## State of Play

# A Four-Year Follow-up Survey on NYC Students’ Access to Physical Education 

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# Office of the New York City Public Advocate 

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## Executive Summary

The rate of childhood obesity has reached epidemic ${ }^{1}$ proportions in New York City. Childhood obesity is linked to increases in diseases, such as Type 2 diabetes, hypertension, and respiratory problems. These diseases can be effectively prevented or managed by healthy eating and regular exercise.

Schools need to be a partner in addressing childhood obesity because 95 percent of children and adolescents are enrolled in schools, ${ }^{2}$ and most spend the majority of their day there. In addition to the health benefits, studies have also linked P.E. with improved academic performance. ${ }^{3}$ Yet a follow-up survey by the Office of the Public Advocate finds the vast majority of New York City schools surveyed remain in violation of the New York State's requirements for physical education (P.E.).

The New York State Department of Education Commissioner's Regulations require that all children in kindergarten through third grade participate in P.E. classes every day and that children in fourth through sixth grade participate in P.E. classes a minimum of three times per week for a total of at least 120 minutes.

In January 2008, the Public Advocate's Office surveyed 100 randomly selected public elementary schools and 50 randomly selected public middle schools in New York City. A single set of P.E. requirements applies to kindergarten through third grade. A different set of requirements applies to fourth through sixth grade. Surveyors asked specifically about P.E. classes provided to third and fourth graders, or sixth graders in the case of middle schools. The survey found that:

- Ninety-six percent of the elementary schools surveyed were in violation of the state regulation requiring daily P.E. classes for third graders.
- Eighty-eight percent of the elementary schools surveyed were in violation of the state regulation requiring 120 minutes of P.E. per week for fourth graders.
- Fifty-seven percent of the elementary schools surveyed offer P.E. only once per week
- Sixty-nine percent of the middle schools surveyed were in violation of the state regulation requiring 120 minutes of P.E. per week for sixth graders.

Obesity disproportionately affects minority students. According to the DOHMH, 31 percent of Hispanic and 23 percent of African-American elementary students are obese,

[^0]compared to 16 percent of white students. ${ }^{4}$ Overall, 43 percent of New York City public elementary school students are overweight or obese. ${ }^{5}$ The New York City Department of Education (DOE) has an obligation to ensure that, at a minimum, all students receive the amount of P.E. required by state regulations.

A similar report released by the Public Advocate's Office in 2004 found that all randomly selected elementary schools were in violation of P.E. regulations for third graders, and 80 percent were in violation of regulations for fourth graders. While access to P.E. in third grade has improved four years later, the situation in fourth grade appears to have deteriorated.

Since the Public Advocate's 2004 report, the DOE has introduced a new P.E. curriculum and a new assessment tool called NYC Fitnessgram. While this new curriculum emphasizes the importance of physical activity, and NYC Fitnessgram tells students and their parents whether their personal fitness needs improvement, neither has any effect on the amount of time students spend in P.E. classes.

The Public Advocate recommends that the DOE take the following actions:

- Ensure that all New York City public schools provide the amount of P.E. required by state regulations.
- Ensure that the P.E. curriculum maximizes opportunities for physical activity.
- Ensure that every school has one or more extracurricular sports program.
- Encourage schools to find additional ways to incorporate physical activity into the regular school day.
- Create an annually updated report stating the amount of P.E. provided in each school for each grade level.

[^1]
## Introduction

The rate of childhood obesity has reached epidemic proportions in New York City. ${ }^{6} \mathrm{~A}$ symptom, in most cases, of a sedentary lifestyle and easy access to high-calorie, low quality food, childhood obesity is a serious public health threat. Obese and overweight children are at a higher risk than their peers of developing long-term chronic conditions such as Type 2 diabetes, heart disease, and respiratory illnesses. ${ }^{7}$ These medical conditions can, in turn, lead to poor quality of life, high health costs, and even premature death.

