O13 (continued)

efficacy, a positive relationship to food, calorie restriction, and body satisfaction.

Results: All five dimensions of the MFL were significantly and positively associated with fruit and/or vegetable intake, with moral and health showing the greatest associations; moral (fruit $r = .29$, $p < .001$; vegetable $r = .35$, $p < .001$) and health (fruit $r = .35$, $p < .001$; vegetable $r = .40$, $p < .001$). The health, sacred and moral meaning dimensions were significantly and negatively associated with processed snacks and junk food consumption (both $p < .05$), and the moral dimension was significantly and negatively associated with red meat consumption ($p < .01$). The moral, aesthetic and health domain were significantly and positively associated with greater self-efficacy for consuming healthy foods (all $p < .001$). Both the moral and health domains were significantly and positively associated with body satisfaction (both $p < .01$). All five domains of the MFL were significantly and positively associated with a positive relationship to food, and none were associated with calorie restriction.

Conclusions and Implications: These data suggest that the MFL construct has clinical health relevance in the form of promoting healthier dietary behavior and a positive relationship to food.

Funding: None

O14 Assessment of Impact on Objective Biometric Outcomes of the Eating Smart • Being Active Curriculum

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Objective: To measure the impact of the Eating Smart • Being Active (ESBA) curriculum on objective biometric health outcomes.

Design, Settings, Participants: A longitudinal data analysis using pre-post intervention and six-month follow-up data from adults ($n=61$) completing Colorado EFNEP classes using the Eating Smart • Being Active curriculum during 2016-2017.

Outcome Measures and Analysis: Biometric data collected included height and weight for Body Mass Index (BMI), Systolic and Diastolic Blood Pressure (SBP/DBP), and Hemoglobin A1c (HbA1C). One tail paired t-tests were used pre-post and repeated measures ANOVA for pre, post, follow-up analyses. Significance was set at $p < 0.05$.

Results: All biometric measures experienced an unadjusted mean decline from pre to post, however only DBP and HbA1C were significant. Mean weight declined 0.95kg ($p = 0.17$), mean BMI declined 0.24 kg/m² ($p = 0.25$), mean SBP declined 0.90 mmHg ($p = 0.10$), mean DBP declined 1.72 mmHg ($p=0.01$) and mean HbA1c

declined 0.11 percent ($p = 0.04$). Six-month follow-up measures are in progress and will be included in the analysis in May 2017.

Conclusions and Implications: This pilot study demonstrates reductions in objective biometric outcomes associated with participation in an EFNEP intervention using the widely adopted Eating Smart • Being Active curriculum, notably for blood pressure and blood glucose levels. The positive trends in biometric measures support programmatic conclusions based on participants' self-reported behavior changes and provide initial objective evidence that EFNEP might positively affect health status. Further research is needed to improve evidence for causality.

Funding: NIFA

O15 Development and Validation of a Questionnaire to Assess Fruit and Vegetable (FV) Consumption at School Lunch

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Objective: Develop and validate a modifiable, paper-and-pencil questionnaire assessing FV consumption at school lunch.

Design, Settings, Participants: Five phase validation study, in which the questionnaire was iteratively modified. The setting was 23 public elementary schools from eight states in the U.S. (70% urban; 77% free/reduced price lunch eligible) participating in the National School Lunch Program. Second and 3rd graders ($n=41, 62, 71, 63, 976$ for Phases 1-5, respectively) participated.

Outcome Measures and Analysis: The Fruit and Vegetable Recall Questionnaire (FVRQ), adapted from Paxton et al (2011), was administered within the classroom directly after lunch and assessed FV items taken and amounts consumed. FVs were tailored based on lunch that day. A digital photography method was the referent; students' trays were photographed in the cafeteria before and after eating and photos were visually analyzed. Agreement between methods was calculated as rates of matches, intrusions, and omissions for each Phase.

