

bridging the gap

Research Informing Policies & Practices
for Healthy Youth

Research Brief
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Students Eat More Fruits and Green Vegetables when Schools Offer Higher Fruit, Vegetable, and Salad Accessibility

Introduction

The 2010 Dietary Guidelines for Americans issued by the USDA/USDHHS call for increased fruit and vegetable consumption; these foods are important nutrient sources, and consumption may help with healthy weight maintenance via displacement of more energy-dense foods. Healthy People 2020 objectives call for increases in (a) the variety and contribution of fruits and vegetables to US diets, and (b) the percentage of school districts requiring that fruits or vegetables be made available wherever food is offered or sold on school grounds.

This brief reports results from a national study investigating secondary school fruit and vegetable and snack food availability and accessibility associations with student self-reported daily fruit and green vegetable consumption. The study utilizes five years (2008-2012) of school administrator survey data (collected through the Youth, Education, and Society study, part of the *Bridging the Gap* research program) and student data from the same schools (collected through the Monitoring the Future study, supported by the National Institute on Drug Abuse).

Key Findings

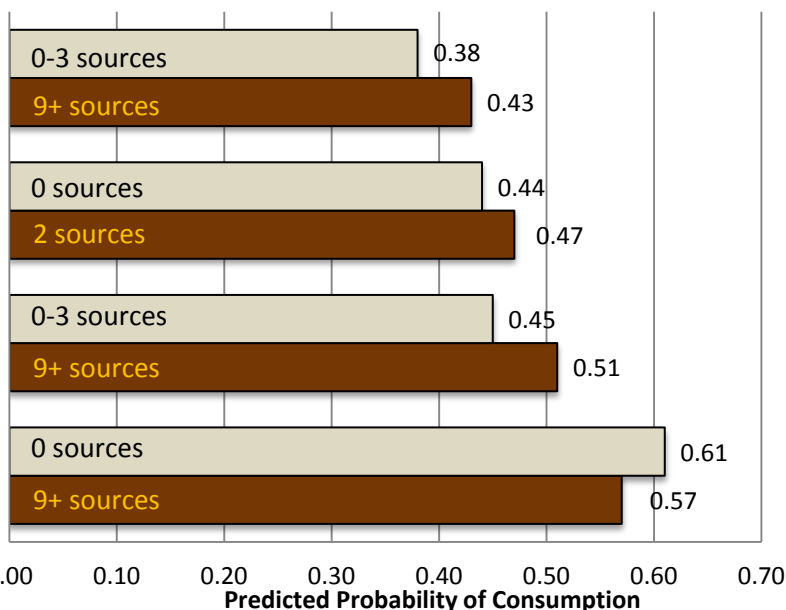
The percentage of middle and high school students who reported eating fruits or green vegetables daily was low, especially for minority students and students from families of low socioeconomic status (SES). Higher levels of school salad, fruit and vegetable accessibility were associated with higher student consumption of fruits and green vegetables. Accessibility—the total number of school sources—indicated the degree to which a food was available in a form, location, and/or time facilitating consumption.

- Slightly more than one-third of middle school students reported eating fruit daily, while only about one-fourth of high school students did so. Just one-fifth to one-fourth of students reported daily consumption of green vegetables.
- Daily fruit and green vegetable consumption was reported by significantly more white than African American or Hispanic students. High-SES students reported significantly higher daily fruit and green vegetable consumption than mid- or low-SES students.
- Among middle school students, higher accessibility of candy/regular-fat snacks was associated with lower fruit consumption.
- Among middle school students, higher salad bar accessibility was associated with higher green vegetable consumption.
- Among high school students, higher fruit and vegetable accessibility was associated with higher fruit consumption and higher green vegetable consumption.

School Food Accessibility and the Probability of Middle and High School Student Fruit and Green Vegetable Consumption on a Regular Basis (Near Daily/Daily), 2008-2012

Green Vegetable Consumption

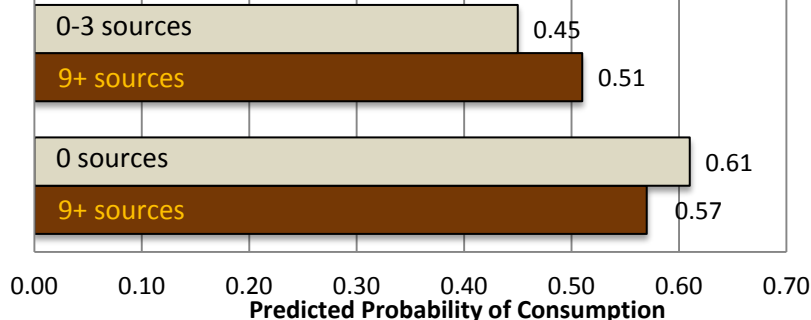
High school
Fruit and vegetable accessibility



Fruit Consumption

High school
Fruit and vegetable accessibility

Middle school
Candy/regular-fat snack accessibility



Notes: Accessibility measured the total number of school sources of each identified food group. Candy/regular fat snack accessibility included four food types (candy; salty snacks not low in fat; cookies/crackers/cakes/other baked goods not low in fat; ice cream/frozen yogurt not low in fat) in four possible locations (vending; stores/snack bars/carts; à la carte sales; school meal) for a total of 16 possible sources. Fruit and vegetable accessibility included three food types (fresh fruit; other fruit such as dried or canned fruit; vegetables excluding potatoes) in four possible locations (vending; stores/snack bars/carts; à la carte sales; school meal) for a total of 12 possible sources. Salad bar accessibility included only one type (salad bars) in two locations (à la carte sales; school meal) for a total of 2 possible sources. All shown comparisons significant at $p < .05$.

Conclusions and Policy Implications

School food accessibility was significantly associated with student self-reported fruit and green vegetable consumption. The relevance of the current study's findings are heightened as a result of the USDA's Smart Snack nutrition standards, which establish guidelines for all foods and beverages sold in schools outside of federally-reimbursable meal programs and are set to go into effect as of the beginning of the 2014/15 school year. The Smart Snack standards (if implemented fully) are intended to result in dramatic decreases in student access to unhealthy foods in school nutrition environments. School decision makers will need to determine what will take the place of currently available unhealthy options. The findings here indicate that schools should not only remove unhealthy foods and beverages, but also consider expanding the use of salad bars as well as providing fruit and vegetable access wherever other foods are sold. Such actions—as well as participation in programs aimed at increasing school fruit and vegetable availability, such as HealthierUS School Challenge, Let's Move Salad Bars to Schools, and the USDA Farm to School Program—may well result in increased fruit and vegetable consumption among students, including among minority racial/ethnic and lower socioeconomic groups.

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This brief is based on the study "Accessibility Over Availability: Associations Between the School food Environment and Student Fruit and Green vegetable Consumption" available at: <http://online.liebertpub.com/toc/chi/10/3>.

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