



**9TH ANNUAL NUTRITION SYMPOSIUM
NUTRITION RESEARCH DAY: SHARE, DISCOVER, CONNECT**

UofSC ALUMNI CENTER
MARCH 22, 2019

8:15-8:45 Posters to be placed on display in Ballroom One

8:30 am Registration Opens

Light breakfast provided

9:00-9:10 Welcoming Remarks

Christine E. Blake, PhD, RD
Director, Nutrition Consortium

Lee Pearson, PhD
ASPH Associate Dean for Operations and Accreditation

9:10-10:00 Keynote Address

Introduction: Kelli DuBois, PhD Candidate
Health Promotion, Education, and Behavior

Keynote: Solveig Argeseanu Cunningham, PhD
Tracing the Early Life Origins of Obesity
Associate Professor of Global Health
Rollins School of Public Health, Emory University

10:00-10:15 Morning Break

10:15-11:30 SESSION ONE: Nutrition Interventions and Food Environments

Moderator: Dr. Brie Turner-McGrievy

10:15-10:29 Brie Turner-McGrievy, PhD, RD

The Nutritious Eating with Soul Study: 6-month changes in body weight and blood pressure comparing a vegan vs. low-fat soul food dietary intervention

- 10:30-10:44** Glenn Weaver, PhD
Changes in BMI and Fitness of Children Attending Year-round Versus Traditional Schools
- 10:45-10:59** Marilyn Wende, PhD Candidate
Examining spatial clustering patterns and regional variations: healthy eating environments in the United States
- 11:00-11:14** Orgul D. Ozturk, PhD
Free Lunch for All! The Effect of the Community Eligibility Provision Program on Academic Outcomes
- 11:15-11:29** Carrie Draper, MSW
Identifying SNAP Participant Experiences and Environments to Inform Tailored SNAP-Ed Programming
- 11:30-12:15** **Poster Presentations**
- 12:00-1:00** **Lunch: A Mediterranean Inspired Lunch Buffet**
Greek Salad
Mediterranean Grilled Chicken with Dill Greek Yogurt Sauce
Mediterranean Orzo Salad
Grilled Vegetables
Roasted Red Pepper Hummus with Pita Bread
Assorted Cookies
- 1:00-2:00** **SESSION TWO: Global Nutrition**
Moderator: Dr. Edward Frongillo
- 1:00-1:14** Edward A Frongillo, Jr. PhD
Estimating and monitoring country prevalence of food insecurity to assess global progress towards the Sustainable Development Goal on nutrition
- 1:15-1:29** Jim F. Thrasher, PhD
Understanding of food labeling systems among White, Latinos, and Mexican population: Data from the International Food Policy Study 2017
- 1:30-1:44** Spencer Moore, PhD
Village network closure and vegetable consumption among rural Indian households
- 1:45-2:00** Christine E Blake PhD, RD
Understanding drivers of food choice in the context of rapidly changing food systems and environments

2:00-2:15 Afternoon Break

2:15-3:15 SESSION THREE: Dietary Patterns and Health Outcomes

Moderator: Dr. Susan Steck

2:15-2:29 Susan E Steck, PhD, MPH, RD

Dietary patterns and prostate cancer: Associations in a racially diverse, population-based study

2:30-2:44 Angela D Liese, PhD

Multidimensional attributes of high-quality dietary patterns and relationship to mortality in the AARP Study

2:45-2:59 James R Hébert, ScD

Using the Dietary Inflammatory Index (DII®) to Advance Research at the University of South Carolina

3:00-3:14 Michael Wirth, PhD

Associations between Changes in Diet Quality and Changes in Sleep Over a 3-month Period

3:15-3:29 Abbi Lane-Cordova, PhD

Dietary Sodium, Potassium, and Blood Pressure in Normotensive Pregnant Women: the National Health and Nutrition Examination Survey

