



WHY MOVEMENT? By Catherine Henderson

Introduction

The Girls Athletic Leadership Schools operate on the fundamental premise that movement boosts cognitive achievement and civic engagement. To answer the question “Why GALS?”, one must first ask, “Why movement?” What research explains the energy, passion, and wisdom we see in our girls? How does exercise prepare our girls to take ownership of their bodies, improve their social-emotional wellness, cultivate positive academic behaviors, and enjoy a well-lived life?

Over the past 30 years, scientists have conducted hundreds of studies supporting the connection between a healthy body and a healthy brain, though few focus on young people.¹ Looking at the impact of movement neurologically, exercise increases blood flow to the brain and creates BDNF, brain derived, neurotropic factor, the brain’s most powerful growth hormone. BDNF enables neuroplasticity and supports learning.²

GALS Inc. uses a research-based model for “morning movement,” beginning every day with 40 minutes of exercise. In small groups or “Wellness Teams,” students run, jump, play, and sweat before courses begin.

In the classroom, Embodied Education keeps students moving. Our students learn fractions by dancing and integers on the soccer field. Our teachers work to emphasize the

“Movement is that magic ingredient at GALS that bonds teachers and students as embodied learners.” – GALS Denver teacher Jenn Green

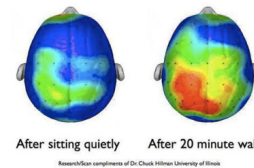
natural connection between the body and the mind in their curricula, giving a physical form to their content. This creates a culture of joy and trust in the classroom. In the words of GALS Denver math teacher Jenn Green, “Movement is that magic ingredient at GALS that bonds teachers and students as embodied learners. We learn, play, stretch, struggle, win, lose, laugh, and grow together as humans every day—in mind, body, and spirit.”

By equipping students with research-based exercises, GALS optimizes learning potential and boosts overall health and wellness.

Impact of movement on cognitive development

Meta analysis of 43 studies regarding exercise and its impact on executive functioning shows a positive correlation between physical activity and academic

Composite of 20 student brains taking the same test



¹ John Medina, *Brain Rules*, (Seattle: 2008), pg 17-18.

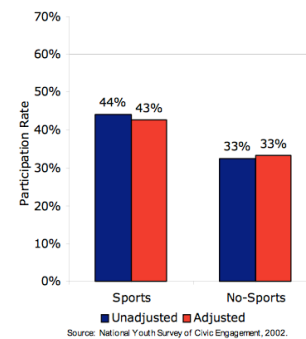
² Ibid.

performance.³ Studies indicate that exercise improves attention, memory, reasoning, and problem-solving skills.⁴ In adolescence, when the brain develops rapidly, movement not only improves young people’s health, it also helps them learn and grow throughout their lives. The GALS Inc. model is based upon the understanding that the brain and body are linked. Our students thrive when equipped with the tools, language, and confidence to embrace this connection.

Writer and psychiatrist Dr. John Ratey highlights another famous example: Naperville High School. In 2010, the school implemented a rigorous physical education program. All students spent 45 minutes moving in the morning, and the results were astounding. Looking at scores on the standardized TIMSS test, if Naperville were a country, it would have scored #1 in the world in science and #6 in math, compared to scores in the mid teens where the United States usually ranks.⁵ The correlation between our country’s inactivity epidemic and our mediocre scholastic performance worldwide is a subject of growing concern. The connection between academic achievement and exercise provides a solid foundation for the support of physical education programs in all schools, though they are often diminished as “enrichment” or “electives” or defunded altogether in settings such as No Excuses schools. The GALS Inc. model attempts to invert this common education paradigm, designing a new pedagogy where movement is at the core of all classes. This engages our students, helps them develop cognitively, and allows them to thrive.

Movement’s impact on the brain does not stop in the classroom. Mounting evidence suggests exercise enhances mood and could be used to treat severe depression and anxiety. Research from Duke University concluded that exercise was a comparable treatment to antidepressants for patients with major depressive disorder.⁶ It provides a sense of accomplishment, boosts neurotransmitters associated with joy, and decreases stress. Given that an estimated 12.7% of the American population aged 12 through 17 has had at least one major depressive episode, schools have a responsibility to help curb this epidemic.⁷ At GALS Inc., we use the research about the impact of exercise to equip young people with the skills to combat mental illness, boost their mood, and lead fulfilled lives.

Graph 6: Sports Participation and Voting in 2000; Unadjusted and Adjusted Rates, 18-25 Year Olds, 2002.



