Physical Education in New York City:
Ignoring the 800 lb. Gorilla

Preliminary Results of the American Heart Association’s Survey on Physical Education
January 2013

Background

Childhood obesity is a pivotal factor in the American Heart Association’s mission to improve cardiovascular health by 20% by the year 2020. Excess weight at a young age has been linked to higher and earlier death rates in adulthood. In fact, obese children as young as age 3 show indicators for developing heart disease later in life. Overweight adolescents have a 70 percent chance of becoming overweight adults. As cardiovascular diseases and stroke remain New York City’s number one risk of mortality, it’s clear that we must address this important health factor.

While the rate of obesity among children at the national level is described as being at an epidemic proportion, with one out of every 3 children defined as overweight or obese, the concern is even greater in New York City. According to the NYC Department of Health and Mental Hygiene, one out of every 5 kindergartners is obese and nearly half of our elementary school children are not at a healthy weight. Despite the promise of recent progress, it remains clear that more needs to be done if we are going to reduce the impact of obesity on our city.

The city should be applauded for the development of new public policy measures in an effort to improve health and wellness. Whether it is the continuous efforts to enhance the nutritional content in all school food options or the plan to implement salad bars in all of the city’s public schools, there are clear efforts to improve the diet of our city’s young people.

However, according to the latest Scientific Statement from the American Heart Association, nutritional interventions are more effective when combined with other policies that also involve physical activity. A combination of interventions involving a formal physical education (PE) program, including educational curricula taught by trained teachers, supportive school policies, serving of healthy food and beverage options in school cafeterias and vending machines, and a parental or family component, demonstrates the strongest science for results.

Over the past several years, attempts have been made to assess the current status of physical education in New York City. City decision-makers have requested improvements from the NYC Department of Education regarding oversight, organizational planning and overall implementation of the state standards for physical education. It was a result of this public dialogue that the American Heart Association’s Advocacy Committee in New York City developed and implemented a survey project to analyze physical education in our city schools.
Method

The American Heart Association’s Advocacy Committee, comprised of volunteer advocates, survivors, issue experts and medical professionals, developed a survey tool to assess various factors involving physical education, physical activity and the perceived benefits and limitations to the schools’ programs. This survey was forwarded electronically to 1,682 school principals in June 2012. Principals were given the option to respond to the survey themselves, or ask another member of the school’s administration or teaching staff to complete the questions. Survey responses were collected until November 2012. By that time, 272 schools had participated in the project. Figure 1 shows the breakdown of responses by borough:

As a comparison, here is the student enrollment data by borough as captured by the NYC Department of Education 2010-2011 Register:

* Monthly Aggregate Registers by Boro (PAR) -- CBOs not Included.
All respondents were ensured confidentiality. While data may be analyzed at the borough or neighborhood level, the American Heart Association has assumed the responsibility to protect schools’ identities and responses.

The survey was completed mostly by the schools’ Principals (47%) or Administrators (31%). Several members of the teaching staff also participated (27%) with an additional 6% of participants identifying themselves as Other (mostly Athletic Directors or Parent Coordinators.) It must be noted that responders were not limited to one answer when identifying their role. The surveys could be completed cooperatively by several staff members in each school. This was not discouraged in order to develop the most comprehensive view of each physical education program.

Additionally, except for the question that identified the school’s borough, all questions on the survey were optional. The survey responders were able to skip any question, although most did not utilize this mechanism. Sample size for each question will be outlined as part of the data review below.

Results

**Question:** How many days, per week, does a student attend physical education class?

Of the 262 schools who answered this question, nearly 6 out of every 10 schools are only offering physical education 1 – 2 days per week. However, 43 out of the 262 surveyed schools are successfully delivering daily PE.

It is recommended that children engage in at least 60 minutes of moderate to vigorous physical activity each day. The American Heart Association believes it is reasonable for students to get at least 30 minutes of that time in school. While 30 minutes of daily physical education is the ideal goal, current New York State standards differ. Students in grades K-3 are required to have daily PE while other grades are only mandated to offer it three times per week (except for one semester per year at the secondary level where it may be offered only twice per week.)

