

# The Supplemental Nutrition Assistance Program Education (SNAP-Ed) Elementary School Students had Self-Reported and Observed Behavior Changes

Lauren McCullough, MPH; Vanessa Farrell, PhD, RD; Vern Hartz, MS; Theresa LeGros, MA; Laurel Jacobs, DrPH, MPH; Scottie Misner PhD, RD

## Background

As Arizona's largest SNAP-Ed (Supplemental Nutrition Assistance Program – Education) implementing agency, the UA Nutrition Network (UANN) conducts and evaluates healthy eating and active living policy, systems and environment (PSE) strategies and direct education (DE) in schools throughout Arizona. The SNAP-Ed goals for Arizona are to ensure that youth:

- Meet the dietary recommendations for fruit and vegetable consumption.
- Meet the dietary recommendations for calcium from low-fat or fat-free dairy.
- Make half of grains consumed whole grains.
- Engage in the recommended amount of physical activity (PA) per day (60 minutes).

Interventions in schools may include: nutrition and PA education; taste testing of fruits and vegetables; Local Wellness Policy development, implementation, and revision support.

## Objective

The UANN school-based interventions (*Figure 1*) were designed to change student nutrition and PA behaviors. Surveys were administered to both the youth and the teachers in participating classrooms to assess the self-reported and observed behavior changes among students. By using behavior change assessment surveys from both students and teachers, the UANN was able to strengthen the interpretation of the results and identify trends.



**Figure 1: Students Participating in Physical Activity**

## Methods

Two surveys were administered:

A **Youth Survey** was developed from previously validated questionnaires<sup>1,2</sup> to assess students' self-reported nutrition and physical activity behaviors.

- Randomized cohorts of 4th and 5th grade students were recruited to participate.
- Surveys were administered in the Fall (pre-test) and Spring (post-test) of the 2014-2015 school year.
- Participating students may have received SNAP-Ed direct education in their classroom or experienced PSE-level interventions at their school or both.
- Pre-post surveys were matched to the student (N=382); Unmatched surveys were excluded.
- Paired t-test were used for continuous variables; the McNemar test was applied to binary data.

A **Teacher Survey** was developed by the UANN for the purposes of program improvement and to strengthen data interpretation of the Youth Survey. The Teacher Survey included multiple-choice questions regarding teachers' observations of student behaviors.

- The participating teacher surveys (N=8) were matched to their students Youth Surveys (N=382).
- Surveys were administered at the end of the school year.
- Participating teachers may have received SNAP-Ed direct education in their classroom or experienced PSE-level interventions at their school or both.
- Descriptive statistics were reported for items related to teachers' observations of student behaviors.

