



The Aristocracy of Cardio

Science has linked aerobic exercise to improved brainpower, and wildly successful men--from W. Bush to P. Diddy--engage in intense cardio workouts. Why don't you?

By: Adam Campbell

More than a gut buster

I can make you smarter in 30 minutes. Not the kind of smart that's acquired through learning something new, like small-engine repair or quadratic equations. I'm talking about improving your brain from the inside out, the kind of smart that leads to faster and more accurate decision making, yields greater productivity, and inspires innovation. If you want to be calculating about it, it's the kind of smart that makes you money. And all you'll need to invest is a half hour, three or four hundred calories, and 80 bucks for a decent pair of running shoes.



For years, aerobic exercise has been touted for its many health benefits; it's no leap to suggest that it can reduce your risk of nearly every known disease. And this is especially true concerning heart health. But the effect of cardio reaches far beyond lipid profiles and blood-pressure readings. In fact, **it may do as much for your brain as it does for your ticker; maybe more.**

Richard Haig believes it. When he retired early from his position as president of one of the largest security firms on the East Coast, Haig was financially set for life. At