![Figure 3](image-url)

**Number of Days/Week Survey Respondents Offer Physical Education**

- 1 day: 26.72% of schools
- 2 days: 33.97% of schools
- 3 days: 16.79% of schools
- 4 days: 1.91% of schools
- 5 days: 16.41% of schools
- Other: 10.69% of schools
Question: What is the duration of each physical education class?

Out of the 262 responses, the strong majority (72%) are delivering physical education classes lasting 45 minutes.

Even though the initial concern should be supporting schools’ Physical Education programs in order to achieve the state mandated cumulative minutes per week, some consideration should be devoted to the appropriate length of time per class. Students’ physical development will permit longer periods of exercise as they get older, however at the elementary level it is recommended that PE last no longer than 30 minutes for grades K – 2 and a maximum of 45 minutes for grades 3 – 5.

Figure 4

The previous referenced studies by city leaders and other community partners regarding NYC schools are largely focused on the compliance with New York state standards. While Title 8, Section 135 of the Rules of the Commissioner of the New York State Education Department clearly outlines that 120 minutes per week must be devoted to physical education at the elementary level (grades K-6), it does not directly dictate the minutes per week at the secondary level. However, the New York state standards regarding graduation from high school require the completion of 2 units of credit for PE. A single unit of credit is equivalent to 180 minutes per week in the school year. With the mandate regarding the number of days per week that PE must be offered at the secondary level (dividing it by twice per week in one semester and three times per week in the other half of the year) a student would earn just 0.5 units of credit each year. Therefore, one-half of the required 180 minutes for one unit would be equal to 90 minutes per week of physical education for grades 7-12.

When looking at both of the preceding survey questions, with most participants offering PE just once or twice per week and the majority of classes lasting 45 minutes, it would be a potential conclusion that most schools are not meeting state standards. However, given the possibility that some responses could have come from secondary-level schools and therefore they could come close to the minimum guidelines, additional data review was required.

By analyzing each individual response, the total time allotted for PE per week was calculated by multiplying the class time by the days per week the class is offered. This number was then cross-referenced with the state...
standards to determine if each participating school is in compliance with the standard at various grade levels. Whenever a range was provided by the participating school, based upon grade level, day of the week, or semester, the more generous data was utilized. In addition, when an answer was marked as Other, the provided number given in the open response space was used as opposed to restricting the data analysis to the predetermined number sets. Lastly, in the case where schools host grade levels that exceed the definition of elementary or secondary (grades 6-12, for example) the school’s response was analyzed against the longer time requirement (120 minutes for grade 6 in the example). However, if the school clarified that PE was offered at varying lengths for the different grade levels, that data was utilized in the analysis. In this manner, overall compliance was analyzed by borough:

**Figure 5**

<table>
<thead>
<tr>
<th>Borough</th>
<th>Total Responding Schools</th>
<th>Total Schools Not in Compliance</th>
<th>Percentage Not in Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronx</td>
<td>62</td>
<td>30</td>
<td>48%</td>
</tr>
<tr>
<td>Brooklyn</td>
<td>78</td>
<td>51</td>
<td>65%</td>
</tr>
<tr>
<td>Manhattan</td>
<td>34</td>
<td>16</td>
<td>47%</td>
</tr>
<tr>
<td>Queens</td>
<td>60</td>
<td>35</td>
<td>58%</td>
</tr>
<tr>
<td>Staten Island</td>
<td>17</td>
<td>7</td>
<td>41%</td>
</tr>
<tr>
<td>City Total</td>
<td>251</td>
<td>139</td>
<td>55%</td>
</tr>
</tbody>
</table>

This calculation regarding total time spent on physical education per week was also assessed at the neighborhood level. Regions with no attributed color indicate little to no sample size, thereby restricting the disclosure of any provided information:
While there were schools throughout the five boroughs with notable difficulty regarding the goal of achieving the minimum time standards, the problem appears more consistently in Brooklyn and Queens. In the borough of Brooklyn, 65% of participating schools offer physical education only 1 – 2 days per week, with a strong percentage (34%) only delivering PE once. In addition, 74% of responding schools offer physical education classes at just 45 minutes. This same dynamic is further exemplified in Queens, where again 65% of participating schools offer PE 1 -2 days per week (31% delivering it once per week). However, 80% of responding schools in Queens offered classes lasting 45 minutes.

