

Physical Activity Curriculum Training for Early Childhood Educators

2006-2007 Evaluation Outcomes

Final Report

Background

To promote physical activity in children, DOHMH trains classroom teachers to provide structured activity to children using SPARK (Sports, Play and Active Recreation for Kids!), a physical activity curriculum for children ages 3-5. The training program began four years ago in day care centers in the high-risk DPHO neighborhoods, and has since expanded to include public school Pre-K as well as additional areas of the city with high levels of obesity.

At the end of the 2005-2006 pilot year of SPARK in public school Pre-K programs, DOHMH conducted an implementation evaluation to assess how well the program was received in these settings and how consistently it was being used. Teachers were interviewed to assess SPARK use 3-6 months after their participation in a workshop. The vast majority of teachers reported using SPARK (86%).

However, the previous evaluation could not assess whether SPARK training increased the amount of time teachers led structured physical activity. The results were also limited to public school Pre-K, as no day care teachers were interviewed. The current evaluation examines 1) SPARK implementation in both daycare and Pre-K settings, and 2) whether time spent in structured physical activity increased after SPARK training.

SPARK training has become even more salient for day cares by providing a means to comply with new Health Code regulations that took effect in March 2007. The code was revised so that children ages three and older attending day care for a full-day would be required to participate in 60 minutes of physical activity a day, of which at least 30 minutes would be structured and guided activity. The regulations stipulate half the amount of time for half-day programs. This report also examines teacher awareness of the health code and its relationship to physical activity time.

The following describes key findings from teaching staff that participated in SPARK EC training during the 2006-2007 academic year.

Methods

Teachers (including head/group teachers, assistants and aides) completed a baseline pre-survey at a SPARK training between November 2006 and March 2007 (n=1381). Three to six months after training, one head/group teacher in each classroom was contacted to complete a post-survey. If the head/group teacher was not trained, another trained member of the teaching staff was interviewed. Data from teachers who completed both the pre- and post-survey were then matched (n=438). In total, their responses represented 39% of participants who had completed a pre-survey (535 of 1381). Analyses were grouped by 1) day care or public school Pre-K, and 2) full-day or half-day classes. Levels of physical activity pre- and post-training were compared using non-parametric tests and considered significant at $\alpha = .05$.

Respondents

Seventy percent of teachers surveyed worked in day care, while 30% were from public school Pre-K. The vast majority taught full-day classes (73%), with just 27% half-day teachers.

Key Findings

- 91% of teachers reported using the SPARK curriculum.
- In day cares, full-day teachers led SPARK lessons for a median of 75 minutes per week; half-day teachers led these lessons for a median of 55 minutes per week.
- In day cares, the amount of structured physical activity time increased significantly after teachers participated in SPARK training. For full-day, median time increased from 78 to 100 minutes per week; for half-day, median time increased from 60 to 78 minutes per week.

SPARK Implementation

Ninety-one percent of teachers surveyed reported using the SPARK curriculum. On average, teachers taught a SPARK lesson 3 times a week. Day care teachers who taught full-day classes used the curriculum the most, for a median of 75 minutes per week. Full-day public school Pre-K teachers reported using the curriculum for a median of 55 minutes. In total, these classroom teachers provided SPARK lessons to 6703 children.

Figure 1. Distribution of minutes per week of SPARK in full-day Pre-K and day care classes.

