

## Summary

The Agatston Urban Nutrition Initiative (AUNI) is a program of the Netter Center for Community Partnerships at the University of Pennsylvania that engages, educates and empowers youth, university students, and community members to promote healthy lifestyles and build a just and sustainable food system.

Through the Philadelphia Youth Network WorkReady program, Youth Empowerment Program and SNAP-Ed, AUNI provided summer high school programming and job development focusing on peer nutrition education. Over six weeks, AUNI engaged 36 primarily African- American adolescents for 20 hours each week in cooking, nutrition education, peer education, and community outreach activities. Evidence-based SNAP-Ed nutrition curriculums were used along with Career and College Readiness training.



Students practice knife skills while prepping ingredients.



Students prepare a visual aid for a community outreach event.

## Objectives and Background

**Objective:** AUNI's summer programming pursued to address health disparities, youth empowerment, and gaps in culinary skills and knowledge. This study sought to assess and compare adolescent self-reported confidence and knowledge in cooking skills at the conclusion of a six week nutrition education program to students who did not participate in the program.

**Background:** According to the 2015-2020 Dietary Guidelines, males and females ages 9-13 and 14-18 are below the recommended daily intake for vegetables, fruit, dairy, and for females 14-18, protein. Both males and females of both age groups intake more than the recommended amount of solid fats, added sugars, and sodium. On a local level, 22% of Philadelphia residents living in poverty have low to no walkable access to healthy foods.<sup>1</sup> Of the ten largest cities in the United States, Philadelphia has the highest overall poverty rate of 25.7%, with 37% of the city's children living in poverty.<sup>2</sup> The relationships between urban areas, decreased health outcomes, and increased health disparities is well-documented.<sup>3,4,5</sup>

Some studies have linked food preparation with better dietary quality and have called for a return of home economics education.<sup>6,7</sup> Additionally a link has been shown between food preparation and positive self-efficacy for cooking and food preparation techniques<sup>8</sup> but many young people are unable to cook a meal without help.<sup>9</sup>

## Methods

Students completed a survey to rate their skills in cooking, knife safety, comfort with community outreach, and comfort working with community members of diverse ages and background. The survey was constructed with a chef who determined cooking skills necessary for home and professional settings. Three questions were asked about skills regarding working with community members. Adolescents were asked to rate their skills on a scale of zero (no knowledge) to five (expert). The same survey, with the omission of one program specific question, was administered to students who did not participate in the program at two Philadelphia public schools. Results were averaged for each question and each group. Two sample t-tests were used to determine statistical significance.

## Results

For eight of the nine questions, program students (n=32) average rating of their skills were statistically significantly higher (p<0.01) than the averages of non-program students (n=35). For all questions, program students averaged above four and greater than their non-program peers, demonstrating a high level of skill confidence.

Question Topic:	Average Response for program students (n=32)	Average Response for other students (n=35)
How to safely use a chef's knife	4.41*	3.49
How to clean and sharpen a chef's knife	4.34*	3.37
How to chop, slice, dice, mince, and julienne	4.38*	2.91
Comfort level using knives to cook	4.38	4.06
Skills in inventorying and reviewing kitchen equipment in a team environment	4.09*	3.29
Skill on being responsible to plan, cook, clean, set-up, serve and clean-up for lunch service of 20-40 people	4.31*	3.37
Skills on presenting food and meals in an appealing way	4.34*	3.4
Comfort working with community members from diverse backgrounds and ages	4.63*	3.86
Explain cooking skills to members of the community	4.06*	2.51

\* Statistically significant p<0.01

## Implications for Future Programming

Along with the goals of empowering youth to make healthier choices and be involved in changing their community, the summer programming sought to increase culinary and kitchen skills to fill the knowledge gaps related to meal preparation. This was done through nutrition education, cooking education, and community outreaches. The integration of outreaches were designed to empower youth to make healthier choices and be involved in changing their community. As co-investigators in the process<sup>10</sup> students gained agency and became authentic contributors to food systems work in their communities.

Based on the surveys, the time spent in the kitchen was useful in growing confidence in knife skills, working in a kitchen, food presentation, and explaining cooking skills to others. The nutrition education piece added elements to assist in knowledge growth as well. While students were not objectively assessed by another individual on their skills, their self-rated abilities may be enough to change their diets, cook more frequently at home, and contribute to their communities.

AUNI plans to continue implementing this type of summer programming to fill gaps in knowledge, grow confidence, and empower youth in health promotion and nutrition.

## Conclusion

Nutrition education programs that include a skill building and community outreach component increase students' confidence in their own cooking abilities. Based on existing research, this could have an impact on improved nutrition related behaviors.

### Sources:

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