P18 The Use of Guided Reading Questions as a Scaffolding Technique in a Flipped Graduate Metabolism Class

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Objective: Evaluate the use of guided reading questions (GRQ) as a scaffolding technique in a flipped classroom among graduate dietetic interns.

Use of Theory: The Staged Self-Directed Learning Model conceptualizes how students move towards self-directed learning in 4 stages. As students become more responsible for their own learning, they need different guidance or support from the teacher. In a previous study, students were initially resistant to flipped learning. It was hypothesized that if the instructor provided scaffolding techniques, such as GRQ, to help students learn on their own, the resistance to flipped learning may be minimized.

Target Audience: Graduate Dietetic Interns (n = 10) enrolled in a graduate-level metabolism course during their first semester at a midsize, private Midwestern university.

Course/Curriculum Description: In this flipped class, students read textbook chapters and/or watch videos prior to coming to class, then engage in activities (ie, case studies) to apply the information using team-based learning in class. GRQ were provided for students to use when reading the textbook for the first 5 weeks of the semester.

Evaluation Methods: Students completed 8 written learning reflections throughout the semester, which occurred approximately every other week. Content analysis was applied to these reflections to discover themes.

Results: Students viewed the GRQ as instructor support. Students reflected that they appreciated the GRQ at the beginning of the semester, but understood why they would not receive them for the entirety of the course. They reported that the GRQ helped them develop reading comprehension and note-taking skills. At the end of the semester, students reported that they would not need them.

Conclusions: Providing students GRQ in a flipped class, especially at the beginning of the semester, may be a useful scaffolding technique to help students gain skills in learning on their own and reading comprehension.

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P19 Emotion- and Stress-Related Eating is Related to Weight Status Among College Students

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Background: The Transactional Model of Stress and Coping proposes that stress occurs when one perceives that a particular stressor outweighs one's resources to cope. Emotion- and stress-related eating may be used as a

measure to cope, which can lead to an increase in caloric intake and weight gain.

Objective: The purpose of this study was to understand the relationship between constructs of The Transactional Model of Stress and Coping and weight status among college students.

Study Design, Setting, Participants: Six hundred and ninety college students participated in an online survey.

Outcome Measure/Analysis: The survey included the Emotion- and Stress-related Eating and the Appraisal of Ability and Resources to Cope sub-scales from the Eating and Appraisal Due to Emotions and Stress (EADES) Questionnaire, the Perceived Stress Scale (PSS), self-report of height and weight, and demographic questions. Responses were captured on a 5 point Likert scale where lower scores represent greater emotion- and stress-related eating, lower appraisal of skills and resources to cope, and less stress. Logistic regression analysis was used to test the relationship between weight status and emotion- and stress-related eating, appraisal of resources to cope, and PSS while adjusting for demographics.

Results: In univariate analysis, when compared with healthy weight students, overweight/obese students had significantly lower Emotion- and Stress-related Eating scores (3.3 ± 0.7 vs 3.7 ± 0.8 , $P < .001$) but similar PSS (17.4 ± 6.2 vs 16.9 ± 6.2 , $P = .23$) and appraisal scores (3.6 ± 0.7 vs 3.7 ± 0.7 , $P = .10$). After adjusting for demographics, overweight/obese individuals had significantly lower Emotion- and Stress-related Eating scores than their healthy weight counterparts regardless of perceived stress and appraisal to cope with stress (OR, 0.36; 95% CI, 0.28-0.49).

Conclusions: Overweight and obese college students report more emotion- and stress-related eating compared to normal weight students; however, their perceived stress levels were similar. Emotion- and stress-related eating should be included in educational interventions.

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P20 Effectiveness of Nutrition Interventions in Low-Income Rural and Urban Retail Environments: A Systematic Literature Review

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Background: Retail interventions targeting food access and promoting healthy food choices are implemented to address the unique nutrition challenges of residents in low-income rural and urban environments. Research about the effectiveness of interventions in rural environments is limited.