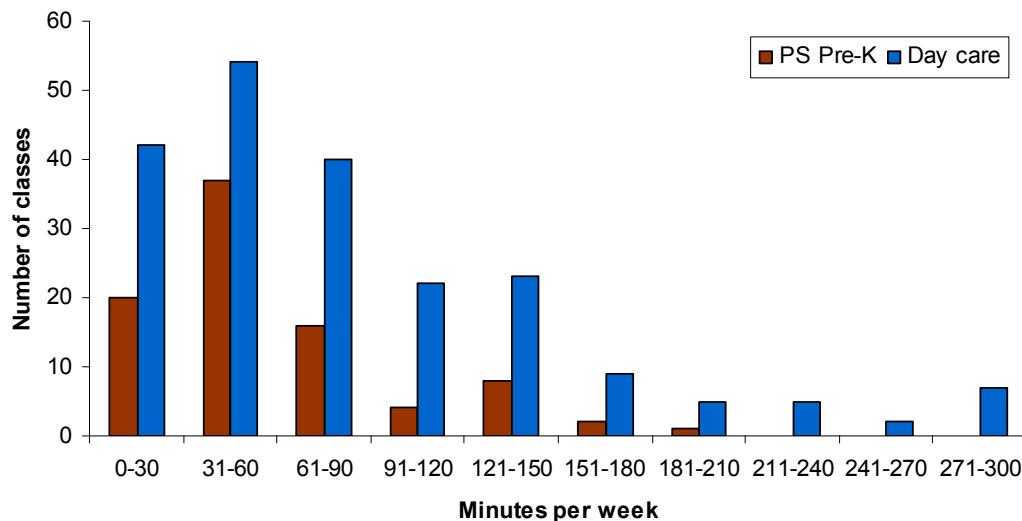


Table 1. Minutes per week of SPARK.

	Full-day		Half-day	
	Mean	Median	Mean	Median
Day care	88	75	73	55
Public school Pre-K	62	55	48	41

Nearly half of the teachers (44%) shared what they learned at SPARK training with other staff members at their sites, introducing an additional 643 teachers to elements of the curriculum.

Sixty-nine percent of teachers noted a change in children's behavior since they started using SPARK. The most common responses were that children were enthusiastic about the physical activity lessons (37%) and that children's behavior had improved (26%).

One-third of respondents reported that their site had implemented a physical activity policy or curriculum since participating in SPARK training. Of these teachers, 62% stated that the new practice was to do SPARK.

The lack of space for physical activity continues to be the most commonly cited barrier to using SPARK (40%), followed by a lack of time (20%). However, 30% of respondents stated that they did not face any challenges to implementing the curriculum.

Total Physical Activity

One goal of training classroom teachers in SPARK is to enable them to increase the amount of time they lead children in structured physical activity. Full-day teachers in day care reported significantly more structured physical activity time at follow-up, as did half-day teachers in both day cares and public school Pre-K. The amount of structured physical activity time was not significantly higher for full-day Pre-K teachers after participating in SPARK training.

Table 2. Change in minutes per week of structured physical activity.

		Full-day		Half-day	
		Mean	Median	Mean	Median
Day care	pre	98	78	64	60
	post	112	100	92	78
Public school Pre-K	pre	100	90	69	50
	post	108	90	74	60

SPARK training is intended to increase structured physical activity, but not unstructured activity. Therefore, to assess whether the increase in structured activity could be attributable to SPARK versus other confounding factors, teachers were also asked how much time their classes spent in unstructured free play. The amount of reported unstructured physical activity time did not increase significantly for either day cares or Pre-K teachers.

Table 3. Change in minutes per week of unstructured physical activity.

		Full-day		Half-day	
		Mean	Median	Mean	Median
Day care	pre	130	154	106	75
	post	144	150	123	125
Public school Pre-K	pre	118	100	105	75
	post	134	125	107	100

Health Code Regulation

Another factor that may have influenced changes in physical activity was the new health code regulations governing physical activity time in day cares. Where the children are 3 and older, full-day classes must have at least 30 minutes of structured physical activity each day. The proportion of full-day teachers who were providing the recommended minutes of structured physical activity per day did not change immediately after the code went into effect (24% in compliance at pre-test vs. 23% at post-test).

The health code changes were introduced in March 2007, around the time the first post-training interviews were conducted. Therefore, day care teachers interviewed after the regulations went into effect were asked an additional question during the interview, to gauge their awareness of the code changes. Forty seven percent of day care teachers were aware of the health code change by way of their director or supervisor. However, there was no relationship between awareness of the health code changes and compliance with the new regulation for daily structured activity.

Discussion

Participation in SPARK training was associated with a significant increase in the amount of structured activity reported by day care teachers 3 to 6 months after training. However, the same was not true of full-day public-school Pre-K programs. This could be due to differences in the two types of settings, such as competing priorities in public schools that limit the extent to which teachers can use SPARK.

Several factors, other than SPARK training, could have contributed to the increase in structured play. One of these is a seasonal effect. The pre-tests were completed in fall and winter, but follow-up occurred in the spring and summer, so potentially teachers could take their students outdoors for more play. However, if this happened, it should have increased unstructured play, which was not seen. Another possibility is that the change in health code drove teachers to do more structured activity to comply with the new regulation. However, awareness of the health code change was modest (47% of day care teachers), and had no relationship to time spent leading structured activity. It is likely the follow-up interviews occurred too close to the introduction of the health code amendment and did not allow sufficient time for teachers to become aware of and comply with the changes.

The results of this evaluation suggest that, in day cares, SPARK training increases in the time teachers lead structured activity.