O32 (continued)

in the district is 90-100% are 10 times more likely to participate than those without any schools with ISPs between 90% and 100%.

Conclusions and Implications: Understanding district characteristics associated with CEP participation informs discussion of school meal program effectiveness as part of upcoming Federal reauthorization of child nutrition programs. It also helps target strategies to encourage CEP participation by eligible districts that may benefit from CEP.

Funding: USDA

O33 Formative Research: Key Drivers Affecting Diet Quality of Home-Packed Lunch in Parents of Young School Children

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Objective: Although existing studies suggest that home-packed lunches (HPL) fall short of dietary guidelines and need nutritional improvement, there have been relatively little studies focusing on dietary quality of HPL. This study examined key determinants affecting parents' lunch packing behaviors and their associations with their child's diet quality.

Study Design, Setting, Participants: For this formative research, parents of kindergartener and first grade children who regularly consume home-packed lunches (n=56) were recruited from eight public schools in Maryland.

Outcome Measures and Analysis: Using a semi-structured survey, parents' decisional balance to prepare HPL, their food packing behavior and key psychosocial variables affecting their child's diet quality were collected. Parents reported their child's food intake using the Automated Self-Administered 24-hour Recall (ASA24-2016) and the diet quality of HPL was measured using the Healthy Eating Index-2010 (HEI). Multiple linear regression models adjusted for confounders were used to determine these associations.

Results: The mean HEI score was 61. Parents' self-efficacy for helping their child have healthy eating behavior was positively associated with their child's diet quality ($\beta = 0.67$, $p = 0.02$) while spouse unemployment was negatively associated with their child's diet quality ($\beta = -45.2$, $p < 0.0001$). Reportedly, the main reasons for not buying school meals were that parents wanted to choose what their child ate (53.7%), and perceived that the school meals are unhealthy (46.3%) and their child will not eat them (40.7%).

Conclusions and Implications: Future interventions are required to help parents and children bring HPL in line with recommend dietary guidelines and should incorporate parents' key psychosocial variables including self-efficacy to enact healthy lifestyles in their children.

Funding: None

O34 Parent Perceptions of School Breakfast in Three States with Low Participation

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Objective: To determine parents' perceptions of school breakfast in the lowest school breakfast participation states, Utah, Nebraska and Iowa.

Study Design, Setting, Participants: Parents of school-aged children were recruited via email to participate in an online survey: Utah (n=489) Nebraska (n= 756), and Iowa (n= 8,982).

Outcome Measures and Analysis: The survey asked parents about their knowledge of the program, attitudes, benefits to their family, child's participation, and perceptions of school breakfast.

Results: When asked about benefits school breakfast might have for their families, parents reported breakfast would be convenient (Utah 42.94%, Nebraska 36.00%, and Iowa 40.7%), make their morning less stressful (Utah 27.61%, Nebraska 18.50%, and Iowa 21.0%), and their child would not be hungry in the morning (Utah 20.45%, Nebraska 15.9%, and Iowa 17.2%). Parents saw school breakfast as an opportunity for their child to have a nutritious meal (Utah 20.25%, Nebraska 11.4%, and Iowa 15.5%). Many parents saw no benefit for their families (Utah 33.54%, Nebraska 42.50%, and Iowa 21.8%). Parents believed school breakfast was for parents who did not have enough money (Utah 70.35%, Nebraska 55.4%, Iowa 44.20%) and for parents who did not care enough (Utah 43.35%, Nebraska 39.8%, 29.50%).

Conclusions and Implications: The results from this study suggest more efforts need to be made to increase positive perceptions of school breakfast among parents. These strategies may include emphasizing the benefits of the program and decreasing stigma around the program through efforts such as social marketing campaigns and including breakfast in school wellness policies.

Funding: None

O35 WITHDRAWN

O36 School Cafeteria Noise is Associated with Fruit and Vegetable (FV) Consumption at Lunch Among Elementary School Students

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O36 (continued)

Objective: Examine the association between cafeteria noise and selected environmental factors and FV consumption among elementary school students.

