

## College of Human Environmental Sciences - FY 2006 Research Abstracts

### Department of Design, Housing, and Merchandising

#### **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. Two student projects in this course won research grants in EPA's National Student Design Competition for Sustainability (P3 Award).

**Sponsor:** National Science Foundation

**PIs:** Huantian Cao, Cheryl Farr

#### **Design of Sustainable Relief Housing in Africa**

This project designed a sustainable relief housing prototype that aids in sheltering homeless citizens until they are able to return to their traditional ways of life. The research team completed this project and displayed the design in EPA P3 Expo in Washington, DC, May 2006.

**Sponsor:** United States Environmental Protection Agency

**PIs:** Huantian Cao, Brooke Woods

GreenBlue Institute: Jason Pearson

#### **Development of Structural Fire Fighter Ensemble**

This is a design project in which the researchers developed a new design for structural firefighter turnout gear.

**Sponsor:** FireDex, Incorporated

**PIs:** Donna Branson, Semra Peksoz, Vincent Quevedo

#### **Enhancing Health and Safety through Personal Protective Equipment**

Research on three 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 developed a comprehensive educational and training package,

multimedia, and a portal website (i.e., China DESK). The team disseminated the developed materials through two workshops for Oklahoma businesses in summer 06. In addition, the developed educational materials are being implemented into four DHM courses.

**Sponsor:** United States Department of Education

**PIs:** Byoungho Jin, Donna Branson, Cheryl Farr, Glenn Muske

Ryerson University: Hong Yu

### **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:** Sissy Osteen

### **Mediating Exposure to Environmental Hazards through Textile Systems**

Porphyrin has spectral shift when bound with toxic chemicals such as cyanide, diazinon, and carbamate. 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 homeland security, industrial, and agriculture workers.

**Sponsor:** Oklahoma Agricultural Experiment Station

**PI:** Huantian Cao

### **Medicare Touch: Reaching You**

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

**Sponsor:** BlueCross BlueShield of Oklahoma

**PI:** Joyce Jones

### **Next Generation Body Armor**

Research was initiated with the goal of developing a ballistic vest for the military that would contain rigid and soft ballistic materials that would also serve as a load carrying device. This work was done in collaboration with FSTechnology. The design process included obtaining information on existing ballistic materials and vests, load carrying devices and vests, candidate materials for the load carriage system, input from soldiers, and biomechanical issues. The research resulted in the development of a vest that was initially wear tested by OSU ROTC cadets and soldiers from the Oklahoma Guard, refined and selected by the US Army for testing at Fort Benning, Georgia.

**Sponsor:** FSTechnology, LLC

**PIs:** Donna Branson, Semra Peksoz

### **QuadGard® Body Armor**

About 5,000 Phase IV limb body armor, developed at OSU in collaboration with industry and military partners, and trademarked as QuadGard®, were produced by an Oklahoma sewn products manufacturer and distributed to the US Marine Corps for use in Iraq as a large scale field test. Positive reports are beginning to surface from soldiers wearing the body armor while under attack who sustained minor injuries. Simultaneously with the production efforts, additional research and design efforts continued with the goal of creating Phase V, a modular version of QuadGard®. This development resulted in an initial order for 900 units of the Phase V body armor, and the same Oklahoma sewn products manufacturer is completing the order to be sent to Iraq for further evaluation.

**Sponsor:** FSTechnology, LLC., Naval Research Laboratory

**PIs:** Donna Branson, Cheryl Farr, Semra Peskoz

### **Sustainable Apparel Design and Production Conceptual Framework**

This project developed, implemented and evaluated an apparel design and production conceptual framework, C2CAD, which allows apparel designers and manufacturers to consider environmental sustainability in their design and production processes. In the implementation of the model, the research team designed and produced apparel products “4-season sustainability children’s knitwear” that were displayed in EPA P3 Expo in Washington, DC, May 2006.