3:30-3:45 Closing

Presentation of Student Research Awards

Closing Remarks: Christine E. Blake, PhD, RD
Director, Nutrition Consortium

ORAL ABSTRACTS

Abbi Lane-Cordova, Department of Exercise Science

Dietary Sodium, Potassium, and Blood Pressure in Normotensive Pregnant Women: the National Health and Nutrition Examination Survey

Lara Schneider, William Tucker, James Cook, Sara Wilcox, Jihong Liu

Objectives: Dietary sodium, potassium, and the sodium-to-potassium ratio are linearly associated with blood pressure (BP) in non-pregnant adults. Earlier investigations suggested null or inverse associations of sodium and BP during normotensive pregnancy, but findings have not been confirmed in a large, racially diverse group while accounting for dietary potassium. Our purpose was to determine associations of BP with sodium, potassium and the sodium-to-potassium ratio in normotensive pregnant women.

Methods: We used cross-sectional BP measurements and dietary data from 984 normotensive pregnant women in multiple cycles of the National Health and Nutrition Examination Survey (mean age=27.6±0.2 years). We used Kruskal-Wallis tests to determine differences in BP across quartiles of sodium intake and linear regression to test for associations of sodium, potassium, and the sodium-to-potassium ratio with systolic and diastolic BP. Adjustment variables included: age, race, education, marital status, body mass index, smoking, and month of pregnancy.

Results: Unadjusted systolic and diastolic BP were similar across quartiles of sodium intake; Quartile 1: 106/56; Quartile 2: 106/55; Quartile 3: 107/57; Quartile 4: 107/56 mmHg, $p > 0.60$ for all. Age and race-adjusted systolic or diastolic BP were also similar across quartiles of sodium intake. In adjusted regression analyses, sodium ($b=0.16$, 95%CI: -0.20, 0.52) and potassium ($b=0.18$, 95%CI: -

0.24, 0.60) intake and the sodium-to-potassium ratio ($b = -0.54$, 95%CI: -1.55, 0.47) were not associated with systolic or diastolic BP in normotensive pregnant women. Results persisted in analyses stratified by race/ethnicity.

Conclusions: BP may be insensitive to sodium and potassium intake during normotensive pregnancy.



Carrie Draper, Department of Health Promotion, Education and Behavior

Identifying SNAP Participant Experiences and Environments to Inform Tailored SNAP-Ed Programming

Nick Younginer, Monique Lyle

Objectives: The SNAP-Ed program aims to ensure low-income populations are able to meet dietary guidelines through nutrition education and changing policies, systems, and environments (PSE) within diverse settings. Little is known about SNAP participants' experiences with SNAP-Ed in South Carolina or about their food and activity environments. This study aims to fill these gaps to inform tailored programming strategies.

Methods: A telephone survey was conducted with 2,000 randomly-selected SC SNAP participants. Descriptive analyses were conducted for all survey questions.

Results: The majority of respondents had not heard of SNAP-Ed (85.5%) and the majority of respondents who had heard of the program had not participated (88.8%). Most respondents procured food from grocery stores (90.2%), big box stores (71.7%), or dollar stores (63.9%). In a typical week, respondents most often visited places to get food (70.8%) or other household items (61.4%), places of worship (59.5%), and health care centers (57.2%). Respondents were most likely to find out about things in their community through television news (72.5%), family

and friends (71.7%), and via word of mouth (65.7%). The majority of respondents (74%) were found to be at risk of food insecurity, and 46% of respondents reported that they did not have reliable transportation at some point during the past year.

Conclusions: SNAP participant responses indicate the need for promoting the program through television news and tapping into social networks; providing programming at food retail outlets, places of worship, and health care centers; and focusing PSE efforts on increasing food security and transportation access.