It’s worth noting again, that while the goal of an appropriate amount of minutes per week is laudable, there should be a cautious approach to schools that are using a longer class time to achieve this goal. Sixty minutes of physical education would be considered too lengthy of a time to be engaged in moderate to vigorous physical activity.

**Question:** What is the average class size for each physical education class? Please provide an approximate number.

Though it is acknowledged that class size is a burden to all school subjects, the number of students in physical education classes does not only impact the effectiveness of the class but also the safety of the students. While simultaneously developing strategies for physical education teachers to contend with large class sizes, the
National Association of Sports and Physical Education recommends a class size ratio of a maximum 1:25 for elementary, 1:30 for middle and 1:35 for high schools.\textsuperscript{15} For the purpose of our survey data analysis, it was decided to take the most conservative approach. Therefore, a goal of 35 or fewer students per physical education class was utilized.

Responses to this question were provided openly, without limitation to a range. In the rare occasion that a response detailed variability (based upon grade level or other factors) the lower class size was utilized. Additionally, if the answer listed a class size but with a multiple teacher ratio, the number of students was divided by the number of teachers assigned to the class. The number of responses to this question may be useful to note: Bronx (64), Brooklyn (83), Manhattan (35), Queens (62), Staten Island (18)

Figure 8

![Physical Education Class Size by Borough](image-url)
As the class size levels varied widely from school to school, with each borough except Manhattan listing at least one outlier at 90 or above, it’s apparent that class size is a systemic problem throughout our city schools. While this is not surprising, the urgent need to improve these numbers should not be ignored. It’s promising that each borough also listed at least one school that was well below the national guideline of 35.

**Question:** Does your school use a certified physical education teacher or does it use another staff member (who is not certified in physical education)?

The National Association of Sports and Physical Education maintains that highly qualified teachers are an integral component to a successful PE program. Certified physical education teachers possess the necessary knowledge and skills to implement best teaching practices, enhancing the quality of PE curriculum and ultimately motivating students to develop long-term behaviors leading to more active and healthy lifestyles.\(^{16}\)

Of the 264 respondents for this question, in which more than one answer was possible, 67% used a teacher certified in physical education, 32% used other teachers, and 8% detailed Other options. The Other category most often clarified that a teacher was working toward PE certification, or the school was using an instructor certified in another form of physical activity such as dance. Schools also utilized the Other category to outline how they were using classroom teachers to support optional physical activity programs.
Figure 10

Use of Certified PE Teacher by Borough

- Bronx: 5% Certified PE Teacher, 31% Teacher Not Certified in PE, 71% Other
- Brooklyn: 12% Certified PE Teacher, 27% Teacher Not Certified in PE, 67% Other
- Manhattan: 0% Certified PE Teacher, 38% Teacher Not Certified in PE, 62% Other
- Queens: 11% Certified PE Teacher, 34% Teacher Not Certified in PE, 66% Other
- Staten Island: 0% Certified PE Teacher, 0% Teacher Not Certified in PE, 67% Other

Figure 11

Percent of schools which use a certified physical education teacher

Percent of Respondents:
- 0% - 14.3%
- 14.4% - 50%
- 50.1% - 69.2%
- 69.3% - 85.7%
- 85.8% - 100%
It is promising to note that the majority of schools, approximately 2/3 appear to be utilizing certified physical education teachers to implement their curriculum. This could be reflective of the NY State education law which requires secondary schools to have a certified PE instructor on staff, but allows for elementary classroom teachers to provide PE instruction under the supervision of a PE certified teacher. However, of the schools that identified themselves and grade levels could be determined (total = 262), more than half (141) are defined as elementary schools.

**Question:** Has your physical education program been reduced in the past in any way – reducing class time, increasing class size, cutting certified PE teachers, etc.?

Overall, more than 2/3 of participating schools have not had to contend with a decreased PE program with 68% of the 264 responses indicating no reduction. This percentage was closely mirrored in schools from the Bronx, Manhattan and Queens. School PE programs fared better in Brooklyn with 72% indicating no reduction. However, Staten Island schools who participated in the survey indicated that more than half (56%) had experienced cuts to their programs in some manner.

