

We Need to Return the Children's Humanity to Them

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by **Joel Kirsch**, Ph.D., President, American Sports Institute
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An Unintentional Yet Inhumane, Unconscionable Act

The title of this presentation “We Need to Return the Children’s Humanity to Them” could be considered provocative for two reasons. First, because it calls for a returning of the children’s humanity to them, this assumes that, in some way, their humanity *has* been taken from them. And second, this assumes that *someone* took something that is so basic and essential to the children, that this constitutes an inhumane, unconscionable act. But, in fact, that is exactly what has happened.

How so, and by whom?

First the data from the World Health Organization’s (WHO) website (1):

- In 2013, 42 million infants and young children worldwide were overweight or obese.
- If current trends continue, by 2025, 70 million young children worldwide will be overweight or obese. (This will constitute an increase of 67%.)
- This rate of increase is 30% higher in low- and middle-income countries, than that of developed countries.

And what is causing these dramatic increases? Again, from the WHO website (1):

- An increased intake of energy-dense foods that are high in fat; and
- An increase in *physical inactivity* due to the increasingly sedentary nature of many forms of work (and schooling), changing modes of transportation, and increasing urbanization.

Changes in dietary and physical-activity patterns are often the result of environmental and societal changes associated with development and lack of supportive policies in sectors such as

health, agriculture, transport, urban planning , environment, food processing, distribution, marketing, and education.

So what we have here is that the incidence of childhood overweight and obesity is expected to increase dramatically over the next decade, and that those responsible for this, however unintentional, are the individuals directly and indirectly associated with the environmental and societal changes taking place globally. In other words—adults.

Implications if Current Trends Continue

What is so troubling here is that because overweight and obesity patterns in childhood often lead to the same conditions in adults, and because overweight and obesity predispose humans to chronic diseases, including diabetes, heart disease, cancer, dementia, depression, and other illnesses, it is these very environmental and societal changes perpetrated by otherwise well-meaning adults that has led to the disturbing prevalence of childhood overweight and obesity that is slowly, steadily, insidiously taking the children's very humanity from them as they grow into adults.

If these current trends continue and we persist in taking the children's humanity from them by means of these environmental and societal changes that steadily reduce the amount of time the children are physically active, the personal, familial, community, and overall emotional toll these chronic diseases will take on those afflicted and their loved ones will be anguishing.

Compounding this anguish, the global economic impact of all this shocks the senses. According to a report co-produced by the World Economic Forum and Harvard School of Public Health that was presented at a high-level meeting of the United Nations in September 2011, if these current trends continue, it is projected that the worldwide direct and indirect costs from the date the report was presented until 2030 will be a staggering US\$ 47 trillion (2). This will severely constrict the economies of developed nations, threaten the tentative economies of developing nations, and destabilize the fragile economies of low-income nations. As we can see, both the short- and long-term implications of all this related to the children's humanity are disturbing.

The Humanity of Engaging in Physical Activity

While all of this seems deeply troubling and seemingly overwhelming, there is hope. We can not only return the children's humanity to them, we can also lay the foundation for a lasting transformation in environmental and societal conditions for generations to come.

How so? By reversing current trends and increasing the rate and ways in which today's and tomorrow's children engage in physical activity. In fact, if adults were to create conditions for children being more physically active in a variety of ways, the personal, social, and economic benefits would be immeasurable.

So let's make the case for increasing the rate and ways in which children—and adults, too—should engage in physical activity so they can be as human as possible. We'll do this by examining how physical activity positively impacts our very humanity during our entire life span, from the time a fetus is viable in its mother's womb until that person is in old age.