Edward A. Frongillo, Department of Health Promotion, Education and Behavior

Estimating and monitoring country prevalence of food insecurity to assess global progress towards the Sustainable Development Goal on nutrition

Efforts to build measures of food insecurity based on the experiences of individuals in households began about 30 years ago with the rationale that food insecurity is experienced by households and individuals and that survey questions could be developed drawing on concepts and language from in-depth interviews with individuals in households at high risk of food insecurity. The four most commonly used experience-based measures of food insecurity share lineage from the first effort in the United States, are composed of similar sets of items, and cover the same universally experienced constructs, resulting in a shared body of evidence about validity and cross-context equivalence. Experience-based measures of food insecurity were constructed from in-depth qualitative research in multiple countries that established that individuals in food-insecure households have experiences in four constructs: quantity of food, quality of food, psychological, and social. The measures are

composed of items that assess experiences of uncertainty, compromised dietary quality or preferences, eating less, and going hungry. The performance of items is consistent with their construction based on factor analysis, Rasch analysis, patterns of item responses within and across sub-populations, and cognitive interviewing. The measures are reliable based on measures of internal consistency. The measures are accurate based on comparisons with definitive measures of food insecurity in a few studies and with theoretically close determinants and consequences from many studies. Furthermore, a few studies have established that accuracy is attributable to the intended construction. Experienced-based measures are construct equivalence across contexts. Prior to the Food Insecurity Experience Scale (FIES), responses to some items were found to depend on cultural and social contexts, preventing scalar equivalence across countries. By calibrating each country's measure to a global measure, the FIES provides for first time a valid and scalar-equivalent measure suitable for estimating and monitoring prevalence of experiencing food insecurity in a comparable way across countries.



James Hebert, Cancer Prevention and Control Program/Department of Epidemiology and Biostatistics

Using the Dietary Inflammatory Index (DII®) to Advance Research at the University of South Carolina

Objectives: 1) Briefly present work done using the Dietary Inflammatory Index (DII®) at UofSC (>200 DII papers involve ≥2 faculty members, students, or both); 2) Introduce those unfamiliar with this tool to opportunities to become involved in DII®-focused research.

Methods: Based on literature from a variety of different study designs ranging from cell culture to

observational and experimental studies in humans, the DII[®] was developed to provide a quantitative means for assessing the influence of diet-related inflammation on health outcomes. In the process of developing and refining the DII we have learned much about the properties of diet in relation to inflammation. The innovations produced over the past 5 years include the ability to energy adjusted using a novel global database of comparative data (the E-DIITM), creating a children's DII (the C-DIITM), developing an Inflammation Food Grade System (IFGSTM) and producing DII-Certified FoodsTM.

Results: The Dietary Inflammatory Index (DII[®]) was invented by James Hébert at the University of South Carolina in 2004. DII Generation 2, which reflects refinements by Drs. Hébert, Nitin Shivappa and Michael Wirth, has been in general use for over 4.5 years, producing over 300 studies that have been cited over 5000 times. The DII[®] now also forms the basis for 16 meta-analyses on topics including cancers of many anatomic sites, cardiovascular disease, depression, metabolic syndrome, and cause-specific and overall mortality.

Conclusions: The DII[®] has proven to be an effective research tool that we wish to make available to the UofSC community.



Angela Liese, Department of Epidemiology and Biostatistics

Multidimensional attributes of high-quality dietary patterns and relationship to mortality in the AARP Study

Jill Reedy

Objective: We have previously shown that high-quality diet characterized by the Healthy Eating Index (HEI) is associated with lower all-cause, CVD, and cancer mortality in the NIH AARP Diet and

Health Study which provided support for the 2015 Dietary Guidelines for Americans. What is not known is which high-quality dietary patterns exist in the US and whether they differ with respect to their relationship to mortality.

Methods: A preliminary cluster analysis in the top HEI quintile of diet intake was conducted in a random sample of AARP men. Multivariate-adjusted Cox proportional hazard of mortality were estimated for the identified clusters relative to diet intake in HEI-2015 quintile 1.

Results: Four patterns were identified that were characterized by diet intake quality that was better than current recommendations. Cluster 1 was characterized by high whole and refined grain, high dairy in cluster 2, high total protein in cluster 3, and high total fruit and vegetables in cluster 4. All patterns were associated with decreased all-cause, cancer and CVD mortality with the exception that Cluster 4 was not associated with CVD mortality. Clusters 1 and 3 had slightly lower risks for all-cause mortality compared to Clusters 2 or 4, though these differences were not statistically significant.

