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**Source 1:**

**The Pros and Cons of Mandatory Gym Class in Public Schools [By: Grace Chen]**

Gym class is invariably portrayed on the silver screen as a time of awkwardness and embarrassment, when kids have to climb ropes and do a certain number of push-ups in a minute’s time. However, gym class is much different now, and it is not surprising that today’s students and parents are questioning why it’s even a mandatory part of the day. After all, according to a MSNBC investigation, researchers have found that the average high school gym class only keeps students physically active for an average of 16 minutes! In a class period that is about 45 minutes long, that isn’t a lot of active time. In today’s educational climate in which standardized test performance in core subjects carries a significant amount of weight with regard to teacher and school evaluations, “wasting” all that time doing nothing in PE is something districts cannot afford. As such, PE classes have been cut so students can spend more time in core classes.

Supporters of mandatory gym programs contend that physical education classes have a wide range of benefits. According to the National Association for Sport and Physical Education, physical education classes help children develop fine and gross motor skills, learn cooperation and teamwork, reduce stress, and improve self-confidence and self-esteem. Furthermore, supporters argue that public schools have a responsibility to encourage children to enjoy a healthy and active lifestyle – especially as a rising number of young Americans are obese. Activities that promote muscular strength, cardiovascular endurance and flexibility, they argue, can help reverse the trend of American children gaining weight.

Subsequently, some school leaders are left without a clear answer in the debate. Should fitness classes be required to fulfill a school’s curriculum requirements?

Further expounding on the issue, MSNBC also analyzes a major study of physical education programs conducted by Cornell University. The study, based on information from 37,000 high school students’ responses to surveys from the Centers for Disease Control and Prevention, reveals that most students do not believe gym class is effective. This has led nearly all states to create and pass new bills to reform public schools’ fitness education programs.

Unfortunately, while many states have increased the amount of time students spend in gym class, Cornell's study found that adding 200 more minutes of time to gym class each week did not produce substantial changes. Even by adding 200 more weekly minutes, the studies showed that boys generally engaged in only 7.5 minutes of more activity per day, while girls only participated in activity 8 additional minutes each week.

Attempting to explain these disappointing results, Cornell's lead professor of policy analysis and management asserts, “The rest of the extra gym time is likely spent being sedentary — most likely standing around idly while playing sports like softball or volleyball that don’t require constant movement.” Cornell’s results hit a familiar nerve, as a study of fitness classes in Texas elementary schools also found that the majority of students spent the class time inactive; specifically, the data suggested that students were only engaging in exercise or movement for approximately 3 minutes during the entire class period.

As reported in USA Today, what would benefit children more is periods of rigorous physical activity that makes them break a sweat. High-energy games like tag and dodge ball are great examples of activities that have little downtime. At a minimum, elementary aged children should get 30 minutes of moderate exercise a day. Middle school and high school students should get 45 minutes of exercise a day. And about half of that time should be spent in activities like those mentioned above that get the heart racing.

Despite the results, the lead professor of the Cornell study does not necessarily believe that gym classes should be banned in public school, arguing, “We’re not saying schools should get rid of (physical education),” but “there has to be a meaningful change in the curriculum.”

While many of the nation's gym classes may not be performing at peak levels, supporters of fitness education aim to spotlight the potential of reform, as well as the accomplishments many public schools have achieved.

In examining the changing policies of fitness education, it is important to understand how gym classes in public schools could be modernized. While running laps and doing jumping jacks used to be a staple of many physical education classes, many schools have diversified their options to reflect a more modern take on gym class. Schools offer instruction in traditional team sports and games like flag football and red rover, but also emphasize healthy eating habits, the benefits of lifting weights and offer unique experiences from bowling to fly-fishing to kayaking. By offering more intriguing physical activities for students, many public schools are reporting positive feedback from both their students and community members.

