



CARDIORESPIRATORY FITNESS BETWEEN CHILDREN PARTICIPATING WITHIN AND AFTER SCHOOL PHYSICAL ACTIVITY PROGRAMME

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Abstract:

The aim of this study was to assess and compare cardiorespiratory fitness between children within and after school physical activity programme. Hundred male and female children (n = 100) were randomly selected as subjects (50 each within and after school physical activity group) and their age ranged between 10-12 years. The data was analyzed by using group statistics and independent sample test. The results of the present study revealed that there was a significant difference obtained in the cardiorespiratory fitness between children participating within and after school physical activity program. The level of significance was set at 0.05.

Key Words: Physical Fitness & Cardiorespiratory Fitness.

Introduction:

Physical fitness has been related to a person's ability to perform physical activities that require aerobic capacity, endurance, strength or flexibility, which seems to be linked to inherited and environmental factors (Caspersen, 1985). Physical inactivity and obesity both have deleterious effects on diseases. If everyone did start participating in about the 30 minutes of moderate exercise per day, life expectancy throughout the world would increase by 0.68 years. Reducing physical inactivity is the single most promising opportunity to improve the health of the population at large (Lee, et al. 2012). Regular physical activity builds healthy bones and muscles, improves muscular strength and endurance, reduces risk for developing chronic disease risk factor, improves self-esteem, and reduces stress and anxiety. Beyond these known health effects, physical activity may also have beneficial influences on academic performance (Collingwood, et al. 2000).

The promising after school programs study, a study of about 3,000 low income ethnically-diverse elementary and middle school students, found that those who regularly attended high-quality programs over two years demonstrated gains of up to 20 percentiles and 12 percentiles in standardized math test scores respectively, compared to their peers who were routinely unsupervised during the after school hours (Vandell, et al. 2007). YMCA had traditionally focus on physical fitness and physical activity, after school practitioners work with smaller groups of youth and have been more inclusive of youth with varying physical abilities, and after school programs are increasingly reaching low and moderate-income youth (Halpern, et al. 2003).

Cardiorespiratory fitness (CRF) is a health-related component of physical fitness defined as the ability of the circulatory, respiratory and muscular systems to supply oxygen during sustained physical activity. CRF is usually expressed in metabolic equivalents (METs) or maximal oxygen uptake (VO_2 max) measured by exercise tests

such as treadmill or cycle ergometer. CRF is not only a sensitive and reliable measure of habitual physical activity (Church, et al. 2007; Jackson, et al. 2009) but also a relatively low-cost and useful indicator for both symptomatic and asymptomatic patients in clinical practice (Gibbons, et al. 2002; Gulati et al. 2005).

Methodology:

The aim of this study was to assess and compare cardiorespiratory fitness between children within and after school physical activity programme. Hundred male and female children ($n = 100$) were randomly selected as subjects (50 each within and after school physical activity group) and their age ranged between 10-12 years. The subjects were selected from Vasant Valley School Vasantkunj. Cardiorespiratory fitness was measured with the help of one mile run/walk test. The data was analyzed by using group statistics and independent sample test. Statistical significance was fixed at 0.05 levels.

Results & Discussion:

Table I

Group Statistics and Independent Sample Test of the Cardiorespiratory Fitness Scores between the Children Participating Within and After School Physical Activity Program

	GROUP	N	Mean	Std. Deviation	Std. Error Mean	T	Sig. (2-tailed)
CR Fitness Timing	Within School	50	11.29	2.61	0.369	2.75	.007
	After School	50	10.00	2.036	0.29		

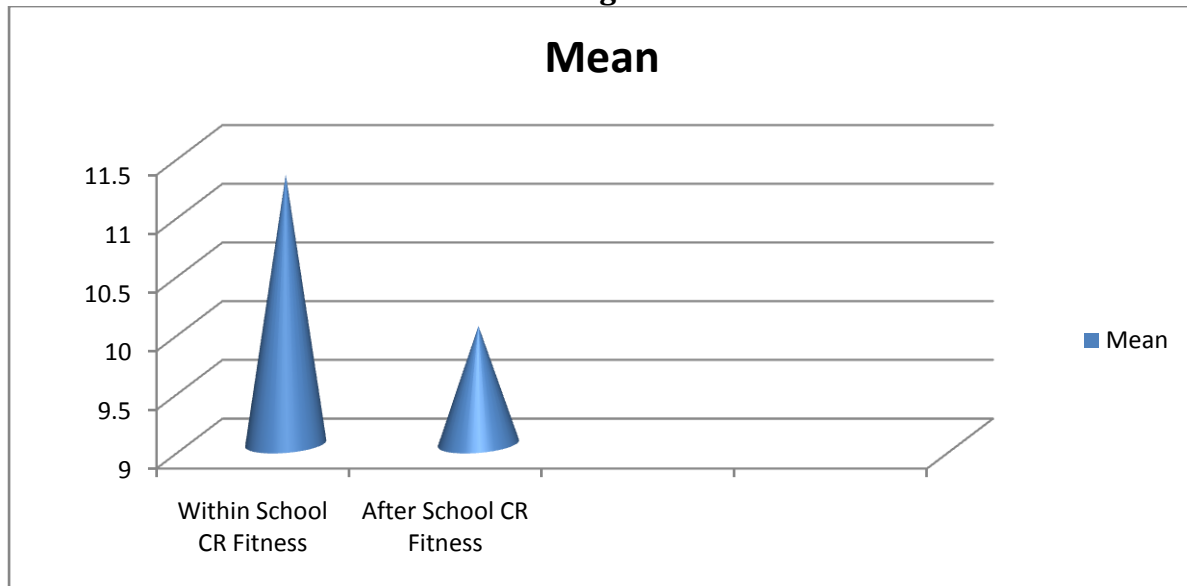
The table illustrate the significant difference if any in the cardiorespiratory fitness scores between the children participating within and after school physical activity program, with the obtained t-value and its probability, which can be seen in the column labeled t and Sig. (2-tailed). Looking in the equal variances assumed row, a t value of 2.755 is observed. The probability in the sig. (2-tailed) column in the ($p=.007$) is less than .05, concluding that there was significant difference obtained in the cardiorespiratory fitness scores between children participating within and after school physical activity program. The result indicate that there was significant difference obtained in cardiorespiratory fitness, $t(98) = 2.755$, $p = .007$. The mean score for the cardiorespiratory fitness for the children participating in within school activity program was 11.2928 and for the children participating in after school physical activity program was 10.0028.

Discussion of Findings

This study shows that the children participating in after school physical activity program had a better score on the performance in the cardiorespiratory fitness score when compared to the children participating within school physical activity program. Studies have already accepted that the physical fitness of those children who participated after school physical activity program is greater than the children who participated only within

physical activity program (Beets et al, 2012). The mean of within school and after school cardiorespiratory fitness is shown in figure I.

Figure I



Mean of Cardiorespiratory Fitness Scores between the Children participating within and after School Physical Activity Program

Conclusion:

The present study reveals that there was a significant difference obtained in the cardiorespiratory fitness between children participating within and after school physical activity program. It can be concluded that the children participating in after school physical activity program have better cardiorespiratory fitness when compared to the children participating within school physical activity program.

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