Conclusions: These findings highlight the range and differences in high quality dietary intake patterns that are associated with decreased mortality experiences. Further exploration of these patterns, including replication in female participants and in other data samples, will be most informative to the dietary guideline development.



Spencer Moore, Department of Health Promotion, Education and Behavior

Village network closure and vegetable consumption among rural Indian households

Yun-Hsuan Wu, Jennifer Mandelbaum, Samik Ghosh, Laurette Dubé

Objectives: Research on the social drivers of poor nutrition, particularly in rural areas of low- and middle-income countries, often focuses on poverty, education, and gender empowerment. Yet, rural social networks may also shape nutritional behavior. In this study, we examine the association between village network closure and individual vegetable intake, and whether this association differs according to the village population size.

Methods: This study uses baseline data from an intervention undertaken in India in 2016 to improve the vegetable consumption of rural farming households. Thirty-two villages located in four Odisha districts were selected into the intervention study. Stratified and proportional sampling methods were used to collect data from a sample of 427 farming households nested in 32 villages. Farming households completed an extensive household questionnaire covering household demographics, vegetable intake, and social networks. Intake data was used to estimate individual daily vegetable servings. Household network data were used to extrapolate measures of village network closure. Hierarchical linear regression with adjustment for village- and individual-level characteristics was used.

Results: The final sample size was 401 farming households across 31 villages. Participants averaged 2.96 daily vegetable servings. Personal network size was 4.99 ties. Village network closure averaged 1.5%. Adjusted results showed that in more populated villages, higher village network closure was associated with lower vegetable consumption ($\beta = -0.05, 0.01$).

Conclusion: Village network closure may indicate a lack of resource diversity, homogeneous social norms, and insular kinship systems. When combined with greater population density, network closure may further constrain household food choices.



Orgul Ozturk, Department of Economics

Free Lunch for All! The Effect of the Community Eligibility Provision Program on Academic Outcomes

John Gordanier, Chrystal Zhan, Breyon Williams

Objective: We analyze the effect of Community Eligibility Provision, a universal free-lunch program, on middle and elementary school students' academic performance and attendance in South Carolina. With this program, eligible schools can provide free lunch to all students, regardless of whether an individual student qualifies for free lunch. Objective is to establish the link between program participation and end of year test scores and attendance during the school year and discuss possible mechanisms.

Methods: We have a panel data of students' test scores, attendance records, welfare program participation and free lunch status and school characteristics. We estimate treatment effects using a difference-in-differences setup utilizing differences in participation by eligibility status. We also utilized instrumental variables approach to alleviate selection concerns.

Results: This program leads to about 0.03-0.06 of a standard deviation increase in Math test scores for elementary school students. We find smaller and less significant effects on reading scores. The effects are most substantial for students that were previously eligible for free lunches and students in poorer and more rural areas. We find no overall effect on attendance from the program; however, we do see a decline in absences for students in urban areas.

Conclusions: Our results indicate that there may have been some non-take up of free lunch among the eligible either due to stigma or bureaucratic burden. By lifting this burden and making school meals free for all regardless of income status program may have

helped these students have continuous food access and have better academic outcomes.



Jim Thrasher, Department of Health Promotion, Education and Behavior

Understanding of food labeling systems among White, Latinos, and Mexican population: Data from the International Food Policy Study 2017

Claudia Nieto, Alejandra Jauregui, Alejandra Contreras-Manzano, Edna Arillo-Santillán, Simón Barquera, David Hammond

Objectives: This study evaluated adult consumer understanding and use of nutrition labeling systems in the US and Mexico, the most obese countries in the world.

