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

Gregory Goodman MS,[1] Theresa LeGros MA,[1] Laurel Jacobs DrPH MPH,[1] Kathryn Orzech PhD,[1] Elizabeth Holmes BS[2]

THE UNIVERSITY OF ARIZONA COLLEGE OF AGRICULTURE & LIFE SCIENCES Nutritional Sciences

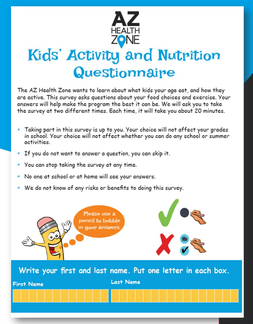
[1]The University of Arizona, Department of Nutritional Sciences. [2]Arizona Department of Health Services, Bureau of Nutrition and Physical Activity.

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.

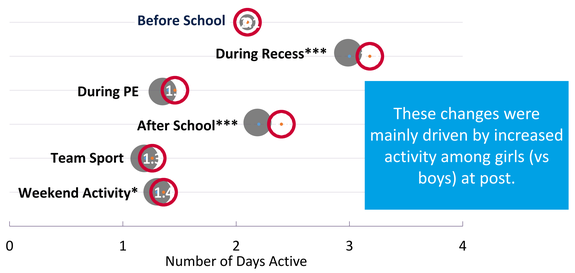
Intervention SNAP-Ed multi-level interventions combined Policy, Systems, and Environmental (PSE) changes in schools with evidence-based direct education. These were provided throughout the school year and reported in an online, state data management system.

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.

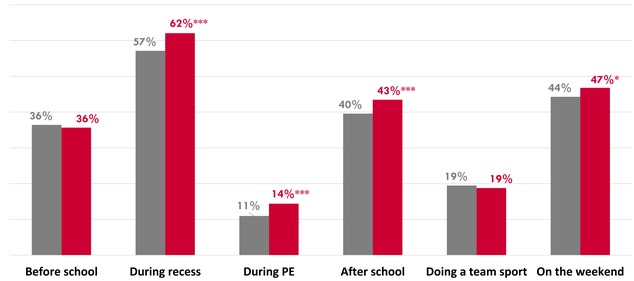
Results

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

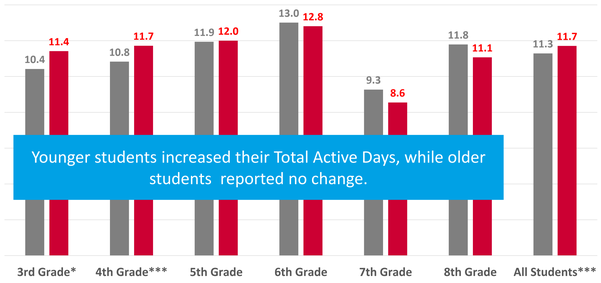


These changes were mainly driven by increased activity among girls (vs boys) at post.

% of Students Reporting Physical Activity for 3+ Days During the Week, and Both Days on the Weekend, PRE to POST

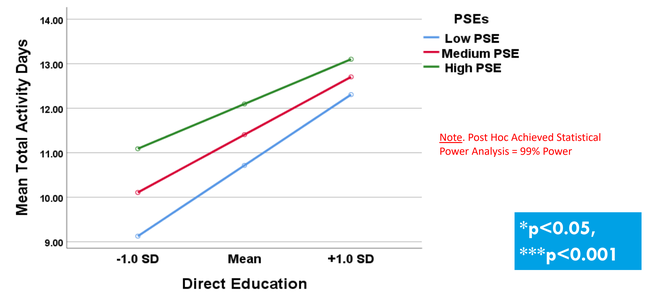


Mean Total Active Days by Grade, PRE to POST



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



Note. Post Hoc Achieved Statistical Power Analysis = 99% Power

*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.

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