In 2004, 18.8 percent of children ages 6 to 11 nationwide were overweight, up from just 6.5 percent in $1980 .{ }^{8}$ A survey conducted by the New York City Department of Health and Mental Hygiene (DOHMH) found that the numbers are even worse for New York City children: 43 percent of all elementary school students in New York City are overweight or obese. ${ }^{9}$ The DOHMH also noted that one in five kindergarteners and one in four first grade students are obese. ${ }^{10}$

The high rate of childhood obesity in New York City is a problem for which answers do exist. Parents and schools must ensure that children eat nutritious food and engage in adequate physical activity.

The Centers for Disease Control (CDC), the American Heart Association (AHA), the National Institutes of Health (NIH), and the DOHMH agree that children and teenagers should engage in 60 minutes of moderate to vigorous activity every day in order to achieve and maintain a healthy weight. ${ }^{11,12,13}$

[^2]
## Background

## Dangers of Childhood Obesity

## Health Concerns

Overweight and obesity ${ }^{14}$ have long been health concerns because they place children at higher risk of developing severe medical conditions as adults. Seventy percent of overweight adolescents grow up to become overweight or obese adults. ${ }^{15}$ Data recently published by the DOHMH shows that the prevalence of obesity among New Yorkers over the age of 18 has increased 17 percent in only two years, from 19.5 percent in 2002 to 22.8 percent in $2004{ }^{16}$

Obese adults are at higher risk for premature death, heart disease, diabetes, stroke, several types of cancer, and a host of other health problems. ${ }^{17}$ The recent DOHMH data indicates that, in 2004, the rate of diabetes among adults in New York City ( 9.5 percent) surpassed the national rate ( 7.1 percent). According to experts, the high rate of diabetes in New York City is a result of the high rates of the disease among low-income residents and black and Hispanic adults. ${ }^{18}$

Childhood obesity is also linked with the increasing presence in children of diseases that used to be found primarily in adults, such as Type 2 diabetes. ${ }^{19}$ Before 1994, less than 5 percent of diabetes cases diagnosed in children were Type 2, but in recent years Type 2 diabetes has accounted for up to 50 percent of all new cases of diabetes in youth. ${ }^{20}$

According to the DOHMH, 31 percent of Hispanic and 23 percent of African-American elementary school students are obese, compared to 16 percent of white students. ${ }^{21}$ These minority children are disproportionately affected by high cholesterol, pre-diabetes, ${ }^{22}$ and

[^3]Type 2 diabetes. ${ }^{23}$ The same correlation between high rates of obesity and disproportionate rates of these health conditions is found in New York City children living in low-income neighborhoods. ${ }^{24}$

Obesity is also linked to pediatric hypertension (high blood pressure), which used to be found primarily in adults. ${ }^{25}$ A recent study showed that 64 percent of children with untreated hypertension suffered from one or more symptoms, including headaches, difficulty falling asleep, daytime tiredness, chest pain, and abdominal pain. ${ }^{26}$ Children with high blood pressure are more likely to have difficulty concentrating and perform poorly in school. ${ }^{27}$ It is estimated that 90 percent of children with high blood pressure remain undiagnosed and will become hypertensive adults with high risks for heart disease, kidney disease, and strokes. ${ }^{28}$

In addition, obesity may increase a child's chances of developing asthma ${ }^{29}$ or aggravate an attack. ${ }^{30}$ Asthma-the most common chronic illness among children-causes more missed school days and places more limits on activity than any other disease. ${ }^{31}$ About 300,000 children in New York City have asthma-nearly 17 percent of children citywide. ${ }^{32}$ In New York City, children are twice as likely to be hospitalized for asthma than children nationwide. Asthma hospitalizations among children in New York City low-income neighborhoods are more than triple the national rate. ${ }^{33}$

One of the most severe problems for obese children is sleep apnea, a condition in which breathing is interrupted while sleeping. In some cases, sleep apnea leads to problems with learning and memory. ${ }^{34}$ Poor performance in school and even symptoms of attention deficit disorder may be related to sleeping difficulties. ${ }^{35}$

[^4]
## Social and Psychological Effects

Children who are obese face social discrimination, which leads to low self-esteem and depression. ${ }^{36}$ At least 30 percent of overweight girls and 24 percent of overweight boys report being teased by peers at school. ${ }^{37}$ Overweight children are rejected more often by their peers than non-overweight student and are more likely to be socially isolated. ${ }^{38}$

Children who are uncomfortable with their weight may be more likely than other children to develop eating disorders like anorexia nervosa, bulimia, and binge eating disorder (also known as compulsive overeating) ${ }^{39}$ and may be more prone to substance abuse. ${ }^{40}$

## The Role of Schools

While schools cannot address the problem of childhood obesity on their own, strong school-based policies and programs are a necessary part of the solution. More than 95 percent of children and adolescents are enrolled in schools, ${ }^{41}$ and most spend the majority of their day there.