Here is what the fairly recent, current, and emerging research shows:

- The brains of babies born to women who engage in regular, aerobic exercise throughout pregnancy are more developed at birth than those of babies born to mothers who do not regularly exercise aerobically during pregnancy (3).
- For people of all ages, appropriate forms and levels of exercise, especially the aerobic type, stimulate areas of the brain related to focus, learning, and memory. The more physically active we are, the better our brains work (4). How so? When we exercise, especially aerobically, neurochemicals called *Brain-Derived Neurotrophic Factor* (BDNFs) are released in the brain, especially in the nucleus basalis—which is responsible for focus and memory—and the hippocampus—which is responsible for learning and memory—that not only nourish the neurons that already exist there but generate new ones, even into old age.
- Appropriate forms and levels of exercise, especially the aerobic type, help protect our DNA, acting as a wellness-promoting force that plays a significant role in preventing chronic diseases, including diabetes, coronary heart disease, and cancer (5, 6). This is accomplished due to *telomeres*, which are cap-like structures on both ends of every chromosome. When a chromosome's telomeres are long and tight, this protects the DNA and enables the cell to remain strong. When the cell subsequently divides, another strong cell is created. As this process continues, the result is millions of healthy cells and a healthy person. However, when the telomeres are short and frayed, this compromises the cell's DNA, creating a weak cell that is susceptible to negative mutations that can lead to unhealthy cells that divide over and over again, culminating in chronic disease. And it is physical activity, especially the aerobic type, that plays a major role in keeping telomeres long and tight.
- For children and adults, sitting is particularly harmful to their health. After four hours of sitting, the genes that regulate the amount of glucose and fat in the body start to shut down. And these negative effects cannot be compensated for by exercising other parts of the day. These effects are irreversible (7, 8, 9).
- For adults with coronary heart disease or prediabetes, there is no basic difference between exercise and drugs in effectively treating these diseases. And for adults with stroke, exercise

is more effective than drug treatment. Further, with exercise, there are no drug costs or side effects in the treatment of these diseases (10).

- For women going through breast-cancer treatment, exercise eases pain in joints and muscles that otherwise leads many patients to quit taking their medicines (11).
- Depressed adults who take up regular aerobic exercise improve just as much as those treated with antidepressants. Further, aerobic exercise can prevent depression from recurring. Once again, for those who exercise, there are no drug costs or side effects (12).
- For seniors, those who exercise regularly, especially aerobically, have much better memory control and are far less likely to develop dementia than those who do not (13, 14, 15, 16, 17).

Why are all these research results so? Professor Philip Holmes, an American neuroscientist at the University of Georgia, put it this way in a 2010 *TIME* magazine article : “It occurs to us (neuroscientists) that exercise is the more normal or natural condition, and that being sedentary is really the abnormal situation” (12). To confirm this, Professor Charles Hillman, a leading neuroscientist in the area of physical activity and cognition in children at Northeastern University in Boston, Massachusetts, and a member of the American Sports Institute’s International Board of Advisors, was asked whether or not he believed Professor Holmes’ statement to be accurate. Hillman’s crisp and immediate response, “Yes.”

This is also validated in two statements by Professor Fernando Gómez-Pinilla, an internationally-recognized neuroscientist at the University of California, Los Angeles, a working colleague of Professor Hillman, and also a member of the American Sports Institute’s International Board of Advisors: “Humans have evolved to thrive on physical activity; without it, not only do our bodies go awry but so do our brains” (18). And when we are physically active: “Going jogging or for a run is a sort of re-encounter with our biology, with what we really are. For a moment, we re-encounter ourselves, satisfying our genes and keeping the equilibrium in our brain and body” (19).

What’s at the heart of the statements from professors Holmes, Hillman, and Gómez-Pinilla? Over millions of years of evolution, human beings have been genetically programmed to engage in sustained, high levels of physical activity. When we are physically active, we thrive physically, mentally, and emotionally in both personal and societal contexts—we are healthier, our brains work better, and we are happier. When we are not physically active, we develop disease, despair, and dysfunction—we are afflicted with diabetes, heart disease, cancer, dementia, depression.

Schools Worldwide Are Operating on the Wrong Side of Humanity

In this context, think of the harm we are doing to schoolchildren worldwide by having them spend most of their school day sitting at a desk, not being physically active. As we can see, sitting at a desk is an unhealthy—and it could be argued, an inferior—way of learning. And while the vast majority of educators globally are well-intentioned, the research shows that there is a great divide between current educational models and the human model because the very process schools worldwide are using to “educate” children—sitting at a desk—is predisposing them to diabetes, heart disease, cancer, dementia, and depression. As difficult as it is to say, all this means that schools everywhere, again while well-intentioned, are nevertheless operating on the wrong side of humanity. Yes, the world’s schools are taking the children’s humanity from them.

