

## Healthy School Recognized Campus' Impact on Middle School Children's Physical Activity Levels and Cardiovascular Fitness

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### ABSTRACT

Most current research is focused on the effectiveness of a single physical activity intervention. Healthy School Recognized Campus (HSRC) is a Texas A&M AgriLife Extension initiative that promotes the delivery of multiple physical activity and nutrition programs on a school campus, such as Walk Across Texas. **PURPOSE:** This study aims to determine whether HSRC will improve cardiovascular fitness and increase physical activity among middle school students. **METHODS:** Students completed the Youth Activity Profile (YAP) survey to assess the amount of time that students spent engaging in physical activity (during school, outside of school, on weekends) and sedentary behaviors, the FitnessGram PACER test to determine their cardiovascular fitness, and they wore a FitBit for one week during school hours to monitor daily steps and heart rate. Assessments were completed at baseline (the start of the school year) and follow-up (the end of the school year) after implementing HSRC. Descriptive and comparative statistics were used to determine pre- to post-intervention changes in physical activity and cardiovascular fitness among the 8 schools. **RESULTS:** Among the 106 students (51.9% female; 12.53 ± 0.90 years old), there were no statistically significant changes in the at-school YAP measurements, including percentage of time spent engaging in moderate to vigorous physical activity (MVPA), minutes engaging in MVPA, and YAP score. There were statistically significant decreases for the out-of-school percent of time spent engaging in MVPA (14.82 ± 1.27 to 14.55 ± 1.26; p=.026), minutes engaging in MVPA (68.73 ± 7.27 to 67.15 ± 7.57; p=.039), and YAP score (3.64 ± 0.99 to 3.27 ± 0.90; p<.001). For the weekend, there were statistically significant decreases in the percent of time spent engaging in MVPA (12.43 ± 0.60 to 12.24 ± 0.68; p=.002), minutes engaging in MVPA (119.31 ± 5.77 to 117.50 ± 6.57; p=.002), and YAP score (3.79 ± 0.92 to 3.32 ± 0.99; p<.001). There were no statistically significant differences in sedentary behavior, PACER test performance, or estimated VO<sub>2</sub> max (measure of oxygen consumption). Students' maximum heart rate recorded on the Fitbit increased post-intervention (155.28 bpm ± 22.37 to 161.67 ± 15.87 bpm; p=.028). Although it did not reach statistical significance, there was also an increase in the average number of steps students took per day (4837.23 ± 1647.40 to 5162.30 ± 1579.15; p=0.06). Data by gender, ethnicity, and grade level will also be presented. **CONCLUSION:** Although participation in multiple physical activity programs can have a positive health impact for students, HSRC produced few changes to students' normal physical activity patterns outside of an increase in max heart rate and minor improvements to students' daily steps at school.