Studies show that regular physical activity not only confers health benefits but also supports learning. A California study found that higher achievement was associated with higher levels of fitness in the three grade levels measured. ${ }^{42}$ Researchers at the CDC studied 5,300 students from kindergarten through fifth grade and determined that P.E. may be associated with improved academic performance. ${ }^{43}$ Schools offering intensive physical activity programs have seen positive effects on test scores in mathematics, reading, and writing, as well as less disruptive behavior in the classroom. ${ }^{44}$

By contrast, there is no significant evidence to suggest that daily P.E. classes detract from academic success, despite the fact that P.E. may reduce class time spent on academic subjects.

The New York State Department of Education Commissioner's Regulations require that all children in kindergarten through third grade participate in P.E. classes every day and

[^5]that children in fourth through sixth grade participate in P.E. classes a minimum of three times per week for a total of at least 120 minutes in each calendar week. ${ }^{45}$

## New Curriculum

Since the Office of the Public Advocate's previous P.E. report was issued in March 2004, the New York City Department of Education (DOE) ${ }^{46}$ has introduced a new P.E. curriculum, called "Physical Best: P.E. for Lifelong Fitness." ${ }^{47}$ The new curriculum, according to the DOE's own description, "differs from what is commonly referred to as 'traditional' P.E., where students learn sport skills but not the context or rationale for participating in physical activity., 48

In 2005, the DOE began to pilot NYC Fitnessgram, ${ }^{49}$ a software program that collects data to measure the components of health-related fitness. The assessment compares each child's fitness level in a number of categories to the national standard for his or her age group. Categories include body composition; aerobic fitness; and muscular strength, endurance, and flexibility. The test determines whether or not students are in the "healthy fitness zone. ${ }^{, 50}$ Results are entered into a central database and sent home to parents with suggestions on how to maintain or improve their child's weight and physical ability.

While this new curriculum emphasizes the importance of physical activity, and NYC Fitnessgram tells students and their parents whether their personal fitness needs improvement, neither has any effect on the amount of time students spend in P.E. classes.

## Prior Findings

In March 2004, the Office of the Public Advocate released a report titled All Work and No Play: A Survey of Access to Physical Activity in New York City Public Elementary

[^6]Schools. A single set of P.E. requirements applies to kindergarten through third grade. A different set of requirements applies to fourth through sixth grade. Surveyors asked specifically about P.E. classes provided to third and fourth graders. The 2004 survey of 100 randomly selected public elementary schools found that:

- All schools surveyed were in violation of the New York State regulation requiring daily P.E. for students in third grade. ${ }^{51}$
- 79.3 percent of schools surveyed were in violation of New York State regulation requiring at least 120 minutes of P.E. for students in fourth grade.
- 20 of the responding schools ( 20.6 percent) lacked regular access to P.E. classes.
o Twelve reported not having any P.E. classes at all.
0 Eight reported not having regular P.E. classes. Some schools stated that the decision to provide P.E. was made by individual teachers. Other schools rotated P.E. classes on a semester or weekly basis.
- Only four percent of all schools surveyed had an athletic team.

The Public Advocate's report recommended that the city take needed steps to comply with New York State law by offering more P.E. classes per week, providing proper athletic facilities to promote a healthy school population, developing an effective P.E. curriculum, and recruiting qualified P.E. teachers.

