

How A Quality Physical Education Program Enhances One's Educational Experience

Board of Education Meeting, December 11, 2018

A Focus on the Whole Child

- In addition to 21st Century Knowledge & Skills and Global Citizenship, the Somers Central School District vision includes a focus on Social-Emotional and **Physical Wellness** as an important component of educating the “**whole child**.”
- **Promoting Physical Wellness** is exposing and encouraging a variety of physical activities, helping to raise students’ self-awareness of their body and its potential, as well as encouraging good nutrition and responsible decision-making.



NYSED – Physical Education

NYSED defines Physical Education this way:

- “Physical Education is a required subject for all students in grades K-12. When students reach the commencement level of the learning standards for physical education, they will have the knowledge and skills to participate in a variety of healthy activities; understand and appreciate the benefits of maintaining a healthful lifestyle; understand how to evaluate and access resources in their community to pursue a healthy and active life; and will be aware of the many career opportunities available in this field.” (NYSED, 2000).
- **Somers Central School District believes Physical Education is just that... an Education in a Physical/Experiential setting. Not a place, “gym class”, and not a singular sport(s). We strive to provide an experience helping to develop a Physically Educated Young Adult who better understands the importance and the benefits of maintaining a healthy and physically active lifestyle.**

Why Physical Education is Important

- Provides *Regular Healthful Activity* through a variety of activities (team, lifetime, individual) and physical fitness.
- Helps strengthen *Peer Relationships in Heterogeneous Peer Groups*: Physical Education helps children socialize and practice positive people skills (HABITS OF MIND) in an active environment. Especially during late childhood and adolescence, being able to participate in small group activities, dances, games and sports is an important part of peer culture; and better prepares students for adult culture.
- *Reinforces Humility*: It's easy to go through life performing the skills/activities that one is already proficient at. Through exposure to a variety of activities, kids understand the benefit to learning new skills and breaking out of one's comfort zone. It was Oliver Wendell Holmes Jr., who stated, "*A mind that is stretched by a new experience can never go back to its old dimensions.*"

Importance of Physical Education (cont.)

- Provides experience Setting Goals: Physical education provides children the opportunity to set and strive for personal, achievable goals.
- Promotes Skill Development: Develops variety of motor skills, which allow for safe, successful and satisfying participation in physical activities.
- Supports Other Content Areas: We presently have 3 IB Science sections of Sports Physiology here at SHS. Each section has a correlating PE class making connections in Physical Education to content learned in the Sports Physiology classroom.
- Students have opportunities to *assume leadership roles*, cooperate with others; question actions/behaviors and accept responsibility for not only their own behavior, but also the safety of others (Ropes Course).

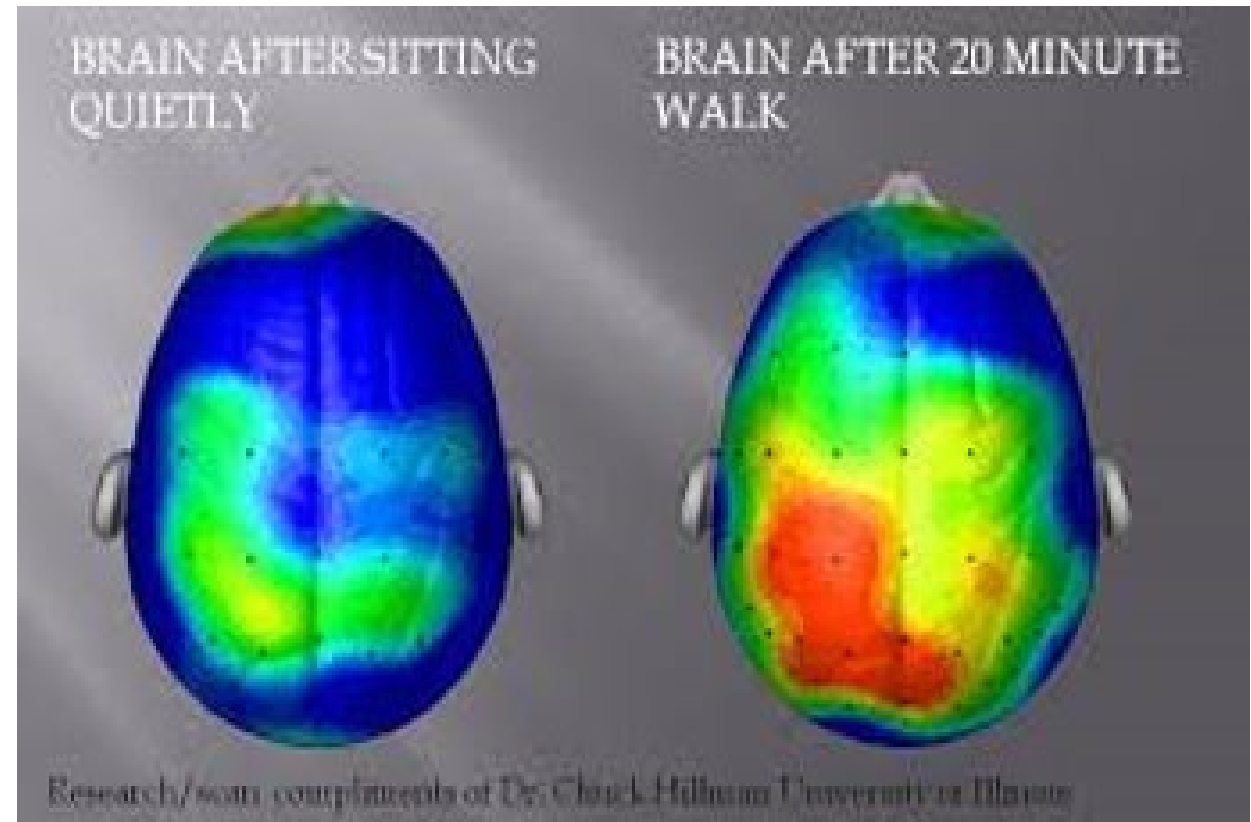
Importance of Physical Education (cont.)