## Results

### Youth Survey

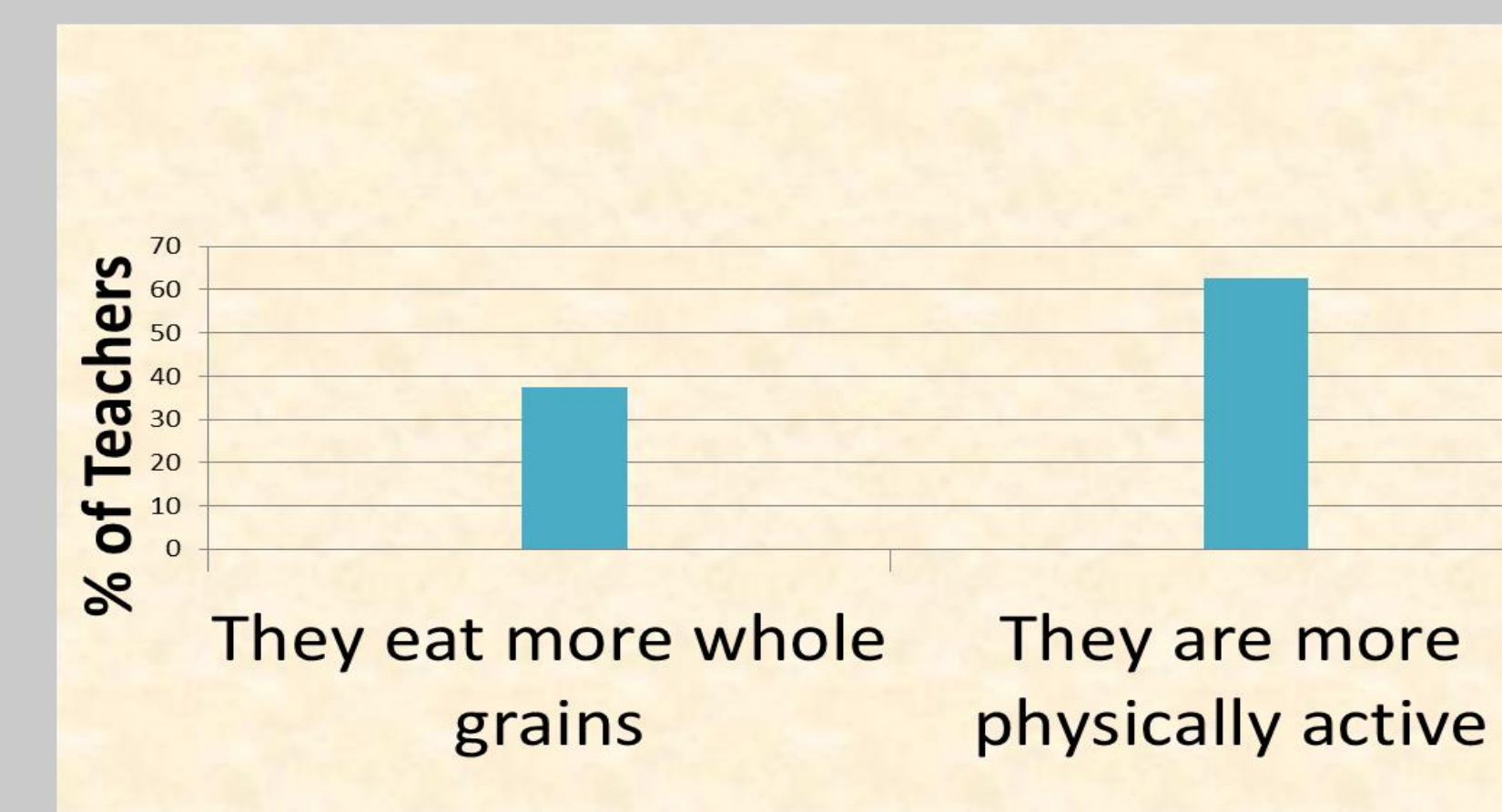
- The pre and post youth survey analysis found a significant increase in whole grain consumption (17%, p<0.05) and total PA minutes per day (11%, p<0.05).

**Table 1: Results of the Youth Pre-Post Survey (N=382)**

Survey Category	% Change	P-value
Consumption of whole grains (times day)	+16.8%	0.023*
Number of minutes spent in PE class (min/day)	+25.5%	0.022*
Total number of PA minutes (min/day)	+10.8%	0.025*

\*significant at p<0.05

### Teacher Survey



**Figure 2: Teacher Survey Behavior Observations (N=8)**

- The teacher survey showed that 37.5% of teachers observed an increase in students' whole grain consumption and 62.5% observed students being more physically active (*Figure 2*).
- The low sample size for the teacher questionnaire was a major limitation to interpreting the results. Future studies should purposefully recruit all teachers whose students take the Youth Survey to enhance the sample size.

## Conclusion

- Findings from the Youth Survey suggest that PSE or DE interventions contributed to an increased consumption of whole grains and increased PA among youth in SNAP-Ed participating schools.
- Teacher observations of student behaviors supported the findings from the Youth Survey.
- Using multiple surveys to assess student reported and teacher observed student behavior changes can strengthen the interpretation of the results and identify trends.

## References

1. Edmunds L, Zeibland S. (2002) Development and validation of the Day in the Life Questionnaire (DILQ) as a measure of fruit and vegetable questionnaire for 7-9 year olds. *Health Educ Res*, 17(2): 420-430.
2. Thiagarajah, K, Fly, Hoelscher, D, Bai, Y, Lo, K, Leone, A, Shertzer, J. (2008) Validating the Food Behavior Questions from the Elementary School SPAN Questionnaire. *J Nutr. Ed Behav*, 40: 305-310.

## Contact

For more information about this poster, or other SNAP-Ed interventions in Arizona, please contact:

Lauren McCullough, MPH  
Program Coordinator, Senior  
University of Arizona Nutrition Network  
Laurenmccullough@email.arizona.edu