## Methodology

To determine how much progress the DOE has made in the past four years in improving access of elementary school students to P.E., the Office of the Public Advocate conducted a follow-up survey in January 2008. This survey was expanded to include a separate section on middle schools. ${ }^{52}$ The Office of the Public Advocate used a random number generator to select 20 elementary schools and 10 middle schools from each of the five boroughs for a total of 100 elementary schools and 50 middle schools. ${ }^{53}$

Using phone numbers available on the DOE's website, ${ }^{54}$ surveyors called the randomly selected elementary and middle schools. Following the model of the 2004 survey, surveyors called the main office number for each school and requested to speak to an administrator familiar with subjects offered in third and fourth grade, or sixth grade in the case of middle schools. ${ }^{55}$ Callers were transferred to the parent coordinator or the guidance counselor for the respective grades, or the questions were answered by staff in the main office. Posing as parents, the surveyors asked the school staff the amount of time third, fourth, and sixth graders (in the case of middle schools) spend in P.E. classes

[^7]per week. Surveyors also asked for the location of the P.E. classes (i.e. in a gym or elsewhere) and for the number and type of after-school sports clubs or teams. The survey was conducted between January $15^{\text {th }}$ and January $25^{\text {th }} 2008$. Survey questions are listed in the Appendix.

The findings of this report are based on this survey.

## Current Findings

The vast majority of schools surveyed are in violation of the New York State regulations for P.E. in schools.

- Eighty-nine schools, or 95.7 percent of the 93 elementary schools that provided information for the survey, ${ }^{56}$ are in violation of the state's P.E. regulation requiring daily P.E. for students in the third grade;
- Eighty-two schools, or 88.2 percent of the 93 elementary schools that provided information, ${ }^{57}$ are in violation of the state's P.E. regulation requiring at least 120 minutes a week of P.E. for students in the fourth grade;
- Thirty-four, or 69.4 percent of the 49 middle schools that provided information, ${ }^{58}$ are in violation of the state's P.E. regulation requiring at least three P.E. classes per week for a total of at least 120 minutes for students in the sixth grade.

The majority of violations among elementary schools are severe.

- Fifty-three schools, or 56.9 percent of the 93 elementary schools that provided answers, offer P.E. only once per week. ${ }^{59}$
- Two schools do not provide their third graders with regular access to P.E. classes. One of those schools does not offer P.E. at all. ${ }^{60}$

The vast majority of elementary schools surveyed do not offer any sports programs in addition to P.E. classes.

- Eighty-one, or 81 percent of the 100 elementary schools surveyed, do not offer any extracurricular sports program or athletic teams.

Nearly half of all middle schools surveyed do not offer any extracurricular sports programs.

[^8]- Twenty-four, or 48 percent of middle schools surveyed, do not offer any extracurricular sports programs or athletic teams.


## Changes in Elementary School P.E. since 2003 Survey



## Recommendations

Based on the findings of this report, the Public Advocate's Office recommends that the DOE:

Ensure that all New York City public schools provide the amount of P.E. required by state regulations.

A large majority of elementary and middle schools are in violation of the New York State Commissioner's Regulations. It is the DOE's obligation to support and hold schools accountable as necessary until the city achieves 100-percent compliance with state regulations.

## Ensure that the P.E. curriculum maximizes opportunities for physical activity.

While it is valuable for students to understand the rationale for improving personal fitness, it is more important that they have sufficient opportunity to actually engage in exercise, team sports, and physical activities that improve fitness.

## Ensure that every school has one or more extracurricular sports program.

The Public Advocate's survey found that, while some schools had several teams and clubs, more than 80 percent of elementary schools and nearly half of middle schools surveyed did not offer any extracurricular sports programs. All students in city schools should have equal access to after-school sports. The DOE should consider expanding the newly created Middle School Sport and Fitness League C.H.A.M.P.S ${ }^{61}$ program to elementary schools.

Encourage schools to find additional ways to incorporate physical activity into the regular school day.

Children and teenagers should engage in 60 minutes of moderate to vigorous physical activity every day to achieve and maintain a healthy weight. In addition to providing the mandated amount of traditional P.E. classes, schools should also find ways to incorporate physical activities into children's regular school day. Such activities might include stretching in the classroom during breaks in academic instruction or playing organized games during recess.

