

Improve ADHD Behavior With Exercise

School can be excruciating for children with attention-deficit hyperactivity disorder (ADHD), largely because the structure of school does not align with the physiological “wiring” of these students. A student’s inability to focus on command and stay on task often results in missed learning opportunities, negative feedback, and a feeling of inadequacy, all of which make school particularly challenging for students with ADHD. In addition, the high amount of seat time and reduced time for recess and physical education further stack the deck against them.



What surprises me is that schools seem less likely to know, let alone apply, some of the best practices for students with ADHD than they do with some of the other traditional concerns, such as a reading disability or a physical disability. This is the case even though children with ADHD often disrupt the learning environment for others, as well as for themselves. Working with a child who has ADHD is complex. These students are “wired differently,” and it is important to understand and work with those differences to make the educational experience more successful for them.

The Reality

Teachers employ many constructive and positive strategies to help these students be successful. However, responses to students with ADHD behaviors

often include negative feedback, missed recess, isolation, and disciplinary action—all of which compound the problems associated with the disorder. Not only is the “whole school” experience difficult for the student, but it also creates anxiety and stress for the teacher who is trying to meet the student’s needs. An ongoing dose of these consequences often results in students with lowered self-esteem and dissatisfaction with school and learning. Just imagine the end result when this experience gets repeated year after year. It is no wonder that the drop-out rate for these children is higher than that of their peers.

The traditional strategies—for example, structure, organizational skills, positive reinforcement, and diet—are important. But a key missing element is the role of exercise. Exer-

cise breaks of just 10 minutes can be beneficial for all students, according to a study led by East Carolina University researcher Matthew T. Mahar and his colleagues that was published in the December 2006 issue of *Medicine and Science in Sports and Exercise*. Exercise breaks prove especially effective for students least on-task, increasing on-task behavior from less than 50 percent to more than 70 percent.

The results of a more recent study, published in the 2012 issue of the *Journal of Pediatrics* by Matthew Pontifex of Michigan State University, found that after a 20 minute bout of exercise, children both with and without ADHD improved in reading and math accuracy, while the children with ADHD also showed improvement in self-regulation.

The Power of Exercise

Research is clear that exercise helps remediate the behaviors associated with ADHD. But schools, unfortunately, often neglect the very strategy that effectively helps these students. In *SPARK: The Revolutionary New Science of Exercise and the Brain* (2013), author John Ratey writes that “exercise is like a dose of Ritalin,” the popular ADHD medicine prescribed to children and adults. Ratey goes on to explain, “Exercise increases, in a balanced way, dopamine and other neurotransmitters (i.e., norepinephrine and serotonin) involved in activating the attention system. As a result, the student is better able to focus on-demand, be more engaged, and be less fidgety.” For some students, targeted exercise is all they need to counter the effects of their ADHD; others may require a strategy that combines medication with exercise.

One solution that addresses this is “time in,” a proactive strategy that incorporates targeted, short-term exercise to activate and regulate the attention system for up to 90 minutes of learning. The secret is to intervene with exercises that are both motivational and that will sustain moderate to vigorous heart rates.

What's proven to be effective in this regard is the use of exergaming—a highly interactive technology in the form of video games that requires the player to be physically active to participate. In schools that have successfully used the time-in strategy, students are scheduled for 10 minutes or more on the exergaming equipment before school, around noon, and whenever the teacher observes that the student is beginning to lose focus and needs “rebooting.”

The primary advantage is that the student is willing to exercise on a frequent basis because it is fun. More importantly, the student returns to the classroom ready to learn, is less disruptive, receives less criticism, and can have a more productive school experience.

Implementation

The time-in intervention can start small. When we initiated it at my school, we started with only two pieces of exergaming equipment—an exer-


cise bike and Dance Dance Revolution—and the only space we had for them was an unused handicapped restroom off the special education room. This strategy addressed all the problems we targeted, including kids receiving less negative feedback.

Parents were thrilled that the school was employing a natural and balanced proactive intervention. Another benefit was that we were teaching children how to use exercise to assist with the management and self-regulation of their ADHD.

The mini-exergaming lab in our school proved so successful that we eventually expanded it by finding a larger space and adding equipment so that more students could experience the benefits. In addition, it proved to be a powerful reward system that teachers frequently used.

An important aspect of implementing such a strategy is making sure that everyone involved—staff, students, and

parents—have clear knowledge and understanding of the science underlying the strategy in order to best facilitate its use for the students.

Exergaming is a positive strategy that lessens disruptive, off-task behavior while increasing desired behaviors. It also reduces the side effects of negative feedback. The longer-term effects include increased learning, improved social skills and higher self-esteem for students, better teacher-student relationships, and better school-parent relationships. This not only makes a difference in the individual student's life, but it can also impact the lives of their teachers, classmates, and families, which makes this a best practice for working with children who have ADHD. 

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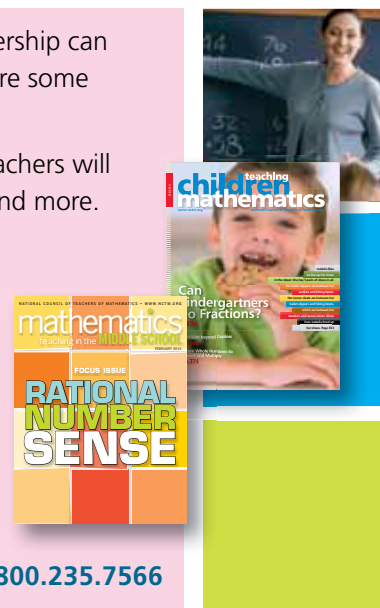
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