Department of Human Services, Children and Family Services Division

PI: Christine A. Johnson

Oklahoma Marriage Initiative—Analysis, Consultation, and Management Services

Data analysis was conducted for the Oklahoma Department of Human Services and the Oklahoma Marriage Initiative on an on-going basis using various data sources. In addition, consultation services regarding study design, sampling, data collection, and statistical analysis were provided for various research and process evaluation projects implemented by the initiative. Research briefs on marriage-related issues were written and coordinated. This project also included managing and coordinating a board of nationally-recognized scholars who serve as research advisors to the initiative.

Sponsor: Oklahoma Department of Human Services, Family Support Services

PI: Christine A. Johnson

Oklahoma Marriage Initiative-PREP Workshops

Twenty-two Prevention and Relationship Enhancement Program (PREP) workshops reaching 282 individuals were taught by 10 Extension Educators throughout the state during the 2005 fiscal year. Temporary Assistance for Needy Families recipients often were the target audience, although other audiences, including couples, were also reached. Each PREP workshop involved at least 12 hours of instruction on topics including communication, conflict resolution, problem solving, and commitment.

Sponsor: Oklahoma Department of Human Services

PI: Lynda Harriman

PartnerShips for Aging

Since merging with the Mid-America Congress on Aging, Southwest Society on Aging is now called PartnerShips for Aging and covers 18 states, making it the largest regional gerontological association in America. The organization provides training and information to individuals working with older adults. OSU provides administrative and conference planning services to the organization via contract.

Sponsor: PartnerShips for Aging

PI: Lance Robertson

Pilot Test a Preschool Fire Safety Curriculum

A developmentally appropriate fire safety curriculum has been prepared by Early Childhood faculty at Oklahoma State University. This curriculum will be pilot tested in a random assignment field study in 2005 in preschool classrooms in northwestern Oklahoma.

Sponsor: United States Department of Homeland Security

PI: Deborah Norris

Scholars for Excellence Program: Evaluation Plans

Sixteen participants in the Scholars for Excellence in Child Care program will be part of a case study evaluation for this project. These scholars are just beginning courses in early childhood at Rose State, Redlands, Seminole, and Oklahoma City Community Colleges. Members of the research team will be observing classroom practice in order to document changes as a result of participating in professional development.

Sponsor: Oklahoma State Regents for Higher Education

PI: Deborah Norris

Stillwater Domestic Violence Services (SDVS)—Community Needs Assessment Focus Groups

The purpose of this project was to assess current programs and services and gather input on expanding services/programs (including a new combined outpatient service and emergency shelter facility). Focus groups were conducted with the following groups: 1) community business leaders, 2) partners from other community agencies, and 3) former and current SDVS clients. Findings from this study will be used by SDVS to identify service areas which need attention and, if modified, could lead to improved services/programs for community members. In addition, unmet needs of victims of domestic violence and sexual assault will be noted, and it is possible that future services could be expanded to address these unmet needs. This project also gauged community response to proposed changes in facilities and programs. SDVS will use this input in their strategic plan for new facilities.

Sponsor: Stillwater Domestic Violence Services

PI: Christine A. Johnson

Stillwater Domestic Violence Services (SDVS)—Community Perception Needs Assessment Survey

As part of a planning grant to document needed community services, the aim of this project was to assess community perceptions regarding the issue of partner abuse in the SDVS service area.

Telephone interviews were completed with 300 area residents to assess community perception regarding the degree to which partner abuse and sexual assault exist, measure community perception regarding the extent to which the community should be responsible for serving survivors of partner abuse and sexual assault, and assess community awareness of current services available for survivors of partner abuse and/or sexual assault.

Sponsor: Stillwater Domestic Violence Services

PI: Christine A. Johnson

Training on Effective Learning Environments

This contract was to provide professional development for 192 child care licensing workers at five locations around the state of Oklahoma, including: Tulsa, Oklahoma City, Enid, Weatherford, and Muskogee. Dr. Sorrels and Faye Ann Presnal developed a training module entitled "Creating Effective Learning Environments," which provides information on the basic components of a quality child care environment.

Sponsor: Oklahoma Department of Human Services, Division of Child Care

PIs: Barbara Sorrels, Faye Ann Persnal

Transition of Parenthood—Baseline Survey of Expectant Mother

The Oklahoma Department of Human Services (OK-DHS) is developing a new program for Oklahoma couples who are expecting a baby and funding the birth through Medicaid (married as well as unmarried couples). The curriculum for this new program will include information on relationship enrichment/enhancement as well as information on infant development. There are approximately 2,000 certified pregnant women receiving Medicaid-funded prenatal services each month in Oklahoma (or about 24,000 per year). The purpose of this study is to learn more about these expectant parents, including their demographic characteristics, the quality of the relationship between the parents, what family services they currently receive, as well as their interest in attending marriage/relationship education classes. What we learn from this study will inform the development of the new program (to be offered through the Oklahoma Marriage Initiative).