## Create an annually updated report stating the amount of P.E. provided in each school for each grade level.

The Public Advocate's follow-up survey shows that access to P.E. for third graders has improved only slightly during the last four years and has declined for fourth graders. In order to establish transparency and accountability, the DOE should periodically report to the public, particularly parents of public school students, the amount of P.E. offered at each school, at least until the lack of compliance with the legal standard is remedied.

[^9]
## Appendix: Survey Questions

Survey Questions for Elementary Schools:

1. Hi, my name is ....
2. I'm calling because we are new to the area and I want to register my son and daughter for school soon. They are in third and fourth grade.
3. My kids like sports, and I would like to find out what kind of sports programs are available at your school. Do you offer any sports programs or team sports outside P.E.?
4. How many P.E. classes are there per week for the third and fourth grade?
5. How long are these classes?

Survey Questions for Middle Schools:

1. Hi, my name is ...
2. I'm calling because we are new to the area and I want to register my daughter for school soon. She is in sixth grade.
3. Before registering, I would like to find out what kind of sports and arts programs are available at your school. Do you have any sports programs or teams that she could join?
4. How many P.E. classes are there per week in the sixth grade?
5. How long are these classes?

[^0]:    ${ }^{1}$ New York City Department of Health and Mental Hygiene (DOHMH),"Addressing the Childhood Obesity Epidemic," See: http://home2.nyc.gov/html/doh/html/scah/scah-obesity.shtml.
    ${ }^{2}$ Wechsler, H., McKenna M., Lee, S., Dietz, W., "The Role of Schools in Preventing Childhood Obesity," The State Education Standard, December 2004, p 6. See: http://www.nasbe.org/Standard/17_Dec2004/Wechsler2.pdf
    ${ }^{3}$ California School Boards Association, "P.E. and California Schools, "Governance Policy Services, Policy Briefs, October 2006, p.1. See:
    http://www.cahperd.org/images/pdf_docs/CA\%20PE\%20fitness\%20academic\%20CSBA\%2006.pdf.

[^1]:    ${ }^{4}$ DOHMH "Obesity Begins Early: Findings Among Elementary School Children in New York City." NYC Vital Signs. 2003 Vol 2 No 5. p.2. See: http://www.nyc.gov/html/doh/downloads/pdf/survey/survey2003childobesity.pdf
    ${ }^{5}$ Ibid. p.1.

[^2]:    ${ }^{6}$ Supra note 1.
    ${ }^{7}$ United States Centers for Disease Control (CDC), "Prevalence of Overweight Among Third- and SixthGrade Children - New York City, 1996, "Morbidity and Mortality Weekly Report (MMWR), Vol 47 (45), pp. $980-984$, November 20, 1998. See http://www.cdc.gov/MMWR/preview/mmwrhtml/00055720.htm: http://www.cdc.gov/MMWR/preview/mmwrhtml/
    ${ }^{8}$ CDC, "Childhood Overweight," See: http://www.cdc.gov/nccdphp/dnpa/obesity/childhood/index.htm
    ${ }^{9}$ Supra note 4.
    ${ }^{10}$ Ibid.
    ${ }^{11}$ CDC, "Healthy Weight." See:
    http://www.cdc.gov/nccdphp/dnpa/nutrition/nutrition_for_everyone/healthy_weight/index.htm.
    ${ }^{12}$ Preidt, R., "Amount of Exercise Key to Lowering Kids' Blood Pressure," HealthDay, 11 December 2007.
    ${ }^{13}$ DOHMH. "What Everyone Should Know: Physical Activity." See: http://www.nyc.gov/html/doh/html/cdp/cdp_pan_know_phys.shtml

