P118 Cooperative Extension as a Model for Sustainable Dissemination of the Diabetes Prevention Program

Traci L. Armstrong Florian, MS, RD, tarmstro@cals.arizona.edu, University of Arizona, 4341 East Broadway Road, Phoenix, AZ 85040; Hope Wilson, MPH, RDN; Melissa Wyatt, MS, RD; Joyce Alves, MS, RD; Martina Sepulveda, BS; Vanessa da Silva, PhD, RD

Objective: To demonstrate how Cooperative Extension (CE) can be used to successfully disseminate the National Diabetes Prevention Program (DPP).

Target Audience: Adults at risk for type 2 diabetes.

Theory, Prior Research, Rationale: In the U.S., 30.3 million have diabetes, 84.1 million have prediabetes. The impact of diabetes is most strongly felt in medically underserved areas (MUAs), where healthcare access is limited. DPP has robust research supporting its success in reducing or delaying the onset of type 2 diabetes. However, the program's dissemination to MUAs is constrained by lack of trained personnel and access. The CE System addresses these constraints. CE has offices in most counties across the U.S., staffed with trained educators. Additionally, other Extension programming may complement and enhance the lifestyle outcomes encouraged in the DPP. The CE National Framework highlights chronic disease prevention and management as a priority. Thus, CE is an excellent fit for DPP to achieve a broader impact.

Description: DPP is a group, lifestyle-based intervention offered over a year's time, with 16 weekly/bi-weekly/hour-long sessions in months 1–6, followed by 6–10 sessions during months 7–12. The evidence-based CDC curriculum, PreventT2, promotes healthy eating, physical activity, and modest weight loss.

Evaluation: A study, through pre/post surveys, showed those receiving counseling and motivational support on diet, exercise, and behavior modification by attending DPP—reduced their risk of diabetes by 58%. Lifestyle changes for participants aged 60+, reduced their risk by 71%. Program success is evaluated by measuring primary outcomes determined by the CDC: change in body weight and increase in weekly minutes of physical activity.

Conclusions and Implications: Nationally, process evaluation results optimize DPP participant retention and success. The CDC DPP Impact Toolkit is used to show health and economic effects of CE-DPP. Combined, the strategies shared by this university's CE will be useful to other land-grant universities wishing to implement a CE-DPP.

Funding: University of Arizona, Cooperative Extension Funds.

P119 Development and Validation of the ASKFV-STC Self-Efficacy Questionnaire for Requesting Fruits and Vegetables

Kate Balestracci, MS, RDN, katebal12@uri.edu, University of Rhode Island, 80 Washington Street, Providence, RI 02903; Jade McNamara, MS; Geoffrey Greene, PhD, LD, RDN

Background (Background, Rationale, Prior Research, and/or Theory): Elementary-aged students' skills in asking for preferred fruit and vegetables (FV) in the school and home environment are associated with increased consumption of FV. Self-efficacy is associated with skill development, but there are limited instruments measuring this construct.

Objective: To develop an assessment tool, ASKFV-STC, measuring elementary-aged students' self-efficacy towards requesting FV in the school and home environment for the Students Take Charge! intervention study.

Study Design, Setting, Participants, Intervention: The self-efficacy tool development included items from existing self-efficacy surveys on asking and shopping for FV. Cognitive interviews (CI) were conducted at a predominately low-income (95.3% free/reduced meals), ethnically diverse (83% Hispanic, 8% black) school with 5th grade males ($n = 10$) and females ($n = 7$). Survey field-testing data with low-income (88.3% free/reduced meals), ethnically diverse (66.1% Hispanic, 16.2% black) children were used for exploratory (EFA) and confirmatory factor analysis (CFA).

Outcome Measures and Analysis: Items were removed or modified based on CI feedback. Students were randomly split to conduct EFA ($n = 176$) and CFA ($n = 186$). Scales were assessed for reliability using Cronbach's alpha.

Results: CI reduced the self-efficacy tool from 10 items to seven. The 7-item questionnaire was tested on a total of 444 fourth and fifth graders. EFA revealed that the items loaded on two factors: home self-efficacy (4 items) and school self-efficacy (2 items); one item was excluded based on low loading ($<.40$). The reduced 6-item, 2-factor structure was the best fit for the data ($\chi^2 = 45.09$, $df = 9$; CFI = 0.835; RMSEA = 0.147). The 4-item home self-efficacy was found to have high reliability ($\alpha = .73$), along with a marginally acceptable reliability for the 2-item school self-efficacy ($\alpha = .53$).

Conclusions and Implications: The ASKFV-STC self-efficacy questionnaire is a novel, brief instrument that measures children's self-efficacy for asking for FVs in the home and school environments. Strengths included: comprehensive instrument development process, strong psychometric properties, and low participant burden. Future steps include development of items to more reliably measure school self-efficacy.

Funding: Supplemental Nutrition Assistance Program—Education.