Many physical education leaders are arguing for a complete paradigm shift in the area of fitness and wellness instruction. Elizabeth Spletzer, a highly experienced fitness instructor currently coordinating the University of Minnesota's Physical Education Teacher Licensor program, strives to teach future fitness teachers the diverse learning benefits that children gain from physical activity. Instead of seeing gym class as only a physical activity, reformists like Spletzer want others to understand the psychosocial benefits of exercise, including improved self-esteem, better behavior, and decreased instances of depression and stress. There are academic benefits as well. According to a report by the New York Times, students who are physically active have better attention and focus, improved problem solving abilities, better working memory and a general improvement in both reading and math scores. In fact, the academic benefits students gain from physical activity during the school day appear to outweigh the benefits of increasing class time in subjects such as reading and math.

While schools debate the future of physical education, one fact remains certain: gym class will never look the same again!

**Source 2:**

**How Physical Fitness May Promote School Success**

**By [GRETCHEN REYNOLDS](http://well.blogs.nytimes.com/author/gretchen-reynolds/" \o "More Posts by Gretchen Reynolds)**

Children who are physically fit absorb and retain new information more effectively than children who are out of shape, a new study finds, raising timely questions about the wisdom of slashing physical education programs at schools.

Parents and exercise scientists (who, not infrequently, are the same people) have known for a long time that physical activity helps young people to settle and pay attention in school or at home, with salutary effects on academic performance. A representative study, presented in May at the American College of Sports Medicine, found that fourth- and fifth-grade students who ran around and otherwise exercised vigorously for at least 10 minutes before a math test scored higher than children who had sat quietly before the exam.

More generally, in a [large-scale study of almost 12,000 Nebraska schoolchildren](http://www.ncbi.nlm.nih.gov/pubmed/23465408) published in August in The Journal of Pediatrics, researchers compiled each child’s physical fitness, as measured by a timed run, body mass index and academic achievement in English and math, based on the state’s standardized test scores. Better fitness proved to be linked to significantly higher achievement scores, while, interestingly, body size had almost no role. Students who were overweight but relatively fit had higher test scores than lighter, less-fit children.

To date, however, no study specifically had examined whether and in what ways physical fitness might affect how children learn. So researchers at the University of Illinois at Urbana-Champaign recently stepped into that breach, recruiting a group of local 9- and 10-year-old boys and girls, testing their aerobic fitness on a treadmill, and then asking 24 of the most fit and 24 of the least fit to come into the exercise physiology lab and work on some difficult memorization tasks.

Learning is, of course, a complex process, involving not only the taking in and storing of new information in the form of memories, a process known as encoding, but also recalling that information later. Information that cannot be recalled has not really been learned.

Earlier studies of children’s learning styles have shown that most learn more readily if they are tested on material while they are in the process of learning it. In effect, if they are quizzed while memorizing, they remember more easily. Straight memorization, without intermittent reinforcement during the process, is tougher, although it is also how most children study.

In this case, the researchers opted to use both approaches to learning, by providing their young volunteers with iPads onto which several maps of imaginary lands had been loaded. The maps were demarcated into regions, each with a four-letter name. During one learning session, the children were shown these names in place for six seconds. The names then appeared on the map in their correct position six additional times while children stared at and tried to memorize them.

In a separate learning session, region names appeared on a different map in their proper location, then moved to the margins of the map. The children were asked to tap on a name and match it with the correct region, providing in-session testing as they memorized.

A day later, all of the children returned to the lab and were asked to correctly label the various maps’ regions.

The results, [published last week in PLoS One](http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0072666), show that, over all, the children performed similarly when they were asked to recall names for the map when their memorization was reinforced by testing.

But when the recall involved the more difficult type of learning — memorizing without intermittent testing — the children who were in better aerobic condition significantly outperformed the less-fit group, remembering about 40 percent of the regions’ names accurately, compared with barely 25 percent accuracy for the out-of-shape kids.

This finding suggests that “higher levels of fitness have their greatest impact in the most challenging situations” that children face intellectually, the study’s authors write. The more difficult something is to learn, the more physical fitness may aid children in learning it.