Results: Questionnaire modifications included changing page orientation, increasing font size, reducing response options, using smiley faces for scales of measurement, and adding a training page. The match rate for FV items taken was high (Phases 1-5: 82%, 82%, 91%, 92%, 89%, respectively), with intrusions more frequent than omissions. For amounts eaten, match rates were moderate, but improved throughout Phases 1-5 (68%, 67%, 84%, 83%, 76%); students more frequently overestimated than underestimated consumption. Second and third grade students had similar match rates for items taken (87% vs. 87%) and amounts consumed (72% vs. 75%).

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015 (continued)

Conclusions and Implications: The FVRQ is a simple, accurate instrument for assessing FV consumption among elementary students that is low-cost to administer and analyze.

Funding: FoodCorps, Inc.

016 Examining the Influence of Time Constraints on Diet Quality

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Objective: Much of the current research and policy aimed at understanding and mitigating disparities in diet quality between low-income and higher-income consumers has focused on food price and availability as barriers to healthy eating. Data on how consumers allocate their time could elucidate the relationship between food choice and the food environment, and also help researchers and policy-makers understand relationships between time constraints and dietary quality. This research examines the influence of time constraints on the nutritional quality of purchased foods.

Study Design, Setting, Participants, Intervention: This observational study analyzes data on food purchases from USDA's Food Acquisition and Purchase Survey of a nationally representative group of U.S. households.

Outcome Measures and Analysis: Our outcome measure was dietary quality, measured using the Healthy Eating Index 2010. Multivariate models assessed the influence of an objective (time spent in round-trip travel to work) and perceived (feeling too busy to prepare healthy food) time constraint on the quality of foods purchased by households.

Results: The perceived time constraint is found to be associated with a 2.5-point reduction in HEI score. Further, this relationship exists for higher-income households (those above 400% of the poverty line) and not low-income households.

Conclusions and Implications: Perceptions of being time-constrained influence the healthfulness of purchased foods while the objective time constraint does not. This relationship holds only for higher-income households, suggesting that they are better able to substitute money for time and likely eat out more often than time-constrained, low-income households. We recommend policy solutions, such as menu labeling and nutrition education that highlights time management skills and healthier convenience food substitutions.

Funding: None

017 Association Between Eating Competence, Fruit and Vegetable Intake, and Body Mass Index Among Undergraduate College Students

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Objective: To examine the association between eating competence (EC), healthy eating [as indicated by fruit and vegetable intake (FVI)] and body mass index (BMI), and to determine if EC and FVI predict BMI.

Study Design, Setting, Participants: A sample of undergraduate students from a major southeastern university were recruited from undergraduate classes selected at random ($n = 421$).

Outcome Measures and Analysis: Participants completed an anonymous, one-time survey (47 questions) comprised of four sections: EC levels, FVI, child feeding intentions and demographics. Summary statistics, chi-square tests, ANOVAs, and multiple regression analyses were conducted ($\alpha = .05$).

Results: Students were 89.3% white and 55.6% female. The majority of participants (61.0%) were categorized as "competent eaters." Only 11.4% of participants consumed more than four cups of fruits and vegetables per day. Most participants (62.6%) were classified as normal weight, but 34.8% were overweight or obese. Controlling for other variables in the model, EC and gender were significantly negatively associated with BMI, but FVI was not [$F(4,400) = 5.95$, $p < .001$, $R^2 = .056$].

Conclusions and Implications: Whereas the findings from this cross-sectional study cannot show cause and effect, BMI tended to be higher among male students and those with lower EC scores. FVI was not associated with BMI, although it has been found to be in other studies. Further exploration of this phenomenon is warranted, as a focus on educating individuals to be eating competent may be more beneficial for weight control than encouraging FVI in and of itself.

Funding: None

018 Analyses of DRD2/ANKK1 Polymorphisms Reveal a Potential Role of Dopamine Pathways in Eating Competence

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Objective: Examine the relationship between eating competence (EC) and polymorphisms of DRD2/ANKK1, a dopamine gene with A1 allele associated with neuropsychological executive function.

Study Design, Setting, Participants: Baseline measures from a RCT of a nutrition/exercise intervention implemented with pre-menopausal, overweight/obese, central Pennsylvania females meeting behavioral/medical exclusion criteria.

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