[^3]:    ${ }^{14}$ The word "overweight" is sometimes used as a noun in medical contexts. The following definitions for "overweight" and "obesity" are used by the DOHMH: "Among children, obesity is defined as a body mass index $(\mathrm{BMI}) \geq 95^{\text {th }}$ percentile for age and gender; overweight is defined as $\mathrm{BMI} \geq 85^{\text {th }}$ and $<95^{\text {th }}$ percentile for age and gender." See also: www.cdc.gov/growthcharts/.
    ${ }^{15}$ The National Institutes of Health (NIH). "Childhood Obesity on the Rise." Word on Health. June 2002.
    ${ }^{16}$ Van Wye G., Kerker B.D., Matte, T., Chamany, S., Eisenhower, D., Frieden, T. R., Thorpe, L., "Obesity and diabetes in New York City, 2002 and 2004, Preventing Chronic Diesease. Public Health Research, Practice, and Policy. Vol 5, No. 2, April 2008. See: http://www.cdc.gov/pcd/issues/2008/apr/07_0053.htm.
    ${ }^{17}$ Supra note 2, p.5.
    ${ }^{18}$ Supra note 16.
    ${ }^{19}$ Type 1 diabetes, previously knows as juvenile diabetes, is the result of genetics and surfaces during childhood. Type 2 diabetes, which makes up 90 to 95 percent of all diabetes cases, used to be referred to as adult-onset diabetes because the disease was seen exclusively in adults, typically over the age of 40 . See: American Diabetes Association, "Type 2 Diabetes," http://www.diabetes.org/type-2-diabetes.jsp.
    ${ }^{20}$ National Diabetes Education Program, "Overview of Diabetes in Children and Adults." See http://ndep.nih.gov/diabetes/youth/youth_FS.htm\#Ref6.
    ${ }^{21}$ Supra note 4, p.2.
    22 "Prediabetes is defined by levels of sugar in the blood that are higher than normal but not high enough for a diagnosis of diabetes [...] If prediabetes is ignored, it usually develops into diabetes." See: City University of New York (CUNY) and Public Health Association of New York City (PHANYC), Reversing

[^4]:    the Diabetes and Obesity Epidemics in New York City. A call to action to confront a public health, economic and social threat to New York City’s future, September 2007, p.6. See:
    http://www.phanyc.org/pdfs/diabetes_prevention_report.pdf.
    ${ }^{23}$ National Diabetes Education Program, "Overview of Diabetes in Children and Adults." See: http://ndep.nih.gov/diabetes/youth/youth FS.htm\#Ref6.
    ${ }^{24}$ Kleinfeld, N.R. "Diabetes and its Awful Toll quietly Emerge as a Crisis," The New York Times, January 9, 2006.
    ${ }^{25}$ Supra note 7.
    ${ }^{26}$ Holman, J., "Hypertension Is Not a 'Silent' Disease in Children," Medscape Medical News, November 14, 2005. See: http://www.medscape.com/viewarticle/516932.
    ${ }^{27}$ Ibid.
    ${ }^{28}$ Ibid.
    ${ }^{29}$ Mayo Clinic, "Childhood Asthma, Risk Factors." See: http://www.mayoclinic.com/health/childhoodasthma/DS00849/DSECTION=4.
    ${ }^{30}$ Health Link: Medical College of Wisconsin, "Health Problems Related to Severe Obesity," http://healthlink.mcw.edu/article/984434798.html.
    ${ }^{31}$ DOHMH, "Asthma Initiative." See: http://www.nyc.gov/html/doh/html/asthma/asthma.shtml.
    ${ }^{32}$ Pediatric Asthma, "Children's Asthma in New York City. "See:
    http://pediatricasthma.org/medicaid_managed_care/bronx_ny.
    ${ }^{33}$ Supra note 31..
    ${ }^{34}$ The National Institutes of Health (NIH), "Childhood Obesity on the Rise," Word on Health. June 2002
    ${ }^{35}$ Health Link: Medical College of Wisconsin, "Childhood Obesity Causes Diabetes and Other Health Problems." See: http://healthlink.mcw.edu/article/941223597.html.

