

STRONG CHILDREN'S RESEARCH CENTER

Summer 2016 Research Scholar

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ABSTRACT

Title: *What Makes a Healthy Hero? An evaluation of summer camp programming aimed at increasing healthy weight prevalence in Rochester elementary-age children*

Background: To address the high prevalence of unhealthy weight among children in Rochester NY, the Greater Rochester Health Foundation (GRHF) partnered with the Children's Institute Inc., Golisano Children's Hospital, and the Rochester City School District (RCSD) to implement the Childhood Healthy Weight Strategy. This initiative seeks to increase healthy behaviors and physical activity among elementary-age students through school-based interventions, out-of-school time activities, and a sponsored summer camp program. Results from a pilot study suggest that repeat participants in that camp have increased attendance and NYS math scores in the subsequent school year when compared with non-participant peers.

Objective: 1) Assess the impact of the GRHF-funded 5-week summer camp program in promoting physical activity and healthy behaviors and 2) better understand the strengths of this camp in comparison to other summer camps offered to RCSD elementary students.

Methods: As part of the GRHF Childhood Healthy Weight grant, 8 RCSD and 1 charter elementary school were funded to deliver interventions to increase physical activity, improve available nutrition and encourage healthy lifestyles. The grant similarly supports out-of-school time programs and the Healthy Heroes Camp (HHC) at Monroe Community College (MCC), offered to the students from the 9 selected RCSD schools. HHC is available free of charge for up to 450 students ages 5-12. Campers are grouped by gender and grade.

HHC registration rosters were used to identify participants by grade and sex. Camper physical activity was measured with 1) pedometers and 2) an observation-based coded scanning tool, the SOSPA, adapted from validated physical activity observation instruments: the SOPLAY and SOSPAN¹. Scans were collected during various periods of organized physical activity over several days. Observers categorized participant behaviors as sedentary, moderately active or very active.

The social-emotional environment of HHC was measured with the SMRCAY observation tool, adapted for this study from the MCOT-PA SOPLAY extension, OST, and SOSPAN². Scans noted climate details including clarity of rules, camper autonomy, inclusivity of activity, counselor-camper interactions, and physical activity promotion by staff. Observers also monitored mathematics and health classes to gather information about curricula, class structure, and lesson plans.

Results: Pedometer counts were collected from 203 campers, 103 girls and 100 boys, across an even distribution of ages. Mean number of steps taken was 11,250 with no significant differences found between genders. There were also no significant differences between number of steps taken by older students (3rd-7th) versus younger students (K-2nd), although comparison between individual grade-levels did reveal overall differences ($F=6.455$), $p<.05$.

112 SOSPA scans were recorded covering periods of organized physical activity including swimming, ball-handling games, running games, cooperative games, and ropes-course climbing. About

¹ System for Observing Systematic Physical Activity (SOSPA), System for Observing Play and Leisure Activity in Youth (SOPLAY), System for Observing Staff Promotion of Activity and Nutrition (SOSPAN)

² System for Monitoring Recreational Camp Activities in Youth (SMRCAY), Motivational Climate Observation Tool for Physical Activity (MCOT-PA), Out of School Time instrument (OST)

half (47%) of the observations were of girl camper groups, and 53% were boy camper groups. Across all observations and activities, 41% of girls engaged in sedentary behaviors, 29% were moderately active, and 30% vigorously active. Boys' levels of activity were comparable with 41% sedentary, 22% moderate, and 37% vigorously active. No statistically significant differences between genders were found.

The 99 completed SMRCAY scans encompassed the same range of activities as the SOSPA scans. Observers coded all as inclusive (100%) and most were appropriately engaging (87%). Children generally understood the rules (89%) and achieved appropriate autonomy (87%) during activities. Camper-to-camper interactions were coded as very positive (97%). Most of the time, staff members directed physical activity and increased campers' engagement (89% and 87% respectively) and praised campers' behaviors (70%). Staff-to-camper interactions were also generally positive, with negative affect observed in only 6% of scans.

Academic support for English and Language Arts (ELA), Math, and Health occurred daily. The learning sessions incorporated physical activities or learning games when possible. The health curriculum included nutrition education (importance of water intake, balanced diet, and sleep), social-emotional education (bullying), and general anatomy lessons (brain, skeleton).

Discussion: These preliminary findings indicate that HHC programming creates a positive, motivational environment that promotes physical activity and social learning. Interactions among staff and campers were positive and encouraged participation. The high level of physical activity available to campers far exceeds the daily amount recommended by the American Academy of Pediatrics³. The lack of statistically significant differences in activity between boys and girls diverges from prior studies that consistently identify higher activity levels for boys, a difference possibly encouraged by gender-specific camp groups.

Further data collection is currently underway at other summer programs. Those data pools will be used to assess differences between HHC and other available programs in physical activity, camp climate and eventually, on subsequent school year student attendance, discipline and academic achievement. Data from this study will be incorporated into the larger Childhood Healthy Weight Strategy evaluation.

³ AAP recommends at least 60 minutes of daily physical activity for children 6 years and older.