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Background (Background, Rationale, Prior Research, and/or Theory): African American (AA) adults experience high rates of obesity, cardiovascular disease, and diabetes. Studies suggest that environmental barriers, perceived social support and self-efficacy to engage in healthy eating are associated with diet quality. Few studies have examined these factors among AA adults.

Objective: To examine diet quality among African American adults and its association with social support, self-efficacy and barriers to healthy eating.

Study Design, Setting, Participants, Intervention: A convenience sample was recruited from churches, through the newspaper and snowballing techniques to complete in-person surveys.

Outcome Measures and Analysis: Mean Healthy Eating Index (HEI), social support, self-efficacy, and barriers to healthy eating were assessed with measures derived from the National Health Interview Survey and the Behavioral Risk Factor Surveillance System. Linear regressions were employed to examine the association between variables of interest.

Results: A total of 105 AA (70.4% female, mean age = 36.88 (SD = 16.48)) participated. Self-efficacy and social support towards healthy eating were high while barriers to engagement in healthy eating and HEI scores were low. When social support, self-efficacy, and barriers to healthy eating were in the same model predicting HEI scores, only barriers was statistically significant. There was a negative significant association between barriers and HEI score ($B = -3.65$, $t = -2.20$, $P = .03$).

Conclusions and Implications: Low barriers to healthy eating, high social support and high self-efficacy for healthy eating did not result in high HEI scores, indicating a possible disconnect between perception and ability to execute health eating behavior. Although previous research shows social support, self-efficacy and barriers to healthy eating are important factors impacting diet quality, in the current sample, barriers proved to be the most important factor with regards to engaging in healthy eating among this sample.

Funding: The African American Studies and Research Program.

P193 DASH Diet Compliance in Middle-Aged and Elderly Adults With Elevated or High Blood Pressure

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Background (Background, Rationale, Prior Research, and/or Theory): Several studies have shown the cardiovascular health benefits of the Dietary Approaches to Stop Hypertension (DASH). However, individuals with

hypertension are less likely to follow DASH than individuals without hypertension.

Objective: Compare diet quality by sex and age groups among participants receiving two separate education sessions: a 30-minute education on DASH and a following 20-minute education on ASA24™ and DASH at baseline by a registered dietitian.

Study Design, Setting, Participants, Intervention: Researchers are blinded to the groups in this phase 3 randomized controlled trial of exercise. Participants undergo exercise training three times per week for one year consisting of aerobic exercise, resistance exercise, a combination of both, or delayed exercise (control). Three 24-hour dietary recalls per month are collected from participants using ASA24™. One hundred individuals met the criteria of 3 baseline diet recalls and three recent diet recalls during a 3-month follow-up. Participants had elevated or stage I hypertension, with a mean age of 53 years old, an average BMI of 32 kg/m², and not on blood pressure medication. Seventy-one percent of these individuals completed 80% or more of their diet recalls within 3 months.

Outcome Measures and Analysis: Diet quality was assessed by the DASH score. T-tests and Least Square Means (LSM) were used to compare scores between sexes and ages groups. A significance level of .05 was used for statistical tests.

Results: Men's DASH score at baseline was higher than women's ($\bar{x}$ females = 2.4, $\bar{x}$ males = 3.1; $P = .04$) and ≥ 56 years old had the highest DASH score compared to the 35–55 year olds at baseline ($P < .0001$). The 35–45 year olds had the highest DASH score ($\bar{x} = 3.06$; $P \leq 0.0001$) compared to the ≥ 46 year olds ($\bar{x} = 2.6$) at month three. At three months, women had a significant change in the DASH score (women = +0.24, men = -0.34; $P \leq 0.0001$).

Conclusions and Implications: Women's diet quality increased during the first three months of the study, whereas men's diet quality worsened.

Funding: NIH.

P194 Data-Driven Psychosocial Phenotyping for Precision Behavioral Nutrition

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Background (Background, Rationale, Prior Research, and/or Theory): People respond differently to behavior change interventions; therefore, behavioral nutrition interventions often have small effect sizes. Precision Behavioral Nutrition aims to leverage information about individuals to make these interventions more effective via personalization. Psychosocial phenotyping describes variability in psychological and social characteristics in a population, identifying salient mediators of behavior change. Previously, we used psychosocial phenotyping to qualitatively explain results of a behavioral nutrition

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intervention and noted its potential for designing precision interventions. For this purpose, psychosocial phenotyping must be scalable and identify mediators that can serve as intervention targets along with related moderators and behaviors. Mixed membership models, including Latent Dirichlet Allocation (LDA) and UPhenome, are machine-learning methods used for clinical phenotyping. Whereas LDA treats mediators, moderators, and behaviors as a single data type, UPhenome handles them separately, learning phenotypes that represent each equally. These data-driven models have not yet been applied in behavioral nutrition.

