P41 Yumbox: Bringing MyPlate to Preschoolers' Lunches

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Objective: To test whether Yumbox, a bento-style lunchbox with compartments labeled for the 5 meal components of USDA's MyPlate, has an effect on foods that caregivers packed for preschoolers' lunches.

Use of Theory: Yumbox provides distinct compartments for recommended food components of USDA MyPlate, leveraging visibility principals of behavioral economics theory. Caregivers may be more likely to pack lunches that include more components of MyPlate due to visual cues present in Yumbox.

Target Audience: Caregivers of preschoolers

Program Description: Yumboxes were given to each child in a preschool ("Intervention School") ($n = 30$). Caregivers received a brief orientation on using Yumbox, as well as a list of suggestions for foods for each section. A similar preschool was selected for comparison of the content of students' lunches ("Control School"; $n = 26$). Contents of the students' lunches in both preschools were documented over a 3-day period by photographing lunches in both schools ($N = 110$ lunches). Photos were then analyzed to identify if a meal component was present or absent in the students' lunches.

Evaluation Methods: All data were entered into SPSS for analysis. Descriptive statistics of food present for each component (vegetable, fruit, dairy, grain, protein), for both the Intervention and Control Schools were conducted. Chi-square analyses were also conducted to assess significant group differences in the presence of each food component. A comparison of the mean number of food components present on each student's trays were used to assess impact of the intervention.

Results: This study found that the intervention group had had statistically significantly higher number of components (3.78 ± 0.95) compared to the control group (1.89 ± 0.93) $t = -10.56$; $P < 0.0001$. Chi-square tests found significant differences across all days for fruit, protein, and dairy, and significant differences on the first 2 days for vegetables.

Conclusion: This study provides evidence that Yumbox may have a positive influence on the types of foods caregivers pack for children's lunches.

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Food and Nutrition Policy

P42 A Longitudinal Analysis of School Garden Prevalence Across 4 New Jersey Cities

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Background: School gardens are a popular strategy to increase preference and consumption of fruits and vegetables (FV). The Healthy Hunger Free Kids Act (HHFKA) of 2010 supported implementation of school gardens for promoting FV consumption. Current research lacks longitudinal assessments of changes in prevalence of school gardens over time.

Objective: In this study, we examine the prevalence of school gardens over time by school level factors before and after the implementation of the Healthy Hunger Free Kids Act (HHFKA).

Study Design: We used data from the New Jersey Child Health Study (NJCHS) conducted in 4 low-income NJ cities. Information on school garden prevalence was collected from all schools ($n = 148$) in the 4 study cities for school years between 2010-11 and 2017-18.

Analysis: Prevalence of school gardens was calculated for each school year over the study period. Multivariable analysis estimated changes in prevalence of school gardens over time adjusting for school-level factors including, school level (elementary vs middle/high), enrolled students' race/ethnicity, and enrolled students' eligibility for free and reduced-price meals (FRPM).

Results: There were 97 elementary and 51 middle/high schools in the sample. In 2010-11, 19% of all K-12 schools participated in school gardens. Multivariate analysis showed that after adjusting for school-level factors, compared to 2010-11, a higher proportion of schools reported having a garden in 2013-14 (29%, $P = 0.055$), 2014-15 (31%, $P = 0.018$), and in 2016-17 (31%, $P = 0.051$). Schools with majority Hispanic student enrollment had less than half the odds of having a garden compared to schools with majority Black students ($P = 0.045$). There were no differences in garden prevalence between elementary and middle/high schools or FRPM eligibility.

Conclusion: School garden presence showed patterns of increasing prevalence over time, especially in the years following the HHFKA. Future research should examine the reasons for differences in prevalence of gardens in schools with racially and ethnically diverse student populations over multiple time points.

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P43 Conceptual Model to Assess the Resilience Capacity of School Meal Programs: A Systematic Review and Thematic Analysis

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