Schools were offered the opportunity to explain any changes to their PE program that they would define as a reduction. Responses from across the city indicated that these changes involved the loss of teachers or teacher’s aides; the forced sharing for gym space with multiple schools; the increase of class size to limits not conducive for quality PE; and the reduction of class time or PE classes offered per week.

**Question:** In your opinion, does your school have adequate physical activity facilities?

Of the 256 schools who responded to this question, 52% stated that they felt their facilities were adequate. This perception was fairly consistent across all five boroughs with positive responses of 48% in the Bronx, 58% in Brooklyn, 50% in Manhattan, 47% in Queens and 58% in Staten Island.

However, should funding be made available, participating schools outlined the ways their PE programs could benefit: improved gymnasium or other recreation space; needed sports equipment and training materials; and added personnel including certified PE teachers.

**Conclusion**

While the problems facing schools are myriad and complex, it is important that we do not lose sight of our over-arching goal to instill a strong knowledge base in a safe environment, motivating a lifetime of healthy behavior involving physical activity.

The data from this project has yielded the following policy recommendations, (the order of the list does not indicate priority):

- Strengthen the requirement that Physical Education be administered by a PE certified teacher.
- Clarify how PE minutes may be measured in order to ‘count’ toward the state standard.
- Reward schools who are meeting state standards in a clear and transparent manner.
- Eventually, work toward the ideal PE requirements of 150 minutes / week for elementary students and 225 minutes / week for middle school students.
**Policy Recommendation:** Strengthen requirement that Physical Education be administered by a PE certified teacher.

The American Heart Association recommends that physical education, at all grade levels, be administered by a certified PE teacher. As 2/3 of participating schools responded that they are currently using teachers certified in PE, this measure should be implemented in order to assure quality standards for PE curriculum for all students.

**Policy Recommendation:** Clarify how PE minutes may be measured in order to ‘count’ toward the state standard.

The American Heart Association recommends that physical education be delivered by a certified PE teacher with adherence to quality curriculum guidelines. At least 50% of class time should be spent in moderate to vigorous physical activity. While physical activity programs provide value to the general classroom setting, it is not an appropriate replacement for a physical education program. Therefore, initiatives like New York City’s *Move to Improve* program should not count toward a school’s physical education minutes.

**Policy Recommendation:** Reward schools who are meeting state standards in a clear and transparent manner.

It is clear from the data that there are many successful programs, demonstrating quality physical education, throughout the city’s five boroughs. It is the recommendation of the American Heart Association that initiatives like the *Excellence in School Wellness Award* be offered to all schools, not just elementary, and resulting data be shared publicly with the goal to highlight best practices in physical education and other health measures.

**Policy Recommendation:** Eventually, work toward the ideal PE requirements of 150 minutes / week for elementary students and 225 minutes / week for middle school students.

The American Heart Association, along with the National Association of Sports and Physical Education, recommends these timelines as ideal goals for quality physical education standards. As work continues to improve the quality of curriculum and the adequate allocation of resources, the goal of daily PE with enough time to gain appropriate levels of physical activity must be prioritized. A pilot program which should include schools addressing the range of socioeconomic factors, is initially recommended. This pilot program should also include proper surveillance to assess not only health measurements but also academic and social markers.

**Limitations**

The American Heart Association recognizes the limitations of this non-scientific survey project. Responses were reported directly by the targeted subjects, without the ability to confirm each answer. Thus the possibility of exaggeration, selective memory or attribution exists. Additional research could benefit by designing their study with resources to confirm self-reported data. Additionally, while the intention was to establish a comprehensive baseline for PE in New York City, only 16% of city schools participated. In some sections of our analysis, sample size and the protection of schools’ identities caused concern. In those cases, data was exempted from review. However, these limitations should not diminish the value of the survey data but rather motivate additional research.
For additional information, contact Robin Vitale, Senior Director of Government Relations, American Heart Association / American Stroke Association, 122 East 42nd Street, 18th Floor, New York, NY 10168, 212-878-5922 or robin.vitale@heart.org.

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