Objective: We assessed the utility of LDA and UPhenome for automatic learning of psychosocial phenotypes from survey data.

Study Design, Setting, Participants, Intervention: We extracted individual's ($n = 5,883$) psychosocial characteristics from surveys collected during a cohort study of a predominantly Latino New York City community affected by high levels of chronic disease and health disparity. We conducted a secondary analysis of these data using UPhenome and LDA.

Outcome Measures and Analysis: Participant responses were tokenized ($n = 4,604$) and used as input to LDA and UPhenome to identify phenotypes ($k = 10$). Domain experts ($n = 4$) assessed internal consistency among phenotypes resulting from LDA; a heatmap ($n = 3,233$) depicted dietary patterns for each phenotype.

Results: Experts found within-phenotype consistency and between-phenotype discrimination. Differences in dietary patterns were visually detected. UPhenome identified more specific intervention targets than LDA.

Conclusions and Implications: LDA and UPhenome can identify psychosocial phenotypes in a large cohort of Latino New Yorkers and could advance Precision Behavioral Nutrition. Future research will assess generalizability of psychosocial phenotypes and integrate psychosocial phenotyping into behavioral nutrition interventions.

Funding: NIH Sackler Institute for Nutrition Science at the New York Academy of Sciences.

P195 Eat Smart Idaho Uses Strong Partnerships as the Backbone for Smarter Lunchroom Success

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Objective: Eat Smart Idaho, the Coeur d'Alene School District Food Service staff and two local fire departments entered into a unique partnership to boost all 10 elementary schools up to Gold Status by the fall of 2018 using the Smarter Lunchroom Assessment Tool. In the fall of 2015, before the implementation of this partnership, eight schools received Bronze Status and two received Silver Status.

Target Audience: The Coeur d'Alene School District includes 10 elementary schools serving over 5,200 youth; 50.4% of youth are on free or reduced lunch.

Theory, Prior Research, Rationale: A smarter lunchroom nudges kids towards nutritious foods. Cornell University's Smarter Lunchroom is a program giving opportunity for kids to select and consume a balanced diet. It applies research-based principles leading children to make healthy choices.

Description: Several concepts were implemented to raise schools to Gold Status: local firefighters from two departments were used as healthy role models for the district; Harvests of the Month were implemented to encourage healthy eating habits; hundreds of youth were used to creatively name each vegetable, fruit, main dish and dairy offering served in the district, and monthly breakfast and lunch menus have been revamped with nutrition messaging.

Evaluation: All 10 elementary schools were re-evaluated in September 2017 using the Smarter Lunchrooms Scorecard. The scorecard contains 60 simple lunchroom strategies to increase consumption of healthy foods. Each elementary school in the district reached our goal of Gold Status.

Conclusions and Implications: The partnerships created to increase the success of Smarter Lunchroom in the Coeur d'Alene School District has been invaluable. Through Eat Smart Idaho's outreach, the Post Falls School District and their local fire department have initiated talks to implement a similar program. Additionally, the Healthy Eating, Active Living (HEAL) Community Healthy Initiative Youth Sub-Committee group has initiated talks to bring these ideas statewide.

Funding: Supplemental Nutrition Assistance Program—Education, Idaho's Department of Health and Welfare, Coeur d'Alene School District.

P196 Feasibility of Visual Estimation Using Digital Template Photos to Assess Children's Dietary Intake in Childcare Settings

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Background (Background, Rationale, Prior Research, and/or Theory): Within childcare settings, it is estimated children consume up to 75% of daily calories, making food consumed within childcare environments a key component of children's daily nutrition. To assess children's nutritional intake in childcare settings, direct observation by weighing each food item before and after consumption is considered the gold standard. However, this method can be disruptive in the classroom and resource-intensive. Therefore, a simple and accurate method to estimate children's dietary intake is needed.

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