- We believe that we not only have the ability to impact the health and wellness of our students, but we also have the ability to impact their academic success as well.
- In fact, in 2011, the Mayo Clinic went through 1,600 papers on exercise and there was no disputing, exercise had a definite positive effect on memory, learning, performance and motivation. (Ratey, 2017)
- *Reduces Stress*: Physical activity becomes an outlet for releasing tension and anxiety which can help facilitate emotional stability and resilience. "Exercise is also considered vital for maintaining mental fitness, and it can reduce stress. Studies show that it is very effective at reducing fatigue, improving alertness and concentration, and at enhancing overall cognitive function." (Physical Activity Reduces Stress, ADAA, 2000)

Physical Education Isn't Important Just Because We Believe It Is...Science Believes It Too!

Dr. Chuck Hillman, a neuroscientist at the University of Illinois, examined brain imagery after activity. This brain scan of a teenage brain, is highlighting the brain activity after only 20 minutes of walking at brisk rate of speed. (Henry, 2014).

Only 20 minutes of exercise can impact cognitive function for the remainder of their school day.

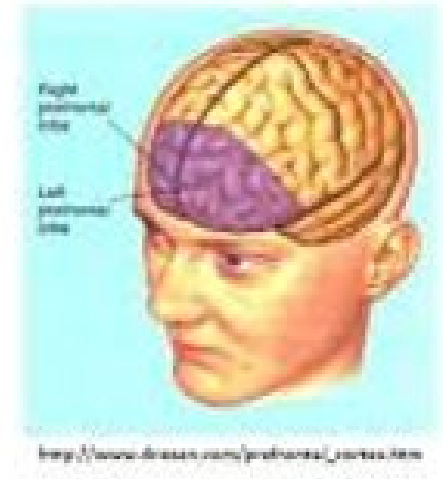


Physical Education Isn't Important Just Because We Believe It Is...Science Believes It Too!

- This second visual is from Dr. John J. Ratey, M.D., Associate Clinical Professor of Psychiatry at Harvard Medical School.
- He discusses the impact of exercise on teenage behavior.
- This visual looks at the pre-frontal cortex, responsible for consequence evaluation, learning from mistakes, maintaining focus, etc.
- Findings: Exercise is what he calls miracle-grow for the brain. It promotes brain cell growth and activates the pre-frontal cortex, which leads to improved productivity and improved behavior.

The Prefrontal Cortex Major Role in Executive Function

- EXERCISE particularly affects our Executive Function
 - Planning
 - Organization
 - Initiate or delay a response
 - Consequence evaluation
 - Learning from mistakes
 - Maintain the focus
 - Working Memory
- Dysfunction in these areas leads to disruption in the organization and control of behavior



(Ratey, 2017)