The More Physically Active Children Are, the Better They Perform in School

Many would argue that if the world’s schoolchildren spent more time being physically active and less time focusing on their academic studies, this would compromise their learning. Again, as the research shows, this is incorrect. The research shows that when schoolchildren engage in sustained, high levels of physical activity, not only are they healthy and fit for reasons stated earlier, but appropriate types and levels of physical activity are also directly related to maximizing students’ academic achievement in school. An overwhelming body of research shows that:

- Students who are healthy and fit due to regular physical activity perform better academically and are healthier, happier, and better behaved than their sedentary peers. This is true for students at all levels—primary, middle, and secondary school—and is not explained by ethnic, racial, or socioeconomic factors (20, 21, 22, 23, 24, 25, 26).
- Students with ADHD (attention-deficit/hyperactivity disorder) who exercise aerobically are more focused, disciplined, persistent, and perform better on math and language-arts assignments than ADHD students who do not exercise aerobically (27).

As we see from the research, by returning the children’s humanity to them in the context of significantly increasing the amount of time and ways in which they are physically active, they thrive physically, mentally, and emotionally.

Large-Scale Examples and the Public Schools

This compelling research that has been growing over the past 40 years is starting to gain traction, with attitudes changing and large-scale programs taking hold. For example:

Every three years, the Organization for Economic Cooperation and Development (OECD) in Paris administers and reports on the *Program for International Student Assessment* (PISA), an international

survey that evaluates public-school systems worldwide by testing the skills and knowledge of 15-year-old students. The latest test (2015) was administered to over half a million students, representing 72 countries and economies, who were assessed in science, mathematics, reading, collaborative problem solving, and financial literacy.

Of particular interest, while the first PISA test was administered in 2000, the 2015 test marked the first time the resulting report included an entire volume on the well-being of students, with a full chapter on students' physical activities and eating habits. The chapter's first page includes this: "Students' overall physical fitness and health are important pre-requisites for high academic performance, and social and emotional well-being. People who exercise regularly are less likely to suffer from diabetes or cardiovascular diseases (Haskell et al., 2007) and are in better overall health (Penedo and Dahn, 2005) than people who do not. In many high-income countries, and in a growing number of middle-and low-income countries, a sedentary lifestyle is one of the primary contributors to obesity (Bauman et al., 2012). There is strong evidence that participating in physical activity reduces depression and anxiety disorders, and boosts self-esteem (Biddle and Asare, 2011). Regular physical activity also appears to improve memory, perseverance and self-regulation (Biddle and Asare, 2011)." The first page also contains this concluding statement: "Countries where students do more moderate physical activity tend to perform better in PISA tests" (28).

Having sensed these results several years ago through a mounting body of evidence, Finland, which has consistently proven to have one of the best public-school systems in the world, has implemented a nationwide program that seeks to increase the ways and amount of time Finnish children are physically active in the school setting. This not only includes incrementally increasing the amount of time students spend in physical-education classes, but also finding creative ways to decrease sedentary time by increasing physical activity in the standard classroom learning experience. Called *Finnish Schools on the Move*, the program started as a pilot in 2010-2012, and by the end of 2016, more than 80% of municipalities and 70% of comprehensive schools were involved (29).

In California, the attitudes of adults toward the importance of physical activity for students is coinciding with the evolving bodies of research. According to a statewide poll of voters, the proportion of Californians citing a lack of physical activity and unhealthy eating as the two top health risks for students has grown over the past 10 years and now stands at 59%. This far outranks illegal drug use (43%) and violence to children (31%), the next highest concerns (30).

Real-Life Examples in the Public Schools

The research and large-scale examples cited immediately above are certainly compelling. However, even they are limited because they involve small, incremental steps in incorporating physical activity fully into the learning experience. This incremental-step approach takes a considerably long time (as does any kind of major change) and may not specifically identify exactly *how* physical activity is increased and incorporated fully into the learning experience.

