

CONSUMPTION OF FRUITS AND VEGETABLES IN CPP STUDENTS



Wing Yeung, Nutrition Dietetics
Mentor: Dr. Erik Froyen
RSCA Conference 2025

Abstract

Heart Disease is the primary cause of death in the United States. Studies found that consuming fruits and vegetables help lower blood cholesterol and prevent heart disease. According to the National Heart, Lung, and Blood Institute, the Dietary Approaches to Stop Hypertension (DASH) diet is a healthy eating lifestyle that can contribute to a healthier heart. The DASH Eating Plan recommends eating vegetables (4-5 servings/day or 2-2.5 cups/day) and fruits (4-5 servings/day or 2-2.5 cups/day). A survey was used to determine the daily fruit and vegetable intakes of Cal Poly Pomona (CPP) students within the College of Agriculture, and their preferences toward the food groups. Ninety students participated in the survey. The participants rated their like or dislike towards fruits and vegetables on a scale of 1-100. The higher the number, the more the participant likes the food. Seventy students scored an average of 93.4 for fruits, and 71 students scored an average of 84.3 for vegetables. Sixty-six participants reported their daily vegetable intake, averaging 2.9 cups. Sixty-three participants reported their daily fruit intake, averaging 2.5 cups. Results indicate that the sample size of CPP students are consuming enough fruits and vegetables daily to meet the DASH Eating Plan requirements and are on track to achieving a healthier heart in terms of fruits and vegetables consumption. Their liking towards fruits (score = 93.4) and vegetables (score = 84.3) may explain their willingness to consume the food groups.

Objectives

To identify whether CPP students within the College of Agriculture are consuming enough fruits and vegetables daily to meet the amount recommended by the DASH Eating Plan.

Methods

Participants were a sample of 18 years or older Cal Poly Pomona students within the College Agriculture. This study has been approved by Cal Poly Pomona's Institutional Review Board (IRB-24-129). The participants signed the consent form and answered Qualtrics survey questions.

Conclusions

Results indicate that CPP students are consuming an average of 2.9 cups of vegetables and 2.5 cups of fruits a day, exceeding the requirements recommended by the DASH eating plan. Participants have demonstrated a high acceptance and liking for fruits and vegetables, scoring a likeability of 93.4 for fruits and 84.3 for vegetables. In descending order, the participants' top ten favorite fruits include apple, banana, strawberry, grape, orange, watermelon, pineapple, lemon, mango, blueberry, and pear. Top ten favorite vegetables include potato, onion, broccoli, lettuce, carrot, spinach, avocado, corn, cucumber, and garlic. Additionally, 94% (n=60) participants reported to not be taking fiber supplements, and 6% (n=4) to be taking fiber supplements. Given that participants are consuming enough fruits and vegetables in a day to meet the DASH eating plan requirements, the low percentage of students taking fiber supplements is not of concern. Overall, CPP students are meeting the fruits and vegetables intake requirements to maintain a healthy heart and help prevent cardiovascular disease according to the National Heart, Lung, and Blood Institute.

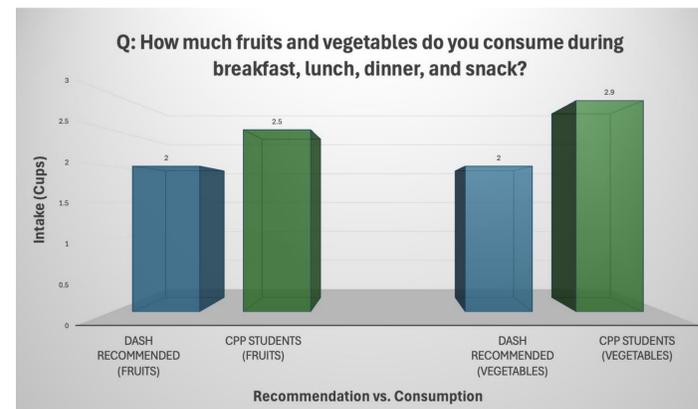


Figure 1. Fruit and Vegetable Consumption (DASH Recommendation vs. CPP Students)