Methods: Adults from online consumer panels in the US (Whites n=2792; Latinos n=787) and Mexico (n=3579) were shown a product under five nutrition labeling systems: 1. Nutrition Facts Table (NFT); 2. Guidance Daily Allowance (GDA) that shows per serving levels of five key nutrients; 3. Multiple Traffic-Light (MTL) that color codes each GDA nutrient (green=healthy; yellow=moderately unhealthy; red=unhealthy); 4. 5 stars system (5Stars) that rates foods on a single dimension of healthiness; 5. Warning Label (WL) with a stop sign for each nutrient present in unhealthy levels. Participants rated each label on understanding ("very easy"/"easy to understand" vs "difficult"/"very difficult to understand"), and, for NFTs and GDAs, frequency of use ("often"/"sometimes" vs "never"). Mixed logistic models regressed understanding and frequency of use on indicators of labeling systems (NFT=ref), testing for interactions by ethnicity (US Latinos, US Whites, Mexicans), while controlling for sociodemographics and obesity-related factors.

Results: Compared to the NFT, participants reported greater understanding of the WL (OR=4.8; 95% CI=4.4-5.3) and lower understanding for the 5Stars (OR=0.34, 95% CI=0.31-0.37) and the MTL (OR=0.56, 95% CI=0.52-0.61), with similar patterns across ethnic subgroups. Participants used GDAs less often than NFTs (OR=0.48; 95%CI=0.41-0.55), with the greatest difference among US Whites (OR=0.10; 95%CI=0.07-0.14).

Conclusions: Consumers report frequent use of nutrition labeling systems, and simpler systems than those that are most commonly used (NFT, GDA) may help promote healthy eating.



Brie Turner-McGrievy, Department of Health Promotion, Education and Behavior

The Nutritious Eating with Soul Study: 6-month changes in body weight and blood pressure comparing a vegan vs. low-fat soul food dietary intervention

Mary Wilson, Martha Davey, Anthony Crimarco, Marian Botchway, Brent Hutto, Edward A. Frongillo, Angela Murphy, Sara Wilcox

Objectives: African Americans (AAs) have been underrepresented in behavioral nutrition intervention work. Previous research examining different eating patterns among AAs found that AA vegetarians/vegans had significantly lower body mass index (BMI) and risk of hypertension as compared to omnivores. The Nutritious Eating with Soul (NEW Soul) study partners with local soul food restaurants/chefs as part of a 24-month randomized behavioral nutrition intervention for AA adults comparing a vegan vs. omnivorous low-fat diet (omni). The goal of this presentation is to test 6-month changes in weight and blood pressure (BP) by study arm in the first of two cohorts.

Methods: Objective measures of body weight (calibrated digital scale) and blood pressure (automated monitor with a minimum of 2 readings after 5-minute rest) were collected at baseline and 6 months. Participants were randomized to follow one of two healthy versions of a soul food diet (vegan or omni) and attended weekly group meetings/cooking classes for 6 months. Behavior change content was informed by Social Cognitive Theory and modeled after Oldways African Heritage topics. Between and within-subjects t-tests were conducted.

Results: A total of 67 participants enrolled in the study at baseline, with 58 (87%) completing 6-month assessments (n=27 vegan, n=31 omni). Participants had a mean age of 47.7±11.2 years and mean BMI of 36.6±8.0 kg/m². They were all AA and mostly female (88.1%), and 73.1% had a college or advanced degree. Among those who completed 6-month assessments, both arms achieved significant within-group weight loss (-3.2±3.9 kg vegan, p<0.001; -2.6±4.9 kg omni, p<0.01), which did not significantly differ between arms. The omni group achieved significant within-group reductions in systolic BP (-6.2±13.2 mmHg, p=0.01), whereas the vegan group did not (-3.2±14.3 mmHg, p=0.25). The vegan group achieved significant within-group reductions in diastolic BP (-3.5±8.5 mmHg, p=0.04), whereas the omni did not (-1.9±6.5 mmHg, p=0.10).

Conclusions: Short-term reductions in body weight and BP can be achieved through a weekly behavioral nutrition intervention. The NEW Soul study partners with local soul food restaurants and chefs to deliver a culturally-tailored intervention that has the potential to be widely disseminated through community restaurants.



