Agricultural Production and Food Systems

A Mixed-Methods Explorative Study on Gardening and Wellbeing Among College Students

Susana Matias, PhD, slmatias@berkeley.edu, University of California, Berkeley; Kassandra Bacon, MPH, University of California, Berkeley; Arianna Lee, BS, University of California, Berkeley; Saadhana Deshpande, BS, University of California, Berkeley

Background: Community gardens provide nutritious and sufficient food and can contribute to wellbeing and health. Among school-age children, gardening programs promote positive social development (e.g., relationship building) and improve academic performance. In older adults, community gardening improves emotional health and increases physical activity. A common outcome reported among both populations is improved overall wellbeing. However, research on the impact of gardening on college-aged young adults is scarce.

Objective: To examine the impact of participating in gardening on campus during the COVID-19 pandemic on the overall wellbeing of college students.

Study Design, Setting, Participants: Using a mixed-methods design, we collected survey data and conducted focus groups and in-depth interviews. The study setting was a large urban public university. Participants were undergraduate students who volunteered in a coalition of seven student-led campus gardens and students who did not volunteer in the gardens.

Measurable Outcome/Analysis: We conducted an anonymous online survey to collect data on campus garden participation, several wellbeing measures and other information. We used the Flourishing Scale, the Brief Sense of Community Scale, and the Perceived Stress Scale to assess subjective wellbeing, sense of community, and perceived stress, respectively. We also asked about consumption of fruits and vegetables, and intuitive eating, using three subscales of the Intuitive Eating Scale-2. Questions about physical activity, sleep patterns, other non-academic activities (e.g., nature walks) and sociodemographic information were also included.

Results: Preliminary analysis of survey data (n=182) suggests several benefits from volunteering at the campus gardens during the pandemic. Although participation in campus gardening was not related to fruit or vegetable intake, it was associated with higher intuitive eating scores and lower perceived stress scores. These associations remained significant after adjusting for race/ethnicity, physical activity or a non-academic activity. Qualitative data analysis is ongoing; findings will be used to provide context and deeper understanding of the impact of campus gardening in students’ college life.

Conclusion: Campus gardens may positively impact college students’ wellbeing, even during stressful and isolating times.

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A Novel Method for Estimating State-Grown Edible Portion Fruit and Vegetable Servings Using Agricultural Census Data

Graham E. Bastian, PhD, RDN, LN, graham.bastian@sdstate.edu, School of Health and Consumer Sciences, South Dakota State University; Bridgette A. Bienias, BS, School of Health and Consumer Sciences, South Dakota State University

Background: Local food initiatives, like Farm to School (FTS), promote the procurement of locally grown foods, including produce, for Child Nutrition Programs (CNP). However, assessing the availability of local produce for FTS procurement is challenging. Public crop statistics are communicated in acreage or monetary value, and the amount of edible product available for CNPs, which have federally mandated nutrition standards, is unknown.

Objective: To develop a method to estimate the amount of edible fruit and vegetable servings grown in a given state using publicly available agricultural data.

Study Design, Settings, Participants: A secondary analysis of public data from the U.S. Department of Agriculture’s National Agricultural Statistics Service (USDA-NASS) 2017 Census was utilized.

Measurable Outcome/Analysis: A spreadsheet template was developed in Microsoft Excel for the analysis. State-level acreage data and national yield estimates from USDA-NASS were used. Hundredweights of crops were converted to cup servings of produce using As-Purchased-to-Edible-Portion (A.P./E.P.) conversions from the USDA’s Food Buying Guide for CNPs. The form of each produce item that was most likely to be served in CNPs was used for the A.P./E.P. conversions (e.g., cut melon, cooked asparagus).

Results: A spreadsheet template was created that can be used to easily estimate the amounts of edible fruit and vegetable servings grown in each state.

Conclusion: While USDA-NASS reported yields may overestimate yields in states with low fruit and vegetable production, many small farms do not calculate and record crop yields, thus, these are often the best available indicators. The results of this methodology could be compared to CNP meal data from state Departments of Education to determine a state’s capacity to provide local produce for its CNP meals while also recognizing that other local produce distribution channels exist (e.g., farmers’ markets, retail). The resulting data could be used as part of a needs assessment to bolster local food systems work and promote FTS procurement.

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