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Objective: The internet is a common source of information about nutrition and health; therefore, it is important to understand how learning takes place in this context. In this study, we assessed the influence of different types of feedback on learning about the macronutrient content of meals.

Design, Setting, Participants, and Intervention: A within-subjects experiment was conducted with participants ($n=1090$, mean age $\pm$ standard deviation= 29.7 ± 13.0 , female= 63%) who visited labinthewild.org and took a nutrition knowledge quiz. Participants were shown a series of meal photograph pairs with one difference in ingredients and asked to choose which meal had more of a specific macronutrient (i.e., carbohydrate, fiber, fat, or protein). After each response, participants randomly received: no feedback (control), simple feedback (indication of correct/incorrect response), or explanation (text about why the correct meal had more of the macronutrient). Later, participants compared another pair of images with similar ingredients as a post-test.

Outcome Measures and Analysis: One-sample t-tests assessed learning (i.e., improvement in mean accuracy about meals' macronutrient content) in each feedback condition. Effect size was estimated with Cohen's d .

Results: On average, participants improved 5 percentage points at post-test ($73\pm 31\%$ vs. $68\pm 30\%$) when they received explanations ($t=3.73, p<.0005, d=.11$), representing a small, but statistically significant effect. Simple feedback ($68\pm 32\%$ vs. $67\pm 31\%$) and control ($66\pm 32\%$ vs. $65\pm 31\%$) did not yield significant improvement ($t=.97, p=.331, d=.03$ and $t=.735, p=.463, d=.02$, respectively).

Conclusions and Implications: Feedback with explanation is helpful for learning complex nutrition information in an online context, whereas simple correct/incorrect feedback is not. Those who need knowledge about the macronutrient content of meals, including patients prescribed exchange-type diets and nutrition students, may benefit from online learning applications that incorporate feedback with explanations.

Funding: National Science Foundation Smart and Connected Health

P115 Next Practice in Online Nutrition Education—Gamification—An Inquiry Into the Process of Improving Student Engagement

Diane Dembicki, PhD, LMT, CYT, dembicki@adelphi.edu, Adelphi University, College of Nursing & Public Health, 1 South Avenue, Garden City, NY 11530

Objective: This study developed and evaluated the use of game mechanics in a non-gaming context—a course in an online nutrition master's program—to improve student engagement.

Target Audience: The target audience was graduate students in the third course of their curriculum.

Theory, Prior Research, Rationale: The gamification of learning is a growing trend in education and is used to

improve student engagement, a major component of on-line courses. While relatively new, it is based on the earlier work of Sheldon and Kapp.

Description: An online Nutrition course previously taught without gamification was designed and implemented with gaming elements. Badges, not associated with grades, were awarded for certain proficiencies such as creative problem solving, sound decision-making, and cultural competence in weekly discussion forums and case studies. A badge was awarded for most improvement overall. This Nutrition course, one of five courses in other disciplines across the University in this project, had eleven students who all participated.

Evaluation: A pre-course survey, mid-course engagement survey, post-course survey, and post-course focus group all addressed gamification and student engagement. Participation was voluntary and anonymous, and a Google hangout focus group was conducted.

Conclusions and Implications: Only one student had previous experience with gamification but most thought it would improve their learning experience through motivation, quick feedback, and knowledge of how to succeed in the course. Results indicated gamification was a positive experience and all three desired classroom dynamics were achieved. Students liked gamification and it increased engagement.

Funding: Adelphi University Provost's High Impact Teaching and Learning Practices Grant and the College of Nursing and Public Health

P116 Nourishing Boomers and Beyond: Extending Face-to-Face Education With Technology

Julie Garden-Robinson, PhD, RD, LDN, FAND, julie.garden-robinson@ndsu.edu

North Dakota State University, EML 351, 1400 Centennial Boulevard, NDSU Department 7270, Fargo, ND 58108

Objective: The Nourishing Boomers and Beyond program aims to improve nutrition and physical activity practices among adults through topic-specific face-to-face lessons with technology-based support (web, Facebook, e-newsletter).

Design, Setting, Participants, and Intervention: In this program informed by social cognitive theory, adults 50 and older are targeted with face-to-face education about body systems (heart, brain, eyes, muscles, etc.) enhanced with technology-based follow-up approaches. The website (www.ndsu.edu/boomers) features "5 Things to Do" each month, including apps, websites to explore and recipes.

Outcome Measures and Analysis: Google analytics and Qualtrics survey methodology are used to determine use of the materials.