Marilyn Wende, Health Promotion, Education and Behavior

Examining spatial clustering patterns and regional variations healthy eating environments in the United States

Andrew T. Kaczynski, PhD, Ellen W. Stowe, MPH, Jan M. Eberth, PhD, Alexander C. McLain, PhD Angela D. Liese, PhD, Charity Breneman, PhD, Michele Josey, MS

Objectives: Past studies have explored environmental characteristics related to healthy eating, but little research has examined whether positive or negative environments are clustered and if they differ across the United States. The primary objectives of this study were to explore the spatial distribution of food environments and to examine differences in food environments according to rurality and region across the United States.

Methods: Food outlet data were collected for all counties across the United States (N=3,148). Number of fast food restaurants, full-service restaurants, grocery/super stores, farmers markets, and convenience stores per 1000 residents were obtained from the USDA. Values for all counties were ranked, assigned a percentile, and averaged to create a composite score. Choropleth maps were created to present the spatial distribution of food environment scores, and Local Moran's I was used to assess local spatial clustering. Differences by rurality – metropolitan, micropolitan, and rural – and region – Northeast, Southeast, Midwest, and West – were assessed using ANOVA.

Results: There was significant spatial autocorrelation of food environments in the United States (p<.0001). We observed significant clusters of low scores in the South and Midwest and of high scores in Northeast and West counties (a=.05). Statistically significant differences were identified based on rurality and region (p<.0001).

Conclusions: This study advances understanding of how food environments in the United States are clustered and distributed at a national scale. The Southeast and rural counties may be particularly at risk for unhealthy eating and obesity, thus requiring environmental and policy solutions to improve the food environment.



Michael Wirth, College of Nursing and Department of Epidemiology and Biostatistics

Associations between Changes in Diet Quality and Changes in Sleep Over a 3-month Period

Michael D. Wirth, Angela Jessup, Gabrielle M. Turner-McGrievy, Nitin Shivappa, James R. Hebert

Objectives: Sleep is a homeostatic process necessary for physical and mental health maintenance and recovery. Research suggests that diet may influence sleep, but findings are inconsistent. This study examined associations between changes in dietary inflammatory potential and changes in sleep duration and quality.

Methods: Data were derived from the Inflammation Management Intervention (IMAGINE, n=95), a dietary intervention developed to lower inflammation. Participants completed assessments at baseline and immediately post-intervention (i.e., 3 months). The Dietary Inflammatory Index (DII®) was derived from data collected using three random 24-hour dietary recalls. Actigraphy was used to objectively measure sleep. All participants were grouped based on their change in DII score to investigate the association between changes in diet quality and changes in sleep duration and sleep quality using linear regression.

Results: When grouped into tertiles of DII change (tertile 1 = anti-inflammatory changes and tertile 3 = pro-inflammatory changes), those in tertile 1, compared to tertile 3, showed a significant

reduction in wake-after-sleep-onset (WASO, -26 vs. 0 minutes, $p<0.01$), and an improvement in sleep efficiency (2.5% vs. -2.1%, $p<0.01$). No changes were observed in sleep duration. Furthermore, a one-unit increase in the change in DII score (i.e., became more pro-inflammatory), sleep efficiency decreased by 0.56% ($p=0.04$), and WASO increased by 3.75 minutes ($p<0.01$).

Conclusions: These findings suggest that improvement in dietary inflammatory potential, and possibly diet quality overall, may improve sleep quality, but not sleep duration. Future studies should consider examining sleep structure to further understand mechanisms between diet changes and sleep quality changes.



