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A Mixed-Method Multiple Case Study of Three Business Models for Local Healthy Food Delivery Systems in Underprivileged Urban Areas

Gretchen Elizabeth Krivak
Andrews University, krivak@andrews.edu

Garth B. Woodruff
Andrews University, woodruffg@andrews.edu


S. Forrest
Western Michigan University

Hannah Mbungu
Andrews University, hannahm@andrews.edu

Kechler Orcel
Andrews University, kechler@andrews.edu

See next page for additional authors

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Authors

Gretchen Elizabeth Krivak, Garth B. Woodruff, S. Forrest, Hannah Mbungu, Kechler Orcel, Soraya Fish, and Sherine R. Brown-Fraser

Poster Session: Food/Nutrition Science; Education; Management; Food Services/Culinary; Research**"Fruit or Foe: Assessing the College-Aged Populations' Perceptions on Fresh, Frozen, and Canned Fruit"**

Author(s): C. Harris, S. Zois, M. Holt, C. Constantinou, P. Policastro; Rutgers New Jersey Institute for Food, Nutrition and Health

Learning Outcome: After this presentation, the attendee should be able to recognize that college-aged students perceive fresh fruit to be superior in nutrition profile, healthfulness, deliciousness, and convenience than to canned and frozen fruit. This information may be useful in nutrition education to increase fruit intake.

Background: Most do not eat the amount of fruit suggested in the 2015-2020 Dietary Guidelines. A reason may be the perception that frozen fruit is not as nutritious, delicious or convenient as fresh.

Objective: Determine student perceptions of nutrition profile (VitA/VitC/Fiber)/healthfulness/deliciousness/convenience of fresh/frozen/canned fruit.

Design: A cross sectional study collecting survey data from a convenient, random sample.

Participants/Setting: Convenience sample of 218 college students(110M) in campus dining halls.

Main Outcome Measure: Students rated(23-item survey) the nutrition-profile/healthfulness/deliciousness/convenience of fresh/frozen/canned fruit using a 10-point Likert scale(1=low, 10=high).

Analysis: Descriptive statistics examined dependent variables(DV), nutrition-profile/healthfulness/deliciousness/convenience, to determine if they were skewed towards high or low for fresh/frozen/canned fruit. An ANOVA examined if the means for the DV were significantly different from each other. Significance= $p \leq .05$.

Results: Students perception (SP) of fresh ($M7.7 \pm SD1.7$) was higher than frozen ($M5.7 \pm SD1.9$) and canned ($M4.2 \pm SD2.1$) for nutrition-profile. SP of fresh ($M8.8 \pm SD1.4$) was higher than frozen ($M6.6 \pm SD2.0$) and canned ($M4.3 \pm SD2.1$) for healthfulness. SP of fresh was higher ($M9.0 \pm SD1.7$) than frozen ($M6.3 \pm SD2.5$) and canned ($M5.0 \pm SD2.9$) for deliciousness. SP of fresh ($7.4 \pm SD2.5$) was higher than frozen ($M6.6 \pm SD2.7$) and canned ($M6.7 \pm SD3.0$) for convenience. Means for each DV were significantly different from each other.

Conclusions/Implications: Students perceived fresh fruit to be superior to frozen/canned. This may lead to inadequate intake of fruit. Frozen fruit is available year-round and nutritionally similar to fresh. Educating students on this may increase fruit intake.

Funding Disclosure: None

A Comparison of Sleeve Gastrectomy Versus Roux-En-Y Gastric Bypass Surgery on Weight Loss, Medication Use, and Hgb A1c

Author(s): K. McGuire¹, J. Pope², D. Erickson², K. Anguah²; ¹CEDA, ²Louisiana Tech University

Learning Outcome: The purpose of this project was to compare changes in weight, hemoglobin A1c, and medications used at 3, 6, and 12 months post-surgery between sleeve gastrectomy (SG) versus Roux-en-Y bypass (RYGB) patients.