Objective: The purpose of this systematic literature review is to identify successful retail interventions used in stores located in low-income rural and urban environments.

Continued on page S25

P20 (continued)

Study Design, Setting, Participants: This review is reported in accordance with PRISMA guidelines. Five databases were searched for peer-reviewed articles, and additional publications were hand-searched or provided by experts in the field. Studies were sought from October 1, 2010, until December 31, 2018.

Measurable Outcome/Analysis: Studies which included a nutrition promotion in retail stores located in a low-income rural or urban community were included if they provided a quantitative outcome evaluation regarding the impact of the intervention(s). Intervention data was extracted and classified based on the MINDSPACE framework. Store level approaches including manager and staff training, store incentives, and/or store modifications were extracted. Two reviewers independently assessed the methodological quality of the studies using the EPHPP's Quality Assessment for Quantitative Studies.

Results: Peer-reviewed data from 43 publications (19 rural and 24 urban) was extracted representing 38 healthy retail programs in the US, Canada, Europe, New Zealand, and Australia. Preliminary results show 192 (82 rural and 110 urban) MINDSPACE interventions were implemented. Excluding norms, interventions were implemented in descending frequency as follows: salience, priming, commitment, incentives, ego, messenger, affect, and defaults. Rural interventions included a messenger that was unique to the community and appealed to the consumer's emotions more often than urban interventions. Of the 17 programs which reported staff and storeowner training, 12 were in low-income urban areas.

Conclusions: More research is needed to identify interventions, essential equipment, and training needs of managers and staff in low-income rural stores.

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P21 Low-Income Older Adults' Salient Beliefs Regarding Whole Grain Consumption: A Qualitative Approach

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Background: Given the known health benefits of whole grains (WG) in promoting overall health, as well as the low intake of WG products by low-income older adults, there is a need for developing effective health promotion programs targeting low-income older adults promoting WG consumption

Objective: To gain an in-depth understanding of low-income older adults' underlying beliefs regarding WG consumption using the Theory of Planned Behavior (TPB) as a framework.

Study Design, Setting, Participants: In this qualitative study, interview questions regarding WG consumption

were structured according to the TPB constructs (behavioral, normative, and control beliefs). The setting was 2 congregate meal sites located in Tuscaloosa, AL. A convenience sample of 25 low-income older adults, 60 years of age and older, participated in this study.

Measurable Outcome/Analysis: Individual interviews were audio-recorded, transcribed verbatim, and cross-checked for consistency. Content analysis was used to identify themes pertaining to the TPB constructs in addition to other prevalent themes.

Results: Participants believed WGs were nutritious and had health benefits, but disliked sensory qualities, perceived higher cost, and longer cooking time. Participants also believed healthcare professionals and family would support WG consumption. Facilitators to WG consumption included knowledge of nutritional and health benefits, WG preparation skills, social support, availability and accessibility, and grocery shopping assistance. Barriers to WG consumption included cost of WGs, age-related physical changes such as chewing and swallowing, lack of motivation to prepare WG, and nutrition-related knowledge deficits.

Conclusions: Findings from this study provide strategies for nutrition education programs to promote increased WG consumption by low-income older adults, ultimately influencing the health status of this population.

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P22 Prevalence of and Characteristics Associated with Food Security Status Among International College Students

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Background: The majority of studies on food insecurity among US college students show higher prevalence rates than the general population. Past studies have looked at characteristics associated with food security status among US college students, but have not focused specifically on international students.

Objective: To estimate the prevalence of and identify characteristics associated with food insecurity among international students at the University of North Carolina at Chapel Hill.

Study Design, Setting, Participants: This cross-sectional study used data from 263 international students attending the University of North Carolina at Chapel Hill who completed an online survey in October and November of 2016.

Measurable Outcome/Analysis: Food security status was assessed using the 10-item US Adult Food Security Survey Module and students were categorized as having high food security, marginal food security, or food insecurity. Self-reported demographics and other student

Continued on page S26