P120 Draw Your Dinner: Examining Perceptions of Meal Size Using Incrementally Reduced Plate Sizes in College Students

David Sharp, PhD, Dsharp7@kent.edu, Kent State University, 135 Nixon Hall, Kent, OH 44240;
Jennifer St Peter, BS, University of Minnesota Medical School

Background (Background, Rationale, Prior Research, and/or Theory): The ways in which food is presented can influence the amount of food selected and consumed as well as how accurately those meals are perceived and recalled. Hence, if the method of food recall is modified through the use of incrementally changing plate sizes for participants to draw their meals on, they may align their food sizes to fit the plate rather than accurately reporting portion sizes.

Objective: The purpose of this study was to examine the association between plate size and meal recall through drawn food representations over a 10-week period.

Study Design, Setting, Participants, Intervention: Using a longitudinal design, we had 293 undergraduate students enrolled in an introductory Nutrition lecture course draw their last night's meal for 10 weeks on either a 10.5" diameter plate, an 8.5" diameter plate, or a 10.5" diameter plate that was reduced in size by .2 inches every week. One hundred ninety-five students who completed >60% of their meal recalls, including the first and final weeks, were included for analysis.

Outcome Measures and Analysis: One-way and two-way ANOVA as well as independent samples t-tests were used to compare total area, % of plate coverage, individual food group food portion size across Large, Small, and Incrementally-changing plates.

Results: Participants provided with 10.5" diameter plates generally drew significantly more food on them than participants with 8.5" diameter plates ($P < .001$). Participants provided with incrementally shrinking plates drew meal sizes similar to the large plates at week 1 and drew meal sizes similar to small plates by week 10.

Conclusions and Implications: These findings suggest that people's conceptualization of previous meal consumption may be influenced by the size of the plate on which they draw upon, suggesting that the external environment can modify participant drawn recall of their meal sizes.

Funding: None.

P121 Effects of Time Restricted Feeding on Weight Loss and Sleep: A Randomized, Cross-Over Trial

A'anna Sewall, BS, RDN, CPT, ams724@cornell.edu, Cornell University, Savage Hall Forest Home Drive, Ithaca, NY 14853; David Levitsky, PhD, BS;
Laura Barre, BS, RDN, MD

Background (Background, Rationale, Prior Research, and/or Theory): Time Restricted Feeding (TRF) is the practice of consuming all of one's calories

within a restricted period of time in a day, and is gaining popularity as a method to promote weight loss and improve metabolic health and sleep. Evidence based research in humans is insufficient to make recommendations.

Objective: To examine the short-term effects of TRF on weight and sleep time and quality in adults.

Study Design, Setting, Participants, Intervention: A randomized, cross-over study of TRF was conducted. Adults ($n = 60$) were randomized to two weeks of TRF followed by two weeks of Control (CON) or vice versa. During both phases participants ate and drank ad libitum. Intake was restricted to a 12-hour period of time in the TRF phase and unrestricted in the CON phase.

Outcome Measures and Analysis: Daily weights were collected throughout using blue-tooth enabled scales and remote monitoring. Participants self-reported subjective sleep quality and physical activity (hours per week). Paired t-tests were used within-subjects to compare CON to TRF data.

Results: Participants were a mean age of 46.6 years ($SD = 10$ years); 86% Caucasian; 88% women; and a mean BMI of 27.3 kg/m² ($SD = 5.56$). For those in the TRF-CON group, weight change was -0.13 lbs ($SD = 3.04$, $P = .98$) and for those in the CON-TRF group -0.04 lbs ($SD = 3.01$, $P = .96$). Subjective sleep quality was higher during the TRF vs. CON phase, $t(58) = 3.25$, $P = .001$. Physical activity was not significantly different between the two phases (219 min, $SD = 1.87$, $P = .29$).

Conclusions and Implications: In adults, 2 weeks of TRF did not result in significant changes in weight, however sleep quality was better. TRF may be an advantageous lifestyle to improve perceived sleep quality in adults short term. Further research is necessary to determine the effects of TRF on body weight in free-living adults eating ad libitum longer term.

Funding: None.

P122 Exploring the Importance of Healthfulness Among Food Truck Operators

Melissa M. Reznar, PhD, MPH, reznar@oakland.edu, Oakland University, 433 Meadow Brook Road, 3102 Human Health Building, Rochester, MI 48309;
Jamie Eathorne, MPH, Monroe County Health Department; Katherine Brennecke, BS, Oakland University;
Brandon Metcalf, BS

Background (Background, Rationale, Prior Research, and/or Theory): Food trucks have become an increasingly popular part of the food scene, yet little research has investigated food truck operators or their offerings.

Objective: This study examines the characteristics of food truck operators in the Metropolitan Detroit area and their attitudes toward health and nutrition of food truck menu items.

Study Design, Setting, Participants, Intervention: Food truck operators were identified by searching state

Continued on page S66