Given the urgency to change adult attitudes and behaviors regarding the need to significantly increase the amount of time and ways in which schoolchildren are physically active, the question that still must be answered is: Practically, how can physical activity be increased and incorporated fully into the learning experience in a relatively short period of time while maintaining, and possibly increasing, academic performance? Here are three, practical, real-life examples that answer this question:

For 23 consecutive years, Peter Saccone's fifth-grade (10-year-old) students at Meridian Elementary School (K-5) in El Cajon, California, just east of San Diego, had the highest test scores in the school. This means that Saccone's students—the very same students—were never in a Meridian classroom that had the highest test scores until they were in his fifth-grade class (22).

What was different about the now-retired Saccone's curriculum and pedagogy? Every morning, the first thing the students did was jog, walk, or run (students choose for themselves) for 45 to 50 minutes, with Saccone joining the students.

Once back in the classroom, the students would then do math, language arts, and other assignments related to their physical activity. This might include adding together the distance covered each day for a week or month, and then figuring out what local destinations they could have reached. It might include averaging how much distance they covered each day. The students then projected what local and regional destinations they could reach over the course of the entire semester and school year.

The students also kept a daily journal about their physical activity, often relating it to what was going on with them personally. In this way, Saccone got to know his students very well. And, as Saccone raves, the behavior of the students was exemplary; no discipline problems to speak of, and the students were always supportive of one another.

In two other real-life examples, the nonprofit, NGO American Sports Institute, based in the San Francisco area in Northern California, has successfully implemented two programs that fully incorporate physical activity into the learning experience.

In one of its programs—*Promoting Achievement in School through Sport* (PASS)—a daily, yearlong, two-semester course that uses an integrated, body-brain curriculum, middle and high-school students study the principles and practices that work in sport culture, physical education, and wellness, and then develop, implement, and eventually evaluate a plan where they apply these principles and practices to two goals: improving their academic performance and improving their physical performance in a manner of their choosing. In the PASS program, physicality and physical activity are at the center or core of the curriculum, and course work related to math, language arts, social studies, the sciences, and the arts are integrated into the plan.

The PASS program has been implemented in public schools in California, Illinois, North Carolina, and South Carolina, with approximately 4,000 students having taken the yearlong course. The results: PASS has been called “a model for total school reform . . . that addresses the needs of the whole learner—intellectual needs, motivational needs, and other needs such as students’ physical and social needs” by researchers at a NGO educational-research organization affiliated with the United States Department of Education (25).

In another one of its programs, a pilot project at Coulterville-Greeley School, a small, K-8 school near Yosemite Valley in California, the American Sports Institute worked with the principal and faculty members, helping them turn around their under-performing school. How so? With an expanded and intensified version of the PASS program, using the same principles and practices from sport culture, physical education, and wellness in an integrated, body-brain curriculum, with physical activity at the curriculum’s center and course work in math, language arts, social studies, science, and the arts built around and integrated with the physical activity. And like the program at Meridian Elementary School in El Cajon, California, this included aerobic activity first thing every morning for every student *and teacher*.

This pilot project played a major role in Coulterville-Greeley School becoming a California Distinguished School, the highest honor a school can earn in California, as evidenced by an email to the American Sports Institute from the now-retired principal: “Just want to let you know that Coulterville-Greeley School has been selected as a California Distinguished School. One of the key findings from the evaluation committee (of the California Department of Education) was our commitment to aerobics every morning (his underline) and the PASS program woven throughout our daily school lives” (26). The principal also spoke highly of the improved behavior of the students.

The Children Are Calling Out to Us

The research, and large-scale and real-life examples cited immediately above are certainly compelling. At the same time, what matters most is what is in the hearts and minds—figuratively and literally—of the children. What are the children trying to tell us about their humanity with their thoughts and behaviors?