Results: Website visitors have come from 37 states and 12 countries. In the preceding year, the site has had a total reach of 281,242 visitors from 37 states and 12 countries. The e-newsletter is delivered monthly to 757 people via email and has an average open rate of 40%, compared to

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the national average of 18% for educational newsletters. According to a survey of e-newsletter readers ($n=437$), 86% reading most or all of it every month, 43% have shared the content, 45% have prepared a recipe, 38% have used the information to modify what they eat, and 47% have explored the links.

Conclusions and Implications: According to the U.S. Administration on Aging (2013), the number of adults aged 65 and older will double to more than 70 million by 2030, placing increasing demands on the nation's healthcare system. The program uses a variety of educational techniques and technology enhancements to promote behavior change related to nutrition and fitness practices among older adults.

Funding: USDA

P117 Uses and Perceived Credibility of Social Networking Sites (SNS) for Weight Management in College Students

Alyssa Pupino, MS, RD, LDN, apupino@kent.edu, Kent State University, School of Health Sciences, Kent, OH 44242; E. J. Ha, PhD; N. Caine-Bish, PhD, RD, LD; K. L. Gordon, PhD, RD, LD

Objective: To examine the use of SNS as tools for weight management in college students and the perceived credibility of these sites as information sources.

Design, Setting, and Participants: One thousand one hundred and thirty-three undergraduate and graduate college students (856 female and 277 male) participated in the study, which utilized an anonymous, online, self-administered questionnaire.

Outcome Measures and Analysis: Descriptive statistics were used to analyze demographics and overall SNS usage. Independent t-tests were used to examine gender differences between the perceived credibility of SNS as an information source, weight management-related search keywords, and posting and browsing habits.

Results: Two-thirds ($n=739$) of participants reported using SNS to access weight management information. Female college students were more likely to be Instagram and Pinterest users ($p\leq 0.001$), while males were more likely to be Twitter users ($p\leq 0.01$). The most frequently searched keywords on SNS pertained to healthy recipes and exercise information. Forty-six percent of participants reported that weight management information on SNS was trustworthy, and there were no gender differences in perceived credibility. There were no gender differences in posting and browsing habits and perceptions on social support.

Conclusions and Implications: This study indicates that many college students are using SNS for information on weight management, and nearly half perceive this information to be credible. This study also examines how college students use SNS for this purpose, as well as the specific types of weight management-related information that they appear to research. These results could be used to help healthcare professionals better understand SNS as a tool for

weight management, and help them relate to and reach the college student population.

Funding: None

P118 Farmers Market Manager's Level of Communication and Influence on Electronic Benefit Transfer (EBT) Adoption at Midwest Farmers Markets

Afroza Hasin, MS, afroza@siu.edu, Southern Illinois University-Carbondale, 875 South Normal Avenue, Southern Illinois University, Carbondale, IL 62901; S. Smith, PhD, CHE, FMP

Objective: To understand variables related to market manager's level of communication and use of technology that might influence their decision to adopt EBT at farmers markets. Only 21% of the nation's farmers markets have adopted EBT.

Design, Setting, and Participants: A cross-sectional study was conducted in three Midwest states (Illinois, Michigan, Wisconsin). The survey was administered electronically in March, 2015 giving a 23% market manager response rate (181 surveys). Variables related to market manager's communication and technology use were examined using the Theory of Diffusion of Innovation (DOI).

Outcome Measures and Analysis: EBT adoption was the dependent variable in the binary logistic regression analysis. Independent variables included: frequency of technology use, partnership with other organizations, membership with farmers market association (FMA), Facebook page and website for the market, and primary source of information. Chi-square tests and analysis of variance (ANOVA) were used to compare the states and adopter categories.

Results: Results of logistic regression showed having partnership with other organizations (Wald's $\chi^2=23.95$, $p<0.001$) and FMA membership (Wald's $\chi^2=6.03$, $p=0.01$) were significant predictors of EBT adoption at farmers markets. Results of chi-square test and ANOVA showed significantly greater number of earliest adopters had partnership, FMA membership, Facebook page for market, website for market, and had to report to a board of directors compared to non-adopters.

Conclusions and Implications: Markets with partnership, FMA membership, Facebook page and website for the market, and mandatory reporting to a board of directors were among the early adopters. These variables are important for markets to be considered as compatible to adopt EBT at Midwest farmers markets.

Funding: None

P119 Generational Gaps Among Low-Income Adults' Use of Internet-Based Technologies and Preferences to Receive Nutrition Education

Cheng Li, MS, cl852@scarletmail.rutgers.edu, Rutgers University, 11 Suydam Street, 2nd Floor, Room 203, New Brunswick, NJ 08901; D. Palmer-Keenan, PhD, MEd

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