Of course, this study did not focus specifically on the kind of active exercise typical of recess, but on longer-term, overall physical fitness in young children. But in doing so, it subtly reinforces the importance of recess and similar physical activity programs in schools, its authors believe.

If children are to develop and maintain the kind of aerobic fitness that amplifies their ability to learn, said co-author Charles Hillman, a professor of kinesiology at the University of Illinois and a fellow at the university’s Beckman Institute for Advanced Science and Technology, they should engage in “at least an hour a day” of vigorous physical activity. Schools, where children spend so many of their waking hours, provide the most logical and logistically plausible place for them to get such exercise, he said.

Or as he and his co-authors dryly note in the study: “Reducing or eliminating physical education in schools, as is often done in tight financial times, may not be the best way to ensure educational success among our young people.”

Source 3:

Kids worldwide are less fit than their parents, a study says

By Associated Press

DALLAS — Today's kids can't keep up with their parents. Millions of kids from around the world were studied. Researchers found that kids today don't run as fast or as far as their parents did when they were young.

It takes kids today 90 seconds longer to run a mile than it took children 30 years ago.

"It makes sense. We have kids that are less active than before," said Dr. Stephen Daniels, a University of Colorado pediatrician.

The research was presented at the American Heart Association's yearly gathering.

## Data From 1964 To 2010

The study was led by Grant Tomkinson, who studies the science of exercise at the University of South Australia. His research involved 25 million children from 28 countries. They ranged in age from 9 to 17. His team looked at how far and fast children run. Running is a good measure of a person's heart health. The information he looked at spanned from 1964 to 2010.

Tomkinson measured how far each child could run in 5 to 15 minutes. He also measured how quickly they ran a certain distance ranging from a half-mile to 2 miles.

He found that today's kids are about 15 percent less fit than their parents were. This study is the first to show that children's fitness has worsened worldwide over the last 30 years.

Tomkinson said that for both boys and girls of all ages, fitness levels have decreased.

Fitness experts say that children 6 and older should get at least one hour of exercise daily. The exercise should be tough enough to make a person's heart beat fast and body sweat. Currently, only one-third of American kids are getting that much exercise.

Tomkinson and Daniels said that weight has likely played a role in the decreasing heart health of youth. This is especially true in the United States. One-tenth of children in the United States are obese, or dangerously [overweight](https://www.newsela.com/?tag=obesity). Being very overweight makes it harder to run or do any aerobic exercise.

Television and video games may also be part of the problem, they said. Some kids may live in unsafe neighborhoods where they cannot freely use playgrounds or ball fields, they added.

"Kids aren't getting enough opportunities to build up that activity over the course of the day," Daniels said. "Many schools, for (money) reasons, don't have any physical education at all. Some rely on recess" to provide exercise.

## A Lack Of Exercise

Sam Kass is a chef at the White House. He also helps first lady Michelle Obama with her Let's Move program. The first lady started the program in February 2010 to promote healthy food and exercise.

Kass spoke out about today's children and their inactivity. He said schools have to get involved. Today's generation of children are the least active in U.S. history, he said.

For children living in Europe, Australia and New Zealand the drop in fitness levels does not appear to be getting worse.

In China things are different. Studies show that young Chinese students have become slower and heavier over the years.

Research shows that male college students in China have gotten slower. A short distance run took male runners 14 to 15 seconds longer than it took male runners in 2000. Female students slowed by about 12 seconds in running an even shorter distance.

Experts say Chinese students have to spend too much time cramming for college-entrance exams. They also blame the spread of indoor entertainment, such as web surfing and video games.

In Japan, children's physical fitness had been declining since the 1980s. To turn that around the government reached out to cities, towns and schools. It urged them to promote youth fitness. Motoaki Nito, from Japan's Ministry of Education, Culture, Sports, Science and Technology said it helped Japanese children slowly build more strength. Today's Japanese children are not as strong as they were in the 1980s, but they are not getting weaker, Nito said.

Information from the World Health Organization show that 80 percent of young people around the world may not be getting enough exercise.