POSTERS

Shiva Bhandari, Health Promotion, Education and Behavior

Program delivery models for food assistance to seniors with special dietary needs

Andrea M. Warren, PhD; Edward A. Frongillo, PhD; Sulochana Basnet, PhD; Jessica Escobar-Alegria, PhD; Mohammad Masudur Rahman, MBBS

Andrea Danielle Brown, Epidemiology

Relationships between Food insecurity and Cardiovascular Risk Factors in Youth and Young Adults with Type 1 and Type 2 diabetes

Jason A. Mendoza, MD, MPH; Angela D. Liese, PHD, MPH, FACE, FAHA

Barbara Bujak, Health Promotion, Education and Behavior

Role of Drill Sergeants in Influencing Nutrition Behaviors of U.S. Army Basic Trainees

Julianna M. Jayne, MS, RD, Christine E. Blake, PhD, RD, Toni M. Torres-McGehee, PhD, SCAT, ATC, Edward A. Frongillo, PhD, LTC Sonya Cable, Sandra H. Glover, PhD

Anthony Crimarco, Health Promotion, Education and Behavior

Association of Physical Functioning and Mental Well-being with Adiposity in a Dietary Intervention

Gabrielle Turner-McGrievy, PhD; Mary Wilson, MPH

Diana Diaz, Epidemiology and Biostatistics

Household Food Insecurity Experience and Diabetes Management in Adults with Type 2 Diabetes: A Qualitative Study

Jessica Stucker MSW, Lauren Reid MPH, Rachel Davis Ph.D., Sonya Jones Ph.D., Angela Liese Ph.D.

Kelli DuBois, Health Promotion, Education and Behavior

Meta-Analysis of Dietary Intervention Effects in Crohn's Disease and Ulcerative Colitis

Michael Beets, PhD; Christine Blake, PhD, RD; Jennie McCabe

Roddrick Dugger, Exercise Science

The Impact of Summer Programming on the Obesogenic Behaviors of Children

Keith Brazendale, Ph.D. , Michael W. Beets, Ph.D., R. Glenn Weaver, Ph.D., Ethan T. Hunt, MPH , Aaron Rafferty, Lindsay Decker, MPH, Michell W. Perry, MPH

Eboni Haynes, Health Services Policy and Management

Reducing Dietary Fat Among Individuals with Self-Reported High Cholesterol: Roles of Receipt of Provider Advice and Individual-Level food Security

Melanie W. Sutherland, MA; Oluwatosin A. Momodu MD, MPH

Katelin Hudak, Public Policy

WIC in Discount Variety Stores

Rajib Paul, PhD; Shafie Gholizadeh, B.S.; Wlodek Zadrozny, PhD; Elizabeth F. Racine, DrPH, RD

Ethan Hunt, Exercise Science

Income and its Affect on Obesogenic Behaviors: A Narrative Analysis

Keith Brazendale, PhD; Michael W. Beets, PhD; R.G. Weaver, PhD

Khan, Abdullah Nurus Salam, Health Promotion, Education and Behavior

Prevalence and determinants of initiation of breastfeeding within one hour of birth: an analysis of the Bangladesh Demographic and Health Survey, 2014

Farhana Karim, MPH; Fariha Tasnim, MSC; Mohiuddin Ahsanul Kabir Chowdhury, MPH.

Morgan Larson, Exercise Science

**Examination of Low Energy Availability and
Macronutrient Intake among Female Collegiate
Athletes**

Toni M. Torres-McGehee, Erin M. Moore, Kelly
Pritchett, Allison B Smith University of South
Carolina, University of South Florida, Central
Washington University

Katie Lynn, Epidemiology and Biostatistics

**Interplay of Malnutrition, Food Insecurity,
Gastrointestinal Parasitic Infection and Poverty
on Pediatric Health Outcomes in El Salvador**

Melissa Nolan, PhD; Kristy Murray, PhD; Maria
Carlota Escobar, PhD; William Ernesto Contreras,
MD

Jennifer Mandelbaum, Health Promotion,
Education and Behavior

**Dietary Beliefs and Practices Among Liberian
Refugees and their Ghanaian Host Community:
Findings from Buduburam, Ghana**

Rafael Pérez-Escamilla, PhD; Adam Sandow, MS,
MPhil; Daniel Gallego-Pérez, MD; Anna Lartey,
PhD; Amber Hromi-Fiedler, PhD;