Sponsor: Oklahoma Department of Human Services

PI: Christine A. Johnson

Transportation and Economic Development in Oklahoma

Funding was received to consult on a statewide survey sponsored by the Oklahoma Department of Transportation and the Oklahoma Department of Commerce. The study examined transportation providers, transportation users, and local community leaders to identify critical needs and issues related to the Oklahoma transportation system and the role of transportation in Oklahoma's economy. Findings from the study informed the state's 2005-2030 transportation plan.

Sponsor: Parsons Brinckerhoff

PI: Christine A. Johnson

SCHOOL OF HOTEL AND RESTAURANT ADMINISTRATION

China Landscape Grant

This study provided in-depth research on the travel distribution chain in China, roles and responsibilities of each travel intermediary, general profile key intermediaries, and opinions on the future state of travel in China.

Sponsor: Sabre Holdings Corporation

PI: Bo Hu

Cooperative Branding Strategy of Rural Oklahoma Tourism Communities

This study examines travelers' perceived image of communities in Green Country and determines the viability of cooperatively branding these communities as a travel destination. Specifically, the goals of this research are to examine the image components projected through regional cooperative branding efforts, assess travelers' perceived images of the communities and the state of Oklahoma as travel destinations, and compare the differences between the image perceived by the travelers with the induced images promoted by the community marketing agencies.

Sponsor: Donna Cadwalader Oklahoma Home and Community Education Research and Development Program

PIs: Bo Hu

Design, Housing and Merchandising: Sissy Osteen

Off-Campus International Hospitality Management Master's Program in Thailand

Starting in 2003, four HES faculty members traveled to Phuket Thailand in winter 2003 and summer 2004 to offer four courses there. Thai students came to the OSU campus in summer 2005 and enrolled in three courses. During other semesters, students took courses at local universities. By the end of fall 2005, all students will complete their coursework and begin work on their dissertations. The program has received positive feedback from the students and other universities in Thailand.

Sponsors: Prince of Songkia University, Phuket Campus

PIs: Hailin Qu, Patrick Moreo

Small Projects for Travelers Surveys

A Sun'n Fun Waterpark visitor profile study will help the theme park decide its advertising and promotion strategy, profile its current customers, and examine the economic impact of Sun'n Fun on the Ponca City area.

Sponsor: Sun 'n Fun Waterpark

PI: Bo Hu

DEPARTMENT OF NUTRITIONAL SCIENCES

A Study to Demonstrate the Effects of Women's Herbal Supplements on the Physical and Psychological Symptoms Associated with Menopause

The purpose of this study is to compare the effect of two women's herbal supplement formulas on subjects' reports of hot flashes (including night sweats) by frequency and severity and to assess the tolerance among a wide variety of women consuming one of the two women's herbal supplement formulas.

Sponsor: Amerifit Nutrition Inc.

PI: Bahram Arjmandi

Does Flaxseed Reduce the Risk of Cardiovascular Disease in Native American Women?

Approximately 60 percent of Native American women have one or more risk factors for heart disease, such as high cholesterol, hypertension, diabetes, and/or obesity. This study investigates whether daily consumption of flaxseed will reduce heart disease risk factors, such as high blood cholesterol and glucose, in Native American postmenopausal women.

Sponsor: Oklahoma Center for the Advancement of Science and Technology

PIs: Edralin Lucas, Bahram Arjmandi, Kathryn Keim

Dried Blueberries: Impact on Bone Strength

This study will examine the extent to which blueberries can modulate bone mass in ovariectomized rat models of osteoporosis. This study is the first to investigate such a relationship.

Sponsor: U.S. Highbush Blueberry Council

PI: Bahram Arjmandi

Enhanced Critical Thinking in Nutrition Using Interactive Multi-media Modules

Two new tutorials have been completed: digestion and metabolism. Tutorials under development are MyPyramid and Dietary Guidelines. Development of a pictorial dictionary of foods with associated portion sizes is underway. Each tutorial has interactive exercises available on the web pages. Links to reliable health sites are also included. The web address for the tutorials is:

<http://www.okstate.edu/hes/nsci/nutrition/NSCI2114/>.

Sponsor: Howard Hughes Medical Institute

PI: Andrea B. Arquitt

Evaluating Factors Associated with High Nutritional Risk among Title III Elderly Nutrition Program Participants in Rural Oklahoma

This is a collaborative project with Oklahoma Department of Human Services to further delineate factors related to the Nutrition Screening Initiative, "Determine Your Nutritional Health," checklist questions among Older Americans Act Program participants in four rural Oklahoma counties who receive congregate and home-delivered meals. Variables of interest include food insecurity, social isolation, and ability to shop and cook.

Sponsor: Mississippi State University, United States Department of Agriculture

PI: Janice Hermann

Higher Education Program

Ten Native American students were recruited to Dietetics or Human Nutrition/Pre-Med Programs in Nutritional Sciences and subsequently became dietetic interns/graduate students in Nutritional Sciences. The supplemental experiential learning program for six undergraduate Native American students in dietetics provided hands-on experience in the Nutritional Sciences Laboratory and pre-internship experiences in the field.