Study Design, Setting, Participants: This cross-sectional study was conducted at 20 public elementary schools from 8 states in the U.S. (65% urban; 77% free/reduced price eligible) participating in the National School Lunch Program. Lunch-tray photo observations of 2nd and 3rd grade students lunch trays (n=2,571) was conducted.

Outcome Measures and Analysis: Digital photography was used to assess FV consumption on two consecutive days at each school and photos were visually analyzed (83% inter-rater agreement). Cafeteria noise continuous average exposure was measured via sound level meter (SP-DL-2-1/3; Quest Diagnostics, Oconomowoc, WI). Environmental factors (recess before lunch, time for lunch, presence of a salad bar, and number of FV items offered) were assessed using an observational checklist. Multilevel linear models examined the association between FV consumption (square-root transformed) and all environmental factors, controlling for school-level covariates.

Results: Mean (SD) FV consumption was 0.45 (0.40) cup-equivalents. Mean school cafeteria noise was 79.7 DbA (range=70.1-83.1) and the mean time for lunch was 27.9 minutes (range=20.5-38.5); 27% of students had recess before lunch and 60% had access to a salad bar, with a mean of 7.4 FV items offered (range=3-14). FV consumption was negatively associated with noise ($B=-0.017$; $SE=0.004$; $P<0.001$) and positively associated with recess before lunch ($B=0.096$; $SE=0.023$; $P<0.001$). Time for lunch and presence of a salad bar were not associated with FV consumption.

Conclusions and Implications: Environmental factors, including the cafeteria noise level and recess before lunch, are modestly associated with FV consumption at school lunch and should be considered in future research.

Funding: FoodCorps, Inc.

O37 Factors Associated with Food Insecurity in Rural Central Appalachia

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Objective: The impoverished rural counties of Central Appalachia have low rates of household food insecurity. Food costs are higher in this region when compared to nearby non-Appalachian counties. The purpose of our cross-sectional study was to explore factors associated with food insecurity and fruit/vegetable consumption in rural Central Appalachia.

Study Design, Setting, Participants: Participants (n = 123) enrolled in a 12-month nutrition education/cooking

skills intervention completed a demographics questionnaire, BLOCK Fruit/Vegetable Screener and USDA Household Food Security Survey Module at baseline of the intervention.

Outcome Measures and Analysis: Bivariate associations among all covariates (i.e., age, gender, education, household income) and dependent variables (i.e., food insecurity and fruit/vegetable consumption) were analyzed using Spearman's rank correlation and two-sample t-test. Multivariable associations of food security with other study variables were assessed using linear regression.

Results: In the bivariate analysis, age was positively associated with baseline fruit/vegetable consumption ($\rho = .20$, $p = 0.01$) and negatively associated with food security ($\rho = -0.31$, $p = 0.0004$). Household income was negatively associated with food security ($\rho = -0.30$, $p = 0.0006$) and fruit/vegetable consumption was negatively associated with food security ($r = -0.21$, $p = 0.001$). In the multiple regression, controlling for age, gender, income and education, greater food insecurity was predictive of lower fruit/vegetable consumption.

Conclusions and Implications: High rates of food insecurity influence fruit and vegetable consumption in Appalachia and should be considered during development of nutrition interventions targeting individuals living in this region. Additional research is needed to determine nutrition policies most effective in reducing this barrier to healthy dietary habits in Appalachia.

Funding: NIH

O38 Nutrition Environment Food Pantry Assessment Tool (NEFPAT): Development and Evaluation

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Objective: This study develops and evaluates an assessment tool for the nutrition environment and implementation of recommended practices in food pantries with diverse settings.

Study Design and Setting: The Nutrition Environment Food Pantry Assessment Tool (NEFPAT) was developed as an observational assessment tool that measures six objectives (increasing client choice, "nudging" healthful foods, diversifying fruit/vegetable forms, diversifying fruit/vegetable types, promoting additional resources, and accommodating alternate eating patterns) within the food pantry environment. The NEFPAT was administered in

Continued on page S16