P118 (continued)

Conclusions and Implications: The serum vitamin D levels of subjects were low with small outdoor activities. In order to improve the current vitamin D status of Korean women, nutrition education programs should focus more on performing outdoor activities, especially during winter seasons, while maintaining adequate intake levels of vitamin D.

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P119 Gender Differences in Estimating Before and After a Meal

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Objective: To study the effects of plate size on the accuracy of meal size prediction and recall.

Theory, Prior Research, Rationale: Prior quasi-experimental studies looking at perception of meal size have found differences in perceptions of meal size across plate size, with gender being a moderating factor. These studies were not done in the presence of an actual meal and could not validate if perceptions of meal size are accurate representations of actual meal size.

Study Design, Setting, Participants, and Intervention: Quasi-experimental study of 300 college students eating lunch at a campus restaurant.

Outcome, Measures and Analysis: Students were asked to draw either the meal that they had just purchased or the meal that they had just consumed on 1 of 2 sized plates; a plate that was the same size as was offered at the dining hall and one that was larger. Investigators recorded participant meals in order to compare drawn meal size with actual meal size.

Results: Drawn meals on same sized plates pre- and post-meal were accurate within 5% of actual meal size for both genders. Males given larger plates drew meals more than 10% larger than their actual foods. Females were more accurate than males when given larger plates.

Conclusions and Implications: This study validates that students' drawings of meals can be accurate representations of their meals and provides nutrition educators with a new tool for nutritional data gathering. It also suggests that conceptualizations of a meal can be influenced by size of the plate. Gender moderated accuracy of meal reporting.

Funding: None.

P120 Our Food Radius: Americans Purchase or Eat 75% of Their Food within Three Miles of Home

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Objective: This research introduces the notion of our food radius: the area surrounding our homes that encom-

passes most of our food purchases and consumption. Mapping this area will underscore that challenging food issues may be global, but their solutions can be surprisingly local.

Theory, Prior Research, Rationale: The psychological tendency of telescoping can distort problems – such as obesity – making them appear larger and less approachable than they actually are.

Study Design, Setting, Participants, and Intervention: 53 adults who mapped out the distances to their most frequented grocery stores, restaurants, and workplaces from their home, and 502 women who were used as a validation sample.

Outcome, Measures and Analysis: Measured distances of food shopping and eating locations from people's homes, compared to their estimates.

Results: The most frequented grocery stores and restaurants are located within 2 miles of most people's homes, and over 75% of all food is estimated to be either purchased or consumed within 3 miles of a person's home.

Conclusions and Implications: Changing one's food environment can be done in a targeted, localized way. This research underscores that easy actions could be taken – very close to home – which can help individuals and their families eat healthier.

Funding: None.

P121 Visual Inspection of Cafeteria Waste by Quarter Servings Rivals the Accuracy of Weighing

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Objective: Weighing plate waste is the gold standard measure of determining what is eaten in school cafeterias, but it is costly and time consuming. Four common methods of analyzing tray waste – percentage estimates, quarter serving estimates, top-down photographs, and angled photographs – are compared to determine their accuracy.

Theory, Prior Research, Rationale: No prior research has compared all of the leading plate waste estimation methods to determine which is most accurate and efficient to use in large scale operations.

Study Design, Setting, Participants, and Intervention: Tray waste from 233 K-12 lunchroom trays in Lansing, New York were measured in each of 5 different ways: weighing, percentage estimates, quarter serving estimates, top-down photographs, and angled photographs.

Outcome, Measures and Analysis: Estimation accuracy compared with weighing.

Results: Both methods of photography tended to underestimate the amount of wasted food by approximately 12%. Percentage estimation showed a bias of 6% but had the lowest retest reliability. Quarter serving estimation (0, 25, 50, 75, or 100%) most accurately approximated actual weight (-3.2%). This is largely because most items are either in total, uneaten or only have 1 to 2 bites (25%) out of them.

Continued on page S48