

STRONG CHILDREN'S RESEARCH CENTER

Summer 2017 Research Scholar

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ABSTRACT

Title: Longitudinal evaluation of school programs aimed at promoting physical activity in elementary school children in Rochester

Background: Approximately 38% of children in the city of Rochester are overweight or obese, higher than the national average of 30%¹. With the aim of reducing the prevalence of unhealthy weight among children in Rochester, the Greater Rochester Health Foundation (GRHF) developed the Childhood Healthy Weight Initiative in 2012. As part of the initiative, GRHF provides funding to 8 elementary schools in the Rochester City School District (RCSD) and 1 charter elementary school to develop programs that promote healthy behaviors, including more recess time and improved nutrition.

Objective: To assess the effectiveness of GRHF-funded school programs in promoting physical activity compared to non-funded schools.

Methods: School rosters from the 9 funded, program schools as well as 6 comparison schools (RCSD schools that did not receive funding but agreed to participate in the evaluation) were obtained and used to identify students by grade and sex. Physical activity was measured from pedometers placed on students and recess observations. For each school, one class from each grade level (grades K-6) was randomly selected and pedometers were placed on students at the beginning of the school day and removed prior to school dismissal to assess physical activity levels during the school day. Scheduled and unscheduled recess activities were observed at each school when possible using qualitative and quantitative measures. The System for Observing Play and Leisure Activity in Youth (SOPLAY)², a validated physical activity observation instrument, measured the number of students engaged in different levels of activity, categorized as sedentary, moderately active, and vigorously active, and was recorded separately for girls and boys.

Results: In the 2016-2017 school year, pedometer counts were collected from 3106 students, 2020 from program schools and 1086 from comparison schools, across an even distribution of ages. In 2016-2017, the program schools had a greater mean number of steps than the comparison schools. In Fall 2016, program schools had a mean number of steps of 4525 while comparison school had a mean of 4263 ($p < 0.05$). In Spring 2017, program schools had a mean number of steps of 5066, while comparison schools had a mean of 4526 ($p < 0.05$). In the past 4 years, the program generally had a greater mean number of steps than the comparison schools, and there was a consistent increase in the mean number of steps in the program schools over this time period. 451 SOPLAY scans were recorded for program schools and 171 scans were recorded for comparison schools between March and June 2017. In program schools, 4472 students were observed engaged in recess activities, 25% of students were involved in sedentary activities, 30% were moderately active, and 45% were vigorously active. In comparison schools, 1087 students were observed engaging in recess activities, 25% were involved in sedentary activities, 28% were moderately active, and 46% were vigorously active. While the proportion of students engaged in each activity level was comparable between program and comparison schools, a much larger number of students were observed at recess in program schools. This may be due to the fact that program schools consistently provide recess, while comparison schools do not.

Conclusion: Overall, program schools demonstrated increased physical activity compared to the comparison schools. Other measures related to nutrition and physical activity, as well as student BMI data from 2016-2017, have yet to be analyzed. The long-term goal of this project is to identify successful components from each program school to create a comprehensive intervention aimed at promoting healthy behaviors that could be implemented in all Rochester elementary schools.

¹ Cook, S. Monroe County Children's Weight Status, 2012.

² Saint-Maurice, P.F., Welk, G., Ihmels, M. A., & Krapfl, J. R. (2011). Validation of the SOPLAY direct observation tool with an accelerometry-based physical activity monitor. *Journal of Physical Activity and Health*, 8(8), 1108-1116.