The purpose of this project was to compare changes in weight, hemoglobin A1c, and medications used at 3, 6, and 12 months post-surgery between sleeve gastrectomy (SG) versus Roux-en-Y bypass (RYGB) patients. Change in medications was defined as the difference in medications used for obesity comorbidities only. This retrospective chart review conducted between July 2014, and July 2015, included 68 individuals (SG=37, RYGB= 31). Patients with follow-up data at approximately 3, 6, and 12 months post-surgery were included. Subjects were age 24-76 years (48.66 ± 11.59); 88.2% were female; and mean baseline body mass index was 46.85 ± 7.33 . Mean total weight loss after 12 months was 73.92 ± 28.36 for SG and 113.52 ± 49.76 for RYGB. T-tests revealed no significant differences in weight change between the two surgery types at baseline, 3, 6, or 12 months. Hgb A1c levels were significantly different between SG and RYGB patients at baseline ($5.9 \pm .79$ vs. 6.9 ± 1.67 , $p=.008$). Because of limited data recorded in the medical records, researchers were unable to assess change in Hgb A1c at 3 and 6 months post-surgery. The change at 12 months was not significantly different in the two groups, although mean Hgb A1c decreased in both groups. Use of medications for comorbidities decreased over the course of the study for both groups. These results suggest either type of bariatric surgery is beneficial in promoting weight loss, changes in Hgb A1c, and decreased use of medications.

Funding Disclosure: None

A Cultural Perspective on Pie Making

Author(s): L. Brubaker, D. Anderson; Bowling Green State University

Learning Outcome: Participants will be able to describe how individuals learn to make pies and the procedures that they use to make pies.

Background: Pies are a popular dessert, but they can be challenging to make.

Methods: The purpose of this study was to understand how individuals learn to make pies and the procedures that they use to make pies. Participants, recruited at community gatherings and church events, were >18 years and asked to complete an anonymous survey about making pies.

Results: A survey of 85 participants, (84 females, 1 male) with a mean age of 58.6 years (SD +/- 16.15) showed that 64.6% learned to make pie from a female family member (mother taught 58.8%), and 3.5% learned from a cooking show. The average age to learn to make pie was 14.4 (SD +/- 7.07), median age 10 years. The youngest learned at 4 years old, the oldest 45 years. Participants report that 94% have made at least one homemade pie crust, and 36.4% continue to make pie crust from a scratch recipe. Of participants, 80% use a solid fat (67% shortening, 9.4% butter, 3.4% lard); a pastry blender is used to cut the fat into flour by 63.5%. Cinnamon sugar is sprinkled over dough scraps and baked by 58.5%, raw pie dough is eaten by 39%. To vent a double crust pie, a spoke design is used by 67%, a leaf design by 9.4%, letter by 5.8%, and lattice by 1.2% lattice. Twenty percent make the same design in their crust as their mother or another female relative.

Conclusion: There is a familial connection in the way making pie is learned, and this skill is passed on through generations.

Funding Disclosure: None

A Mixed-Method Multiple Case Study of Three Business Models for Local Healthy Food Delivery Systems in Underprivileged Urban Areas

Author(s): G. Krivak¹, G. Woodruff¹, S. Forrester², H. Mbungu¹, K. Orce¹, S. Fish¹, S. Brown-Frase¹; ¹Andrews University, ²Western Michigan University

Learning Outcome: Define a USDA food desert Analyze the three business models for benefits and deficiencies Identify methods for starting a sustainable mobile farmers market program.

Over 40% of Berrien County Michigan land use is agricultural. Many products are fruits and vegetables. Yet, the county has six identified USDA defined Food Deserts. Past research, based on a mobile farmers market, confirmed local trends and deficits. The purpose for this research is to define a sustainable business model that delivers healthy local food options to USDA Food Deserts combating food inequity. A mixed method multiple case study was created to test three business models in one of the local Food Deserts. Results identify a sustainable model that provides local healthy food options. Model One developed lunchtime stops serving robust local businesses and community epicenters, with a goal of creating lunchtime profit, focusing evenings on service stops at a potential loss. Model Two required local farmers to provide produce at no cost to the market. Market locations were service stops embedded inside the residential community and stops increased to 15 per week. Model Three purchased local produce and focused stops on work and shopping locals, targeting the ALICE poverty segment. Models were tested for two weeks each with data collected for correlational comparison. Results show a high demand for lunch hour food options. Labor at such stops was increased over service stops. Model Two proved willingness from local farmers to support neighboring Food Deserts, yet sales didn't equal market costs. Model Three demonstrated increased demand from ALICE segments. Conclusions indicate that sustainability could be reached with a hybrid model with limited volunteer intern positions. A three to five-year plan should be built with funding support ebbing with market growth.

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