**Sponsor:** United States Environmental Protection Agency

**PIs:** Huantian Cao, Haejin Gam, Jun-Young Hur, Cheryl Farr  
GreenBlue Institute: Lauren Heine

### **Ultra-Lightweight Modular Cooling System**

A liquid-cooled prototype vest developed by OSU-DHM in a MIPT funded project will be interfaced with a cooler unit developed by NanoPore. First stage of this project involves manufacturing multiple vests and developing additional sizes by the OSU-DHM design team. The new portable light weight cooling unit developed by NanoPore will be interfaced with the vest and thermal testing will be conducted on human subjects for cooling effectiveness and wearability in the next phase of the project, assuming continued funding. This cooling garment system has the potential to be used by various professions where thermal comfort is an issue such as fire fighters, chemical emergency and law enforcement personnel or any individual who works in thermally challenging climates

**Sponsor:** NanoPore, Inc.

**PIs:** Semra Peksoz, Donna Branson, Huantian Cao

### **Visual Identification of Northeastern Oklahoma Community Health Centers**

The purpose of this project was to strategically develop the visual identity of Northeastern Oklahoma Community Health Centers (NEOCHC) to communicate, differentiate, and enhance the image of NEOCHC. The current visual identification system was investigated and the survey to the staff of the NEOCHC was conducted to identify new visual concept of NEOCHC. This study developed visual identification system, branding the NEOCHC as NEO Health. Specifically, the logo for NEO Health was created to signal change in corporate strategy, culture, and communication.

**Sponsor:** Northeastern Oklahoma Community Health Centers

**PIs:** Mihyun Kang

College of Arts and Science: Phil Choo

**Contributor:** Dana Espinal

## **Department of Human Development and Family Science**

### **2005 Oklahoma Social Indicator Survey**

Four state agencies participated in the 2005 Oklahoma Social Indicator Survey (OSIS 2005), 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 is conducted annually by the Bureau for Social Research and serves as an ongoing social monitoring function for the state of Oklahoma.

**Sponsors:** Oklahoma Regents for Higher Education, Oklahoma Department of Rehabilitation Services, Oklahoma Department of Mental Health and Substance Abuse Services, and the Oklahoma Corporation Commission

**PI:** Christine Johnson

### **2006 Annual American Indian Elders Conference**

This project is a conference management contract in which the OSU Gerontology Institute manages all logistics associated with the 8th Annual Indian Elders conference. The conference celebrates and honors Native American elders and educates specialized service providers. The conference addresses topics such as care giving, wellness, health issues, hospice care, Alzheimer's, Medicare, coping strategies for successful aging, etc. The annual event draws around 250 participants and involves the majority of the tribes in the state as well as Indian Health Services.

**Sponsor:** Indian Health Services

**PI:** Kathleen Briggs

### **2006 Oklahoma City Area Indian Behavioral Health Services Meeting**

This project is a conference management contract in which OSU manages all logistics associated with the Division of Human Services Behavioral Health conference. The conference theme was "Motivating Success through Intervention" and focused on topics such as addictions, psychotropic medications, ethics, and motivation interviewing. The conference provides continuing education for specialized service providers that work with the Native American population.

**Sponsor:** USPHS Indian Health Services

**PI:** Kathleen Briggs

### **2006 SoonerStart Family Survey**

SoonerStart provides early intervention services to young children (ages 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. 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 Johnson

### **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 300 ADvantage 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 were audited by the Oklahoma Tax Commission or received a compliance visit, as well as businesses/citizens who contacted the agency for taxpayer assistance was conducted in 2005-2006. This study provided data related to customers' perceptions of agency staff (e.g., knowledgeable, competent, helpful, courteous), ratings of services received (e.g., prompt, ease of obtaining information), satisfaction with outcome of contact, and overall satisfaction with the agency's services. Findings from the study were used to assess the agency's performance and guided improvements in services to better meet the needs of Oklahoma taxpayers.

**Sponsor:** Oklahoma Tax Commission

**PI:** Christine Johnson

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

This research project assessed 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 150 parents were interviewed in their homes by project staff. Another 400 parents completed telephone interviews. The greatest barriers to parents getting help for their children were not having enough money, not knowing where to get help, and it taking too long to get into services.

**Sponsor:** Anne and Henry Zarrow Foundation

**PIs:** Glade Topham, Charles Hendrix, Kathleen Briggs

### **Child Abuse Prevention Statewide Network Coordination**

This project provides (1) technical assistance to assess the functioning and strengthen 17 District Child Abuse Prevention Task Forces, and (2) Healthy Families America training for community-based family resource and support programs.

**Sponsor:** Oklahoma State Department of Health

**PI:** Deborah Richardson

### **Children's Cognitive Performance and Socio-Emotional Competence in Head Start Children**

This project tracked changes in children's language and cognition over the school year and correlations between teacher ratings and OSU-administered PPVT-III tests to determine the impact of the Head Start program on its students. Results of PPVT-III tests of children who were enrolled in Head Start for two years showed significant and large linear increases for all children except those who entered Head Start with scores at or above the national average of 100. Scores for this latter group were stable in the average to above average range.