[^5]:    ${ }^{36}$ Obesity Action Coalition, "Childhood Obesity." See: http://www.obesityaction.org/childhoodobesity/childhood.php.
    ${ }^{37}$ Puhl, R., "Childhood Obesity and Stigma," Obesity Action Coalition, July 2007.
    ${ }^{38}$ Ibid.
    ${ }^{39}$ National Eating Disorder Association, "Anorexia, Bulimia \& Binge Eating Disorder." See: www.nationaleatingdisorders.org/
    40 "Overweight and Obesity." KidsHealth: For Parents. August 2005. See:
    http://www.kidshealth.org/PageManager.jsp?dn=KidsHealth\&lic=1\&article_set=30265\&cat_id=189\&.
    ${ }^{41}$ Supra note 2, p. 6.
    ${ }^{42}$ California School Boards Association, "P.E. and California Schools," Governance Policy Services, Policy Briefs, October 2006, p.1. See:
    ${ }^{43}$ Carlson, Susan, Janet Fulton, Sarah Lee, et al. "P.E. and Academic Achievement in Elementary School: Data From the Early Childhood Longitudinal Study." American Journal of Public Health: First Look. 28
    February 2008.
    ${ }^{44}$ Supra note 3.

[^6]:    ${ }^{45}$ Section 135.4 of Title 8 of the Official Compilation of Codes, Rules and Regulations of the State of New York. (8 NYCRR 135.4)
    ${ }^{46}$ The DOE's central office on P.E., called the "Office for Fitness and Health Education," was created in 2003.
    ${ }^{47}$ New York State Assembly, Standing Committee on Education, "Testimony by Lori Rose Benson, Director of the Office of Fitness and Health Education, Department of Education," Transcript of Public Hearing on compliance with required P.E. classes, New York City, January 31, 2008, pp.59-68.
    ${ }^{48}$ DOE, "Physical Best Health-Related Fitness Education Curriculum," See: http://schools.nyc.gov/Academics/FitnessandHealth/StandardsCurriculum/PhysicalEducationCurriculum.ht m
    ${ }^{49}$ The DOE bought the software rights from the Texas-based Cooper Institute-a non-profit branch of the Cooper Aerobics Center companies founded by Dr. Kenneth Cooper, the author of the popular 1968 book
    "Aerobics"-and developed a web-based application to generate a city-wide capacity to collect Fitnessgram data. See:
    http://schools.nyc.gov/Academics/FitnessandHealth/StandardsCurriculum/PhysicalEducationCurriculum.ht m and http://www.cooperinst.org/institute/index.cfm.
    ${ }^{50}$ Body composition is measured by taking a child's height and weight to calculate the body mass index (BMI). Aerobic fitness is measured by a running exercise. Abdominal strength, trunk and upper-body strength, and flexibility are measured by curl-ups, trunk lifts, push-ups and stretching exercises respectively. Children in grades K through 3 are only assessed for BMI. See:
    http://schools.nyc.gov/Academics/FitnessandHealth/StandardsCurriculum/NYCFITNESSGRAM.htm.

[^7]:    ${ }^{51}$ Of the 100 schools surveyed, 3 were unable to provide the Public Advocate's Office with information on the frequency of P.E. classes for the third grade.
    ${ }_{52}^{52}$ The Public Advocate's 2004 survey did not include middle schools.
    ${ }^{53}$ Random number generator available at http://www.random.org.
    ${ }^{54}$ DOE. See: http://schools.nyc.gov/default.aspx
    ${ }^{55}$ The New York State Department of Education Commissioner's Regulations require that all children in kindergarten through third grade participate in P.E. classes every day and that children in fourth through sixth grade participate in P.E. classes a minimum of three times per week for a total of at least 120 minutes.

[^8]:    ${ }^{56}$ Of the 100 elementary schools surveyed, 7 were unable to provide the Public Advocate's Office with information on the frequency of P.E. classes for third and fourth grade.
    ${ }^{57}$ Ibid.
    ${ }^{58}$ Of the 50 middle schools surveyed, 1 was unable to provide the Public Advocate's Office with information on the frequency of P.E. classes for sixth grade.
    ${ }^{59}$ Supra note 56.
    ${ }^{60}$ The other school does not offer P.E. throughout the entire school year.

[^9]:    ${ }^{61}$ C.H.A.M.P.S stands for Cooperative, Healthy, Active, Motivated, Positive Students. According to DOE testimony on January 31 2008, nearly 1,000 C.H.A.M.P.S. programs have been created in 200 middle schools. Supra note 50, p. 67.