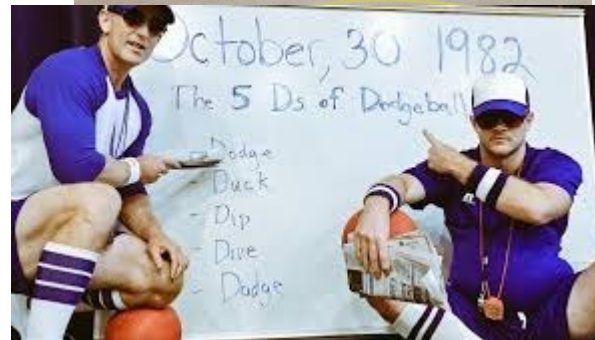
Biological Response to Activity in PE

- Everyone knows that regular exercise is good for the body. Many don't realize exercise is also one of the most effective ways to improve mental wellness. Regular exercise can have a profoundly positive impact on depression, anxiety, can help relieve stress, can help improve behavior, improves memory, helps you sleep better, and boosts overall mood.
- Activity increases your body's production of Endorphins, your body's feel-good neurotransmitters. Exercise increases your body's production of chemicals like dopamine, serotonin, and norepinephrine are responsible for a feelings of relief from pain and anxiety.
- In fact, according to a study at the University of Vermont, "as little as twenty minutes of moderate intensity aerobic exercise improves mood immediately and those improvements can last up to 12 hours" (Boymer, Chizick, Dixon, Dunbar, & Villeneuve, 2013).
- Children respond faster and with greater accuracy to a variety of cognitive tasks after participating in a session of physical activity (W, Cook, and, & Institute of Medicine, 2013).
- A single bout of moderate-intensity physical activity has been found to increase neural and behavioral concomitants associated with the allocation of attention to a specific cognitive task (W, Cook, and, & Institute of Medicine, 2013).
- Think about how this impacts our students ***throughout the course of their school day!***

Somers Physical Education Past....

Past (1980's-2000): Many of us, including myself, might recall this experience

- Kids pick “captains”, roll a ball out, play
- Student grades were all participation & skill-based only. All subjective and related to teacher’s observations
- All large team sports;
- Very little to no fitness or lifetime activity/sports.
- Presidential Fitness Tests (compared to national “norms” vs kids’ own personal fitness levels).
- Exposure to a limited number of activities.



Somers Physical Education Present....

Present (2000's-2018)

- Physical EDUCATION vs Physical Activity.
- Physical Fitness is an essential lifetime activity (see our beautiful fitness center)
 - **Health-Related vs Skill Related**
- Lifetime Activities: Pickleball, Badminton, Dance, Self-Defense, Rock-climbing (Ropes Course), Orienteering, Team-Building, Trust Activities, Archery, Golf, and Yoga
- IB Dance & IB Exercise Science & Sport Physiology
- CPR & AED Training
- Wider variety of team sports
 - Emphasis on smaller-sided game play.
 - Ultimate Frisbee, Rugby, Flag Football, Soccer, Volleyball, Nitroball, Sabaki-ball, Speedball



Somers Physical Education Future....



- **We're always asking.... what are the Possibilities for Somers Physical Education in the future?**
 - Elective/Activity Choices
 - Mountain Biking
 - Advanced Self-Defense
 - We've discussed an introduction of Heart Rate Monitors (Smart Watches)
 - Increased Use and Development of Fitness Apps
 - Continued Personalization of Fitness Program
 - Activity Placement for Academic Improvement (TedTalk "Learning Readiness PE")
 - Project-Based Learning: Physical Education Culminating Project
 - "Components of the Physically Fit Lifestyle I Will Lead...."
 - Possible expansion of IB Course Offerings
 - Athletic Training
 - Careers in Physical Education: Health, Fitness, Recreation & Sport
 - Recreational/Sport Coordinator, Personal Training, Yoga/Fitness Instructor, Fitness Facility Management, Teacher, Nutritionist, Health/Wellness Coordinator, Coach, Sports Agent, Sport Psychologist, Certified Athletic Trainer.

Proof PE Can and Does Make a Difference



Received an email this past September from a former student now attending Cortland University. She was a Varsity athlete in 3 sports/seasons. How might the start of her all-important freshman year at college have been different, had she been given, and taken, the option of opting out of Physical Education at Somers High School?

“Dear Mr. Carroll,

I hope you're getting ready for the upcoming school year! I started classes on Monday, but before that, I went on a camping trip. I saw a video of people doing ropes course, especially the Giant's Ladder, through a program at Cortland called Adirondack Trail Blazers. I thought of you and immediately signed up. We went up to a camp, repacked our bags and set off for the woods. Four days later, my group got back to camp and it was time for the ropes courses. With each new obstacle, I had to recite the climbing commands, which I already knew from your class, and breezed through. When I got back to campus, this group of my new friends and I decided that we would go to the rock wall on campus and climb a few days a week. Today, I am officially belay-certified and plan on joining the Rock-Climbing Club to teach others what you have taught me two years ago. Thank you so much for everything you've taught me! I certainly wouldn't be where I am now without you, your guidance, and your class! Have an amazing start to the year! I'll be back in November to visit!!! Thank you again!”

Signed, SHS graduate



SCSD

SOMERS CENTRAL
SCHOOL DISTRICT

Forward in Excellence



*Thank you, for your time
and attention.*

Mr. Stephen Carroll, Physical Education Department Leader K-12

December 11, 2018



Resources

- Physical Activity Reduces Stress | Anxiety and Depression Association of America, ADAA. (2000, January 1). Retrieved December 7, 2018, from <https://adaa.org/understanding-anxiety/related-illnesses/other-related-conditions/stress/physical-activity-reduces-st>
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Resources

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- https://www.youtube.com/watch?time_continue=62&v=V81cO8xyMal Want Smarter, Healthier Kids? Try Physical Education! | Paul Zientarski | TEDxBend