P11 (continued)

Background (Background, Rationale, Prior Research, and/or Theory): Descriptions of college students' perception of the healthfulness of their campus can inform the development of tailored nutrition education programs.

Objective: To develop an assessment tool, Behavior Environment Perception Survey (BEPS), measuring college students' perception of the healthfulness of different domains of environmental influencers of health.

Study Design, Setting, Participants, Intervention: A sequential process of measurement development included item generation by experts at seven universities using a pool of existing items and item sorting based on domain/construct. Then, college students participated in cognitive interviews and a pilot survey administration. Finally, survey field testing data were used for confirmatory factor analysis and reliability testing to construct the final questionnaire. Analyses used SPSS and EQS.

Outcome Measures and Analysis: Item generation from experts at seven universities resulted in 100 items, reduced to 93 items based on sorting. Items were eliminated based on content analysis of cognitive interviews ($n = 120$); identification of misinterpreted items and exploratory factor analysis of pilot survey data ($n = 724$ at 6 universities; elimination of cross-loading [$> .30$] or weak loading [$< .40$] items). The field test ($n = 2,724$ at 6 universities) included the refined 31-item measure which underwent confirmatory factor analysis and structural equation modeling.

Results: A 23-item, 5-factor structure was the best fit for the data ($\chi^2 = 3,462.15$, $df = 209$; CFI = .841; RMSEA = 0.076). The perceived healthfulness of the environment factors were: physical activity ($\alpha = .71$; 5 items), healthy eating ($\alpha = .85$; 5 items), mental health ($\alpha = .85$; 5 items), barriers to health ($\alpha = .70$; 4 items), and social influences ($\alpha = .73$; 3 items).

Conclusions and Implications: BEPS is a novel, brief instrument measuring college students' perception of the healthfulness of their environment. Strengths include: strong psychometric properties, breadth of constructs, and comprehensive instrument development process involving a large sample from seven different universities. Future steps include validation studies.

Funding: None.

P12 Food Security, Dietary Diversity and Glycemic Control Among Adults Diagnosed with Type 2 Diabetes in Malawi

Getrude Mphwanthe, MS, mphwanth@msu.edu, Michigan State University, Food Science and Human Nutrition, 469 Wilson Road, East Lansing, MI 48824;

Dave Weatherspoon, PhD, Michigan State University, Agricultural, Food and Resource Economics;

Alexander Kalimpira, PhD, Lilongwe University of Agriculture and Natural Resources, Human Nutrition and Health, Malawi; Lorraine Weatherspoon, PhD, RD, Michigan State University, Food Science and Human Nutrition

Background (Background, Rationale, Prior Research, and/or Theory): Juxtaposition of food insecurity

and Type 2 diabetes (T2DM), disproportionately higher than Sub-Saharan Africa, among adults in Malawi is not well understood along with its negative health implications.

Objective: To determine and compare food security and dietary diversity of adults with T2DM relative to glycemic control in urban (Lilongwe) and semi-urban (Kasungu) districts in Malawi.

Study Design, Setting, Participants, Intervention: A cross-sectional face-to-face survey was conducted from June to August 2017 in Lilongwe and Kasungu with a total of 428 adults diagnosed with T2DM; ($n = 288$ in Lilongwe and $n = 140$ in Kasungu).

Outcome Measures and Analysis: Data included: demographic characteristics, glycosylated hemoglobin (HbA1C) to assess glycemic control, Household Food Insecurity Access Scale (HFIAS) questionnaire was used to calculate the HFIAS score, and 24-hour recalls were used to derive Individual Dietary Diversity Scores (IDDS). Independent t-tests (IBM SPSS version 24) were used to determine if there were differences in IDDS and food security based on HbA1C as well as location.

Results: Overall, 60.3% had higher than recommended ($>8\%$) HbA1C levels. Subjects were primarily: female (69.4%), ≤ 60 years (79.6%), married (77.6%), and 49.6% only attained grades 1–8 education. Significantly higher HFIAS scores (moderate to severe) were evident in those with HbA1C $>8\%$ ($P < .05$). There were no significant differences between those who were mildly and moderately to severely food insecure in both locations. Participants with HbA1C $>8\%$, had mean IDDS = 4.80 ± 1.38 , indicating low to moderate dietary diversity. Lilongwe participants had significantly ($P < .05$) higher mean IDDS (5.03 ± 1.39), but still in low to moderate dietary diversity range.

Conclusions and Implications: Both food insecurity and dietary diversity are a concern among adults diagnosed with T2DM, the majority of whom are also not achieving target HbA1C levels. Therefore, more in-depth dietary quality and food access exploration is needed to inform nutrition education and policy efforts for adults with T2DM in Malawi.

Funding: USAID, Borlaug Higher Education for Agricultural Research and Development (BHEARD), Michigan State University.

P13 How Does Place Influence Children's Willingness to Try New Vegetables?

Yazmin Cespedes, BS, cespe012@umn.edu, University of Minnesota, School of Nursing, 5140 Weaver Densford Hall, 308 Harvard Street SE, Minneapolis, MN 55455; Jennifer Linde, PhD, University of Minnesota, School of Public Health; Sarah Friend, MPH, RD, University of Minnesota, School of Nursing; Jayne A. Fulkerson, PhD

Background (Background, Rationale, Prior Research, and/or Theory): Vegetable consumption is essential in a healthful diet. Among children aged 2–18,

Continued on page S14