**Sponsor:** United CAP Head Start

**PI:** Laura Hubbs-Tait

### **Creating Effective Learning Environments**

Approximately 180 child care providers and directors across the state of Oklahoma participated in the "Creating Effective Learning Environments" training. This 20 hour workshop received very positive feedback. Training took place in Tulsa, Stillwater, Oklahoma City and Ardmore.

**Sponsor:** University of Oklahoma

**PI:** Barbara Sorrels

### **Demographic Analysis of Oklahoma Oil and Gas Operators**

A demographic profile study of low-volume oil and gas well operators in Oklahoma was conducted. The purpose of the study was to obtain information for future training and production incentives in the state's oil and gas industry. With the information collected, forecasts and economic impacts of the Oklahoma oil and gas mining industry will be conducted with the intention of providing help for small producers.

**Sponsor:** Oklahoma Commission on Marginally Producing Oil and Gas Wells

**PI:** Christine Johnson

### **Early Childhood Education Masters Program for the Department of Human Services**

The Department of Human Development and Family Science and the Oklahoma Department of Human Services (DHS) Division of Child Care are cooperatively working to assure the state's child care licensing professionals are educated as to the best practices in early childhood. This education in turn positively impacts and guides the decisions made with Oklahoma children. 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. DHS provides support for these employees who are earning a master's degree in early childhood education from OSU. OSU offers a variety of courses and teaching methods to facilitate learning and accommodate the needs of these full-time employees.

**Sponsor:** Oklahoma Department of Human Services

**PI:** Kathleen Briggs

### **Early Childhood Partnership Project with Stillwater Public Schools**

CHES entered into a collaborative agreement between the Stillwater Public Schools (SPS) and the Child Development Laboratory to provide an alternative educational program in a full-day, mixed-age Pre-Kindergarten and Kindergarten classroom. The purpose of the project was to provide a model ECE classroom for HDFS students to observe children's development and exemplary teaching practices.

**Sponsor:** Stillwater Board of Education

**PI:** Pamela Wilder

### **Early Learning Guidelines Training Modules**

A 20 hour training module on interpreting and implementing the Early Learning Guidelines for the State of Oklahoma was developed. It has not been piloted as yet.

**Sponsor:** University of Oklahoma Center for Early Childhood Professional Development

**PI:** Barbara Sorrels

### **Early Settlement North – Conflict Settlement**

The Early Settlement North (ESN) Conflict Resolution Program is part of a statewide mediation network guided by state legislation and funded by the Alternative Dispute Resolution System of the Oklahoma Supreme Court. ESN is committed to consistently providing high quality, effective, inexpensive and expeditious conflict resolution services to the courts and the residents of eight counties in northern Oklahoma. Over 20 trained volunteer mediators coordinated and directed by a Program Director conduct over 400 mediations each year involving basic dispute resolution, adult guardianship and family and divorce conflicts.

**Sponsor:** The Supreme Court of Oklahoma

**PI:** Sue Willams

### **Fire Safety Curriculum Design for 3-5 Year Olds**

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

**Sponsor:** United States Department of Homeland Security

**PI:** Deborah Norris

### **Head Start Training**

200 Head Start Teachers in Tulsa received 6 hours of training by OSU Early Childhood faculty and staff.

**Sponsor:** United CAP Head Start

**PI:** Barbara Sorrels

### **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 2006, 104 families with 101 children age five and under were provided 1,745

home visits and 147 parent education, support group, and family activity sessions. Also, 143 child development screenings were provided.

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

**PI:** Deborah Richardson

### **Husaka Child Learning Center Demonstration Project**

The purpose of this project is to deliver an external review of the Husaka Learning Center's progress in reaching stated educational goals for pre-school children attending the Department of Indian Education demonstration project. Results of the first year of the project revealed significant improvements in children's verbal skills, quantitative skills, control of attention, and inhibition of activity. Key school readiness skills such as letter-word identification improved from well below average to the national average during a six-month period of learning basic words in the Pawnee language.