There is no better answer to this than two particular findings of the Sloan Study of Youth and Social Development (31, 32), a multi-dimensional, national-representative study of schoolchildren in America conducted by the University of Chicago, that, among other things, asked the children to respond to this question: “In what locations and in what activities are you most engaged?” Their responses match the research:

- When comparing levels of engagement in six location areas—at home, in public, at work, in academic classes, in non-academic classes, and on schools grounds—the children reported being *least engaged* in their academic classes and *most engaged* in their non-academic classes, including courses that provide physical activity.
- When comparing levels of engagement in six types of activity—school work, paid work, passive leisure, active leisure, maintenance, and other—except for maintenance and other which are incidental activities such as brushing one’s teeth or taking out the trash, the children reported being *least engaged* in their school work and *most engaged* in their active-leisure activities.

What are the Sloan Study, all the other research presented here, and the large-scale and real-life examples telling us about children and their humanity? In essence, this is really the children themselves who are calling out to us, trying to tell us that they need to be physically active at a high level because they want their brains to focus better, learn better, and remember more, especially in school. They are saying they want to be as healthy as possible, and don’t want to eventually become afflicted with diabetes, cardiovascular disease, or cancer. They are telling us they don’t want to become depressed and have to take drugs that produce side effects. And they’re telling us that when they’re older, they don’t want to be afflicted with dementia, to not recognize their loved ones, or worse yet, to be a burden to their loved ones.

The children are calling out to us in their own way, telling us that they want to be physically active at a high level because they want their humanity returned to them so they can evolve as they have been genetically programmed to do over millions of years, enabling them to live their lives in a way that provides the best opportunity to realize their full potential as human beings.

At the American Sports Institute, we are listening to the calls of the children, and we are taking the research to heart. We will play a major role in returning the children’s humanity to them through the creation of *The Arete School of Sport Culture and Wellness*, a tuition-free, privately

funded pre-K—12 school to be located in Northern California. The Arete School will be based on the successes of both the Institute's PASS program and its pilot project at Coulterville-Greeley School.

As stated earlier, this will be accomplished through an integrated, body-brain curriculum that applies the principles and practices that work in sport culture, physical education, and wellness to all aspects and operations of the school, with physical activity at the center of the curriculum and course work in math, language arts, social studies, science, and the arts built around and integrated with the physical activity. And, this will include every student, teacher, staff member, and administrator engaging in 40 minutes of aerobic activity first thing every school morning. Eventually, The Arete School will become a certified educational-training institution, and will serve as resource and training center for educators throughout the United States and around the world.

Being Fully Human and a State of Peacefulness for the Children

Yes, the children and research are affirming our very humanity. They are telling us that we are never more human than when we are physically engaged.

This perspective touches the very core of our being through a statement made by Professor David Shernoff of Rutgers University in New Jersey, also a member of the American Sports Institute's International Board of Advisors. Dr. Shernoff gets his aerobic activity through swimming 40 minutes a day. One time, while describing why he so enjoys swimming, he said this: "The normal worries that you have, second-guessing yourself, that just seems to vanish, and you seem to come into this state of peacefulness where everything seems all right with the world and your place in it."

Of course this would be true. For, as Professor Fernando Gómez-Pinilla of the University of California, Los Angeles was quoted earlier, "Going jogging or for a run (or swim) is a sort of re-encounter with our biology, with what we really are. For a moment, we re-encounter ourselves, satisfying our genes and keeping the equilibrium in our brain and body."

Yes, in their own way, the children of the world are pleading with adults everywhere that they want to be engaged in greater amounts and varieties of physical activity because they know instinctually that they are never more human than when they are physically engaged. They are calling out to us, telling us that they want to be more physically active so they can re-encounter their biology, with what they really are. They want to re-encounter themselves, to satisfy their

genes and keep the equilibrium in their brain and body. In essence, the children are calling out to us, pleading with us to return their humanity to them.

So if the title of this presentation is provocative for the reasons mentioned earlier, then so be it. For if by engaging the children of the world in greater amounts and varieties of physical activity, they can re-encounter their very biology and, thus, what they truly are as human beings, then let's be provocative. And if this makes it possible for the children to come into a state of peacefulness where everything seems all right with the world and their place in it, what more could loving parents and a caring, visionary nation wish for their children.

Yes, by having adults develop and implement practices that increase the rate and ways in which children engage in physical activity, we can return the children's humanity to them, for we are never more human than when we are physically engaged.

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