Sponsors: United States Department of Agriculture, Higher Education Multicultural Scholars Program

PI: Maria Spicer

Hypocholesterolemic Mode of Action of Whole Flaxseed

Our earlier studies showed that flaxseed positively affects cholesterol levels in both postmenopausal women and animal models. Our goal is to examine the main pathways by which flaxseed regulates cholesterol levels in ovariectomized hamsters, a suitable animal model for studying changes in cholesterol that occur in postmenopausal women.

Sponsor: United States Department of Agriculture, National Research Initiative

PI: Edralin Lucas

Meat Analogs Made From Texturized Vegetable Materials

The aim of this project is the development of meat analogs that may reduce the risk of cardiovascular disease. Physical tests and chemical analyses (fat and flavor profiles) have been carried out on texturized peanuts (TPS) prepared by extrusion processing of partially-defatted peanut meal. The TPS has meat-like properties, but lacks compounds that may impart off-flavors. Combination TPS-beef patties, and 100% TPS patties with good physical properties have been made.

Sponsor: Oklahoma Agricultural Experiment Station

PI: Margaret J. Hinds

Mineral Interactions in Optimal Health

Previously collected and cleaned femora from rats randomized to treatment (young mature (YM), ovariectomized (OVX) or sham-operated (SHAM), and diet (6, 12, 35 or 150 ppm Fe) were scanned for micro-architecture (Micro-CT 40, SCANCO MEDICAL AG, Zurich, Switzerland) and strength analyses

were performed. Only rats in diet groups 6, 35, and 150 ppm were included in these analyses. In the YM, there were trends for lower total volume, bone volume, and cortical area in the mid-shaft region in the 6 ppm animals, but there were no significant differences in any diet-X-treatment groups in the SHAM and OVX animals. In the YM, there was a trend for lower trabecular thickness in the 6 ppm group in the distal femur. No diet effects were found in the distal femur for the SHAM and OVX rats, although the effects of ovariectomy were significant for BV/TV, connectivity density, SM, trabecular number, and separation.

Sponsor: Oklahoma Agricultural Experiment Station

PI: Andrea B. Arquitt

Oklahoma Dietetic Service Agreement

This project promotes optimal nutrition and well-being for all people by advocating for its members (registered dietitians and students). Oklahoma Dietetic Association develops members of the food and nutrition profession through continuing education, scholarships, and involvement in nutrition issues that benefit the profession and the public.

Sponsor: Oklahoma Dietetic Association

PI: Carol Beier

Oklahoma New Communities Project

This is a collaborative project between the Cooperative Extension Service and two rural schools to provide youth health education, including personal health behaviors, physical activity, nutrition, food preparation, and food safety. The goal of this project is to equip youth with the knowledge, skills, and behaviors to lead healthier lives.

Sponsor: United States Department of Agriculture

PI: Janice Hermann

Soy Isoflavones Dose-Dependently Attenuate the Acute-Phase Response in LPS-Challenged Mice

This study will determine if soy isoflavones affect inflammation in mice and the potential mechanisms for these effects. The results will be important for the use of isoflavone-containing foods or supplements in conditions with inflammation.

Sponsors: United States Department of Agriculture, National Research Initiative

PI: Elizabeth Droke

Use of Chemoprotection in Product Development to Improve Safety and Production of Peanut Products in Ghana, West Africa

The study centers on binding aflatoxin, a toxin produced by the mold *Aspergillus flavus*. Ingestion of aflatoxin at high levels or frequency can cause aflatoxicosis, a cluster of diseases which suppress the immune system. Hydrated sodium-calcium-aluminum-silicate, an aflatoxin binder, is being added to Ghanaian peanut products, and the quality attributes of the products are being evaluated.

Sponsor: University of Georgia, United States Agency on International Development

PIs: Margaret Hinds

Kwame Nkrumah University of Science and Technology: William O. Ellis

Vitamin E Dose-Dependently Reverses Bone Loss

The study was designed to evaluate the effects of vitamin E and soy isoflavones on improving bone healing process in a validated fracture-healing model of postmenopausal osteoporosis. We found that the 525 mg vitamin E per kg diet increased the bending strength and bending rigidity of the repaired fibula. So far, the analysis of the data indicates that vitamin E and isoflavones can both improve the fracture healing process. However, their combination may not provide any benefit.

Sponsor: Oklahoma Center for the Advancement of Science and Technology

PIs: Bahram Arjmandi, Cheng-I Wei

Zinc Nutrition and Brain Development in Southern Ethiopia

Zinc status of many children in Southern Ethiopia is low, and low zinc status has been associated with less focused attention and decreased motor function in children. We are measuring growth and testing cognition of infants and young children, as well as assessing dietary zinc intakes and nutritional status of their mothers.

Sponsors: University of Colorado Health Sciences Center, National Institutes of Health
PIs: Barbara Stoecker, Tay Kennedy
Human Development and Family Science Department: Laura Hubbs-Tait