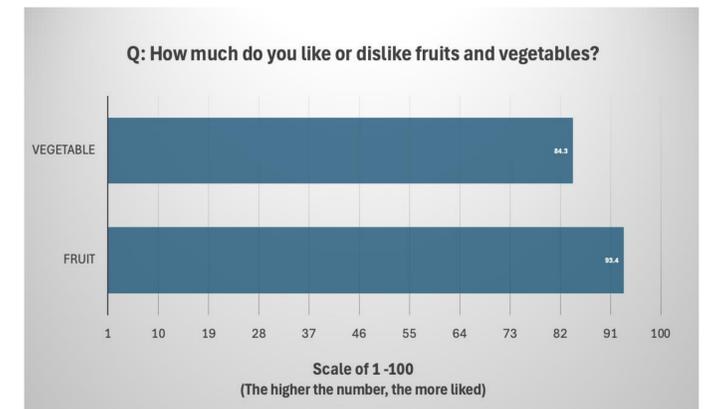


Figure 2. CPP Students Rating of Fruit and Vegetable

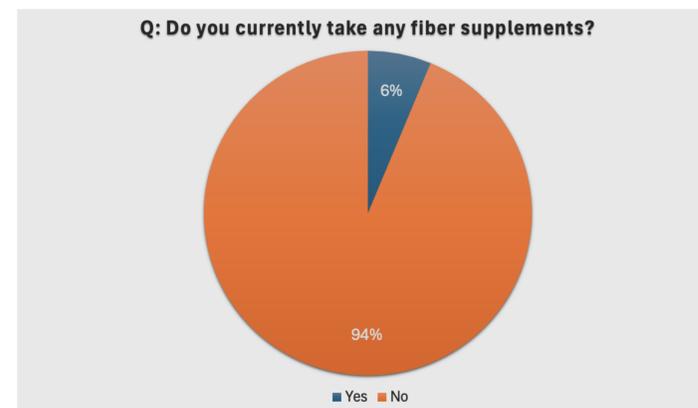


Figure 3. Fiber Supplementation in CPP Students

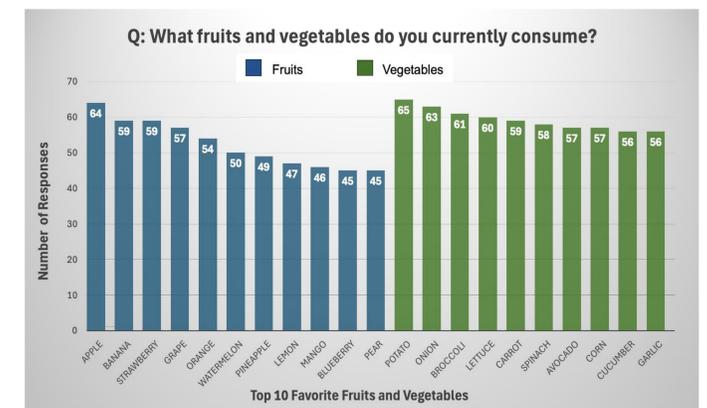


Figure 4. Top 10 Favorite Fruits and Vegetables in CPP Students

References

- Challa HJ, Ameer MA, Uppaluri KR. DASH Diet To Stop Hypertension. [Updated 2023 Jan 23]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK482514/>
- Chiavaroli L, Vigiulouk E, Nishi S, K, Blanco Mejia S, Rahelić D, Kahleová H, Salas-Salvadó J, Kendall C, W, & Sievenpiper J, L. (2019). DASH Dietary Pattern and Cardiometabolic Outcomes: An Umbrella Review of Systematic Reviews and Meta-Analyses. *Nutrients*, 11(2), 338. <https://doi.org/10.3390/nu11020338>
- McRae M. P. (2017). Dietary Fiber Is Beneficial for the Prevention of Cardiovascular Disease: An Umbrella Review of Meta-analyses. *Journal of chiropractic medicine*, 16(4), 289–299. <https://doi.org/10.1016/j.jcm.2017.05.005>
- Soliman G. A. (2019). Dietary Fiber, Atherosclerosis, and Cardiovascular Disease. *Nutrients*, 11(5), 1155. <https://doi.org/10.3390/nu11051155>