**Sponsors:** Pawnee Nation of Oklahoma, US Department of Education

**PI:** Laura Hubbs-Tait

### **Internet Survey of Intellectual Property Professional Services in Developing Countries**

An Internet survey was conducted with members of the Public Interest Intellectual Property Advisors organization. Members include attorneys in the area of intellectual property, intellectual property advisors/administrators at research institutions and universities. The purpose of the study was to assess the world-wide need for intellectual property (IP) services in developing countries, in particular for pro bono (no or low cost) professional services.

**Sponsor:** Public Interest Intellectual Property Advisors

**PI:** Christine Johnson

### **Intervening in Family and Peer Context to Decrease Child Overweight**

The Families and Schools for Health program targets negative family and peer relationships of overweight children. The overall goal is to decrease children's level of overweight and improve their psychosocial functioning. Activity to date: a) Data collection (2 time-points) for Cohort I, 598 children in 20 schools, including anthropometric assessment, child self-report via interview, teacher report, and parent report; b) implementation of a 12-week family-level intervention with 35 families and a 12-session classroom intervention with 239 children; and c) recruitment of families for Cohort II intervention and data collection.

**Sponsor:** United States Department of Agriculture

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

Department of Nutritional Science: Tay Kennedy

College of Arts and Sciences: Melanie Page

### **Iowa Tribe Community Needs Assessment Study**

The objective of this project was to conduct a "Community Assessment" of the Iowa Tribe Early Head Start program. The Community Assessment included data collection from service agencies from the following sectors: 1) health care, 2) housing services, 3) child care services, including after school programs, 4) Head Start and Early Head Start

facilities, 5) youth development organizations, 6) parenting skills programs, 7) nutritional services, 8) transportation services, 9) mental health services, 10) education, and 11) other service programs. Information collected from the agencies included: a) a description of the children and families served, b) the services/resources provided; c) cost of services, if any; and d) location of services and whether or not an appointment is necessary.

**Sponsor:** Iowa Tribe Early Head Start

**PI:** Christine Johnson

### **Legal Service Utilization and Policy Needs of Grandparents Raising Grandchildren**

The purpose of this project was to examine service utilization and needs of grandparents raising grandchildren (GRG). This project was among the first to examine how age and other demographic variables related 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. Preliminary analyses on data from 327 grandparents reveals that there are in fact significant differences by chronological age. Additional analyses are being conducted to examine the interactional nature of various demographics on both service awareness and service utilization.

**Sponsor:** Borchard Foundation Center on Law & Aging

**PIs:** Whitney Brosi

State of Oklahoma, Legal Services: Richard Ingham

### **Long Term Care Authority Survey Development and Focus Groups**

The Long Term Care Authority of Tulsa asked OSU to conduct a statewide evaluation of services provided to older persons and other adults who require in home services. This work involves the development of the survey as well as conducting a total of 360 interviews across Oklahoma with representation from each county. Final reports, summarizing key outcomes and recommendations will be submitted to the agency.

**Sponsor:** Long Term Care Authority of Tulsa

**PI:** Whitney Brosi

### **Marital Enrichment Services for Couples Who Have Adopted a Child**

This 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. The project investigators designed and conducted a short-term evaluation of the services delivered to these couples.

**Sponsor:** Oklahoma Department of Human Services

**PIs:** David Fournier, Christine Johnson

### **Member Compensation Survey: Society for the Exploration of Geophysicists**

An Internet survey was conducted with members of the Exploration of Geophysicists organization to investigate levels of compensation among its members. Information gathered from this study provides a benchmark for tracking compensation levels and forms a basis for identifying future compensation trends.

**Sponsor:** Society for the Exploration of Geophysicists

**PI:** Christine Johnson

### **Missouri Department of Transportation Survey of Pick-Up Truck Drivers**

The purpose of this study was to gather baseline data on Missouri residents to assess their awareness of various Missouri Department of Transportation (MO-DOT) media campaigns. Telephone interviews were conducted with registered male pick-up truck drivers between the ages of 18 and 35. The survey asked about awareness of public service announcements regarding seatbelt use as well as highway work zone driving precautions.

