Youth Physical Activity Outcomes Improve after School-Based SNAP-Ed Multilevel Interventions

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Background
Arizona’s Supplemental Nutrition Assistance Program Education (SNAP-Ed) supports nutrition and physical activity programming in school districts with high rates of free-and-reduced price lunch and evaluates outcomes using the Kids’ Activity and Nutrition Questionnaire (KAN-Q). In school year 2017-18, the KAN-Q physical activity section was used to assess individual physical activity for students in grades 3–8.

Objective
To assess changes in students’ self-reported physical activity within SNAP-Ed-participating schools in Arizona, from the start of the school year to the end.

Methods
Participants During Fall 2017, 3,988 KAN-Q pretests were administered in 62 schools across 14 Arizona counties.

Intervention SNAP-Ed multi-level interventions combined Policy, Systems, and Environmental (PSE) changes in schools with evidence-based direct education. These were provided throughout the school year and reported in an online, state data management system.

Measures The physical activity section included six subscales on number of days active before, during and after school, including the option to report weekend activity. Subscales were also combined to assess Total Active Days on a scale from 0 (no activity) to 27 (most active).

Data Analysis The KAN-Q physical activity section was matched at the student level pre to post (N=2,860) and analyzed to assess changes in students’ physical activity behaviors. Wilcoxon signed rank tests were performed on the categorical subscales. To test for equal means on Total Active Days from pretest to posttest, a dependent samples t-test was performed. Statewide intervention data was also matched to each of the 62 schools. Moderation analysis was conducted to test if the relationship between direct education and Total Active Days was conditioned on levels of PSE intervention.

Results

Mean Number of Days Students Reported Being Active, PRE to POST

These changes were mainly driven by increased activity among girls (vs boys) at post.

Mean Total Active Days by Grade, PRE to POST

Younger students increased their Total Active Days, while older students reported no change.

Positive Significant Relationships between Direct Education and Total Active Days Were Found at All Levels of PSEs

*p<0.05, **p<0.001

Conclusion
The KAN-Q physical activity section measured an increase in students’ self-reported physical activity after a year of SNAP-Ed multilevel interventions. Students reported an increase in number of active days during recess, after school, and during the weekend. A mean increase in Total Active Days was also significant. A positive significant relationship between Direct Education and Total Active Days were found at all levels of the moderator (PSE) and appear to have contributed to these increases. Further research is needed to understand more deeply the role of SNAP-Ed interventions in producing these positive outcomes.