Apr 14th, 1:00 PM - 3:00 PM

Determining the effects of an evidence-based after school program on objectively measured physical ability in urban children

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**DETERMINING THE EFFECTS OF AN EVIDENCED-BASED AFTER SCHOOL PROGRAM ON PHYSICAL ACTIVITY IN URBAN CHILDREN**

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### Introduction

- **MANE (Methodical Approach to Activity and Nutrition Education) Program**
  - Is an after-school program that provides children with the knowledge, skills, and supportive environment that will help them lead healthier eating and physically active lifestyles.
  - Partners include Orchard Knob Elementary School, UTC, Urban League of Chattanooga, & Hamilton County Department of Education.
  - Closely follows the CDC guidelines for a comprehensive school health-related program (CDC, 2018).
  - **Purpose:** This study determined whether improvements occurred in participant physical activity from the MANE program.

### Methods

- Self-report physical activity surveys and accelerometers were used to determine the physical activity levels in 3rd-5th graders at OKES before and following the eight-week MANE program.
- The MANE program occurred three days a week (Mon, Wed, Fri) for three hours (3:00pm-6:00 pm), over the course of eight weeks during the spring semester at Orchard Knob Elementary School.
- UTC students enrolled in the undergraduate course, *Understanding and Addressing Health Disparities*, provided a supportive environment for participants to be physically active. This was accomplished by having four stations with different games for the participants to engage in each week.
- Following each lesson, students collected data on participant activity watches, pertaining to steps taken and physical activity minutes obtained. Based on a scale of 1-10, participants selected a number that represented how hard they played.

### Results

#### Table 1. Participant (n=19) baseline characteristics.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>8</td>
<td>11</td>
<td>9.7</td>
<td>0.7</td>
<td>***</td>
</tr>
<tr>
<td>BMI (%tile)</td>
<td>23</td>
<td>99</td>
<td>81.5</td>
<td>27.6</td>
<td>***</td>
</tr>
<tr>
<td>Overweight or Obese</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>12 (70.6%)</td>
</tr>
<tr>
<td>African American</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>18 (94.7%)</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>1 (5.9%)</td>
</tr>
<tr>
<td>Male</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>7 (36.8%)</td>
</tr>
<tr>
<td>Female</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>12 (63.2%)</td>
</tr>
</tbody>
</table>

#### Table 2. Baseline and follow-up physical activity-related outcomes of participants (n=19). Follow-up scores of physical activity and physical activity beliefs were higher than at baseline, p<0.05. Values are reported as means (standard deviation) or medians (25th percentile, 75th percentile) based on normality or non-normality of the distribution. *p<0.05

<table>
<thead>
<tr>
<th>Variable</th>
<th>Baseline</th>
<th>Follow-up</th>
<th>Δ (Follow-up – Baseline)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate-to-Vigorous Physical Activity (min/day)</td>
<td>23.3 (14.6)</td>
<td>26.8 (13.4)</td>
<td>3.5 (18.2)</td>
</tr>
<tr>
<td>Physical Activity Survey Score (Range: 12-60)</td>
<td>36.1 (9.8)</td>
<td>40.8 (7.1)</td>
<td>4.7 (8.0)*</td>
</tr>
<tr>
<td>Physical Activity Beliefs (Range: 7-40)</td>
<td>31.0 (29.0, 32.0)</td>
<td>34.0 (32.0, 35.0)</td>
<td>3.0 (0.5, 6.0)*</td>
</tr>
</tbody>
</table>

### Discussion & Conclusions

Following the MANE program, self-report physical activity and physical activity beliefs improved (p<0.05). The next step will be to determine whether participant activity watches bolstered the impact of the program. This program demonstrates the importance of community partner involvement when designing a culturally relevant, effective program. Because this program was effective, this program may expand to additional urban schools in Chattanooga in the future.

### References