**Sponsor:** University of Missouri

**PI:** Christine Johnson

### **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 United States, 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: Causes and Solutions**

The American Association of Family and Consumer Sciences examined obesity as a public policy issue and a survey of AAFCS members was conducted to determine the public voice on this matter. The survey findings were used to create an initial guide for public deliberation about obesity. The deliberation guide was modeled after those created by the National Issues Forums (NIF), 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 Johnson, Sue Williams

### **Oklahoma Marriage Initiative – Analysis, Consultation and Management**

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

**PI:** Christine Johnson

### **Oklahoma Marriage Initiative-PREP Workshops**

Twelve multi-session Prevention and Relationship Enhancement Program (PREP) workshops reaching 273 individuals were taught by 10 Extension Educators throughout

the state during the 2006 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

**PIs:** Lynda Harriman, Glenn Muske

### **Oklahoma Parents as Teachers (Texas County)**

The goal of the Oklahoma Parents As Teachers program is to strengthen the capacity of parents to be effective first teachers. The program is designed to maximize a child's overall development during the first three years of life, lay the foundation for school success and minimize developmental problems that interfere with the child's learning. In FY 2006, 29 families with 43 children under age three were served.

**Sponsors:** Guymon Public Schools, Oklahoma Department of Education

**PI:** Deborah Richardson

### **Oklahoma Women, Infants and Children (WIC) Program Participants Satisfaction Assessment**

The Oklahoma Women, Infants and Children (WIC) program provides nutritious food supplements and nutrition education for low income women who are pregnant, breast feeding or have recently given birth (and their children under age 5). The purpose of this study was to conduct on-site interviews at clinics with WIC clients to assess helpfulness of clinic staff, satisfaction with nutrition education, and overall happiness with the services provided during the clinic visit. Results will be used to make improvements in services and education provided by the WIC program.

**Sponsor:** Oklahoma State Department of Health

**PI:** Christine Johnson

### **Organizational History and Impact Analysis of the Oklahoma Partnership for Public Deliberation (OPPD)**

This project conducted a study of the OPPD's organizational partners and potential partners to determine significant milestones in their participation in the OPPD and the impact of their participation on their organizations. Then, in light of these findings, OSU conducted an in-depth review of the organizational history of the OPPD to determine the current health of the group and its potential for sustainability.

**Sponsor:** Kettering Foundation

**PIs:** Renee Daugherty, Sue Williams

### **Positive Child/Youth Development Impact Program**

Approximately 27 county Family & Consumer Sciences and 4-H Extension educators will provide this program in FY 2007-2011. Prevention of risk behaviors in Oklahoma children and youth will be emphasized through enhancing and supporting positive social competencies, such as planning, reasoning, decision-making, communication skills, interpersonal relationships, resistance skills, and conflict resolution. Components include lessons to children/youth in pre-schools, schools and out-of-school settings; parent education; teacher training; increasing positive support for children and youth in

communities. The primary research-based curriculum selected for implementation and evaluation will address interpersonal cognitive problem-solving skills.

**Sponsor:** Oklahoma County Extension Services

**PIs:** Deborah Richardson

Oklahoma Cooperative Extension Service: Lani Vasconcellos

### **Researching Recruitment Challenges in Low-Income Marriage Education Programs**

This project uses a three-pronged approach to study recruitment challenges experienced by marriage education programs across the nation. Data will be collected from a national survey and then verified by observing couples' interactions in a lab setting. Marriage education program providers will also be asked to describe lessons learned "in the field." These study results will be compiled and analyzed by the OSU Marketing Department to create recommendations for marriage education programs.

**Sponsor:** United States Department of Health and Human Services, Administration for Children and Families

**PIs:** Brandt Gardner, Kelly Roberts

### **Scholars for Excellence Program: Evaluation Plans**

Seven participants in the Scholars for Excellence in Child Care program are continuing for a second year as part of a case study evaluation of the program. These scholars have completed some courses in early childhood at four community colleges in the state. Members of the research team will continue observing classroom practice in order to document changes as a result of participating in professional development. Data from the first year of the evaluation has highlighted the strong influence of the center as well as the broader social pressure for school readiness on the classroom practices of teachers.

**Sponsor:** Oklahoma State Regents for Higher Education

**PI:** Deborah Norris

### **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 Presnal

### **Wildlife Regulation Guidebook Assessment**

A series of focus groups were conducted with licensed occasional and avid Oklahoma anglers and hunters to gather opinions on rules and regulatory information printed in guidebooks. The purpose of the study was to determine how regulatory information published by the Oklahoma Department of Wildlife Conservation in the "Fishing Guide" and "Hunting Guide" could be improved.