Stephanie McKeen, Exercise Science

**Examination of Low Energy Availability and
Macronutrient Intake among Male and Female
Recreational Athletes**

Toni M. Torres-McGehee, Erin M. Moore, Dawn
M. Emerson, Kelly Pritchett, Allison B. Smith

Nazratun Monalisa, Health Promotion, Education
and Behavior

**Association of caregivers' education and
household poverty with children's fast food,
fruit juice, and vegetable consumption in
California**

Khin Myat, Health Services Policy and
Management

**Stunting among Children in Myanmar/Burma:
An Analysis of Myanmar**

Demographic Health Survey Data
M. Mahmud Khan, PhD; Mohammad Rifat
Haider, MBBS, MHE, MPS, PhD; and Tanzir
Ahmed Shuvo, MBBS, MPH

Mayomi Omebeyinje, Environmental Health
Sciences

**Are Children in Developing Nations being exposed
to Multiple Mycotoxins through Complementary
Feeding?**

Phani M. Gummadidala, James A. Burch, Prasanta
K. Biswas, Qian Wang, Geoffrey I. Scott, Anindya
Chanda

Omonefe Omofuma, Epidemiology and
Biostatistics

**Meat and fish intake and the risk of breast cancer
in the Carolina Breast Cancer Study (CBCS)**

Susan Steck, PhD; Melissa Troester, PhD; Andrew
Olshan, PhD

Aaron Rafferty, Exercise Science

**Weight status, not income, influences weight gain
in children over the summer: an analysis of data
from ECLS-K 2010-11**

Ethan Hunt, MPH; Keith Brazendale, Ph.D.; Michael
W. Beets, Ph.D.; R. Glenn Weaver, Ph.D

Mohammad Masudur Rahman, Health Promotion,
Education and Behavior

**Innovative program delivery models for food
assistance to home-bound seniors**

Andrea M Warren, PhD; Edward Frongillo, PhD;
Sulochana Basnet, PhD; Jessica Escobar-Alegria,
PhD; Shiva Bhandari PhD

Chelsea Richard, Department of Epidemiology and
Biostatistics

**Education mediates the effect of adverse
childhood experiences on household food
insecurity in South Carolina**

Aditi Srivastav, MPH; Melissa Stropopolis, PhD;
Harley T. Davis, MSPH, PhD

Ally Smith, Exercise Science

**Examination of Eating Disorder Risk among
Female College Athletes and Performers**

Toni Torres-McGehee, PhD, SCAT, ATC; Samantha
R. Weber, MEd, SCAT, ATC; Dawn Emerson, PhD,
ATC; Kelly Pritchett, PhD

Samantha Truman Epidemiology and Biostatistics
**Meal Timing, Distribution of Macronutrients,
and Inflammation among African-American
Women**

Michael D. Wirth, PhD; Swann Arp Adams, PhD;
Gabrielle M. Turner-McGrievy, PhD; Kelly Reiss;
James R. Hébert, PhD

Nancy Uriegas, Exercise Science
**Examination of Eating Disorder Risk among
Recreational Athletes**

Toni M. Torres-McGehee, PhD, SCAT, ATC; Ally B.
Smith, MS, SCAT, ATC; Dawn M. Emerson, PhD,
ATC; Kelly Pritchett, PhD

Paul Vecchiarelli, Environmental Health Sciences
Open Source Vitamin Analysis

Ellen Wingard Prevention Research Center
**Dietary Intake at Baseline During a Behavioral
Lifestyle Intervention in Overweight and Obese
Pregnant Women**

Sara Wilcox, PhD; Jihong Liu, ScD; Alycia Boutté,
MPH

Nicholas Younginer Health Promotion, Education
and Behavior
**Roots of Perspective in the American Context:
News Media Discourse and Stakeholder
Perspectives About the Supplemental Nutrition
Assistance Program**

Christine E Blake, PhD Rd; Sonya J Jones, PhD; Sei-
hill Kim, PhD; Ann E Kingsolver, PhD