Impact of movement on civic engagement

Research demonstrates that sports teach pivotal lessons in community involvement. Students who

³ Catherine Raspberry, Sarah Lee, Leah Robin, B Larris, Lisa Russell, Karin Coyle, and Allison Nihiser, “The Association between school based physical activity and academic performance: a systematic review of the literature.” *Preventative Medicine*, (2011.)

⁴ John Best, “Effect of physical activity on children’s executive function.” *Developmental Review*, (2010.)

⁵ John Ratey, *A User’s Guide to the Brain*, (New York: 2001.)

⁶ Kirsten Weir, “The exercise effect,” *American Psychological Association* 42, no. 11 (December 2011). pg 48.

⁷ “Major Depression Among Adolescents,” *National Institute of Mental Health* (2015.)

participated in sports in high school are more likely to be involved in politics and stay informed, and these trends remain when observable factors such as race and income are controlled.⁸ Sports participants are 10% more likely to vote and 13.5% more likely to watch the news closely than their inactive counterparts.⁹ Athletes link being a member of a team with being a citizen in a community.

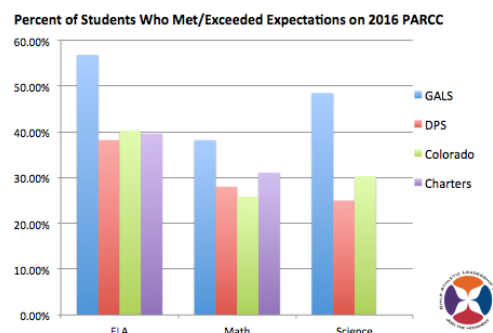
As girls become more comfortable in their bodies, they become more confident in the world. We emphasize exercise as a means to achieve academically, emotionally, and socially. We avoid focusing on weight loss and beauty standards, ensuring that girls of all body types have a positive notion of fitness. Movement is a way to embrace the practical utility of our bodies as the basis of powerful, flexible, focused, and balanced leaders.

At GALS Inc., we use movement as a platform for courageous conversations. When we move together, we experience each other as having the same hands, legs, arms, and lungs; we become a community of bodies. Then when we give our students space to speak about social issues during classes, community meetings, and extracurricular activities, there is an understanding that we are courageous as a community whether we are running the mile or discussing social justice. In the words of Cassie Liebnow, GALS Denver class of 2018, “The confidence I’ve gained through challenging my mind and body has grown immensely. I want to have my voice heard in the world, and now I have the confidence to express my ideas.”

Outcomes

Research demonstrates that the rewards of movement stretch throughout a female athlete’s life. Girls who play sports are more likely to graduate from high school, find a job, and be employed in male-dominated industries.¹⁰ Especially in a world where the pay gap affects women worldwide, movement could be crucial for gaining gender equality in employment. By focusing on exercise at GALS, we aim to help our students set themselves apart as empowered, strong humans. More specific to business, another study surveying 821 people stated that of women in C-suite positions (CEO, CFO, etc.), 96% played sports in high school or beyond.¹¹ Sports build character, resiliency, work ethic, and teamwork. We focus on sports in a holistic way because we believe if you have a body, you’re an athlete, whether you are a Division I soccer player or someone just looking to exercise. Movement not only boosts girls’ minds and bodies; it improves their confidence and brightens their futures.

At GALS Inc. schools, we are starting to see the success of a movement-based model



⁸ Mark Hugo Lopez and Kimberlee Moore, “Participation in Sports and Civic Engagement,” *The Center for Information & Research on Civic Learning & Engagement*, (February 2006.)

⁹ Ibid.

¹⁰ Ibid.

¹¹ Abigail Hess, “If you want to be a CEO later, play sports now.” *MSNBC*, 11 January 2017.

with GALS students outperforming their counterparts at other schools. (See graph)
Eighty seven percent of students surveyed at the GALS Denver Middle School reported that movement helps them learn.¹² In a world where girls as young as 6 are less likely to view their own gender as brilliant, 91% of GALS girls view themselves as smart.¹³ Movement helps students view themselves as smart and worthy of every opportunity in the world.

¹² “Girls Athletic Leadership School: School Year 2015-2016.” *University of Colorado Boulder*, October 2016.

¹³ Andrei Cimpian and Sarah-Jane Leslie, “Why Young Girls Don’t Think They Are Smart Enough.” *The New York Times*, 26 January 2017.