**Sponsor:** Oklahoma Department of Wildlife Conservation

**PI:** Christine Johnson

## **School of Hotel and Restaurant Administration**

### **Cooperative Branding Strategy of Rural Oklahoma Tourism Communities**

This study examined 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 were 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

### **Hospitality Lodging Crisis Management Plans**

The project determines how the level of preparedness affects the implementation of a crisis management plan, in responding, and recovering from a corporate crisis or natural disaster. The level of importance and performance will be determined for the above-mentioned variables. Organizational changes and organizational effectiveness of attaining the goals of a crisis management plan will be determined. The notion of organizational development (planned change) must be embraced to encourage managerial focus of attention on the possible occurrence of an inevitable corporate or natural disaster. The level of preparedness is the key initiative that must be addressed within the hospitality industry.

**Sponsor:** Center for the Study of Disasters and Extreme Events

**PIs:** Jerrold Leong, Gregory Dunn, Edralin Lucas, David Njite

### **Louisiana Tourism Industry/Economy**

On August 29, 2005, the greatest natural disaster in U.S. history took place when Hurricane Katrina struck southern Louisiana and Mississippi. Experts estimate Hurricane Katrina to have been the costliest natural disaster in U.S. history with an estimated impact of over \$200 billion. Katrina was unique in that it severely and negatively impacted four key dimensions of the U.S. economy in terms of urban infrastructure, transportation, energy, and tourism. This study found that the total economic value lost within the Louisiana tourism industry considering direct and indirect added value for FY 2005 is estimated to be \$3.5 billion.

**Sponsor:** Center for the Study of Disasters and Extreme Events

**PIs:** Gregory Dunn, Jerrold Leong, Edralin Lucas, David Njite

### **Off-Campus International Hospitality Management Ph.D. 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 the fall of 2005, all students completed their coursework and begin work on their dissertations. Most of the students will graduate in

the fall of 2006 and the spring of 2007. The program has received positive feedback from the students and other universities in Thailand.

**Sponsor:** Prince of Songkia University, Phuket Campus

**PI:** Hailin Qu

### **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.

**PIs:** Bahram Arjmandi, Nancy Betts

#### **Assessment of Vitamin A in Serum and Milk From Breast Feeding Mothers in Southern Ethiopia**

This project uses a portable fluorometer to measure Vitamin A in serum and milk from 100 breast feeding mothers in southern Ethiopia. These field test results are compared to measurements of vitamin A by high performance liquid chromatography which is the gold standard for vitamin A measurement in the laboratory. The goal of the project is to standardize an instrument for simple detection of vitamin A deficiency in the field in developing countries.

**Sponsor:** The Micronutrient Initiative

**PI:** Barbara Stoecker

#### **Behaviors and Beliefs about Food Safety and Instructional Delivery Strategies Among Limited Income Elderly enrolled in Community Nutrition Education Programs**

Food safety is an important nutrition issue for limited income elderly. With aging there is an increased risk of food borne illness due to malnutrition, excessive use of medications, changes in the GI tract, etc. Elderly also face challenges when it comes to learning related to cognitive and physiological changes that occur with the aging process. Understanding limited resource elderly population's needs and concerns related to receiving information is important. The results of this research are intended to enhance the quality of education received by elderly participants enrolled in nutrition education programs in Oklahoma.

**Sponsor:** Oklahoma Department of Human Services

**PIs:** Stephany Parker, Barbara Brown, Janice Hermann

#### **Childhood Obesity Prevention/Intervention Team Initiative Program**

This study will examine the effectiveness of extension educator programming on knowledge and behaviors related to obesity among school children. In addition, the project will determine barriers to obesity prevention in the family, school and community.

**Sponsors:** Oklahoma Cooperative Extension Service and Oklahoma Agricultural Experimentation Station

**PIs:** Nancy Betts, Barbara Brown, Janice Herrmann, Youmasu Siewe  
Oklahoma Cooperative Extension Service: Recia Garcia

### **Developing a Social Marketing Campaign for the Chickasaw Nation Get Fresh! Program**

This project aims to positively influence the state of obesity among Native Americans living in the Chickasaw Nation boundaries by better understanding cultural and economic aspects of obesity.

**Sponsor:** Chickasaw Nation

**PIs:** Stephany Parker, Chiquita Briley

### **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:** United States Highbush Blueberry Council

**PIs:** Bahram Arjmandi, Edralin Lucas

### **Enhanced Critical Thinking in Nutrition Using Interactive Multi-media Modules**

Tutorials for the new USDA dietary advice system MyPyramid were completed. Each portion of the graphic has been developed into independent but linked tutorials. Foods were photographed, and an extensive Food Gallery using various portion sizes of foods commonly consumed was added to the website. Captioning for these photographs includes the actual portion size and the classification within MyPyramid. Quizzes for the MyPyramid tutorials were developed. In addition, the entire website has been redesigned and posted. The web address for the tutorials is:

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

**Sponsor:** Howard Hughes Medical Institute

**PI:** Andrea Arquitt

### **The Interactive Effects of Micronutrients, Phytochemicals, and Metabolic Stress on Bone Strength and Structure**

Effects of nutrients and phytonutrients on bone strength and structure were examined in collaboration with Dr. Medeiros at Kansas State University. Iron restriction produced a number of changes in bone microarchitecture in addition to those seen with calcium restriction alone. Another project with Drs. Farzad Deyhim and B.S. Patil at Texas A&M University examined effects of enhanced antioxidant status on bone quality in orchidectomized (ORX) rats; which models male osteoporosis. Lack of testosterone significantly decreased antioxidant status, and most measures of bone quality. Rats fed 10% powdered orange pulp had significantly increased bone volume fraction and reduced trabecular separation compared to the ORX animals. Along with Dr. Deyhim, the effects of vitamin E were also evaluated in ORX rats. The high dose Vitamin E had detrimental effects on the microarchitecture and predicted stress with load of the fourth lumbar vertebra, suggesting reduced bone quality.

**Sponsor:** Oklahoma Agricultural Experiment Station

**PI:** Barbara Stoecker

### **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 Hinds

### **Oklahoma Dietetic Association Service Agreement**

This project promotes optimal nutrition and well-being for all people through professional development of its members, registered dietitians in a wide variety of settings and dietetics students. Oklahoma Dietetic Association provides professional development through continuing education, leadership opportunities, networking, scholarships, and involvement in nutrition issues that benefit the public and affect the profession. ODA produces quarterly newsletters and additional electronic newsletters, maintains a website, and recognizes outstanding members. ODA members also produce nutrition information for healthcare facilities.

**Sponsor:** Oklahoma Dietetic Association

**PI:** Carol Beier

### **Oklahoma Forums Regarding Physical Activity, Nutrition and Obesity Prevention**

“Oklahoma Fit & Healthy” Community Forums were held at five locations determined by the Oklahoma State Department of Health based on demographics and availability of Oklahoma Cooperative Extension Educators to serve as local facilitators. Each forum distributed approximately 300 targeted invitations targeted and advertised to the public. At each Forum short presentations were made by organizers then participants divided into small groups which identified and voted on priorities for their area and listed barriers to achieving priorities. The total group reconvened, listened to reports from small groups, and voted on the top five health priorities for their Forum.

**Sponsor:** Oklahoma State Department of Health

**PI:** Barbara Brown

### **Oklahoma New Communities Project**

The Oklahoma New Communities Project is a collaborative effort between Oklahoma Cooperative Extension Service and two rural schools to provide health education including personal health behaviors, physical activity, nutrition, food preparation and food safety targeting limited resource youth. Methods used include implementing a Health Day in physical education class; creating a circuit training course as an alternative physical activity for youth not in competitive sports; and gardening to provide hands-on physical activity, nutrition, food preparation and food safety education. The goal of the

project is to equip limited resource youth with the knowledge, skills and behaviors to lead healthier lives.

**Sponsor:** United States Department of Agriculture

**PI:** Janice Hermann

### **Oklahoma Nutritional Education Program**

The purpose of this program is to empower families with the knowledge and skills needed to make healthy lifestyle choices by providing nutrition education, promotion of nutrition education messages, and referrals to agency nutrition programs. Pre/post evaluation records indicate 90% of the families/households graduating from the program exhibit a positive change in their diet at the time of exit from the program.

**Sponsor:** Oklahoma Department of Human Services

**PIs:** Debra Greene-Garrard, Deana Hildebrand, Janice Hermann, Barbara Brown, Youmasu Siewe

### **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

### **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. We have confirmed that the total zinc absorption by women in late pregnancy is ~50% of the estimated physiologic requirement.

**Sponsor:** University of Colorado Health Sciences Center, National Institutions of Health

**PIs:** Barbara Stoecker, Tay Kennedy

Human Development and Family Science Department: Laura Hubbs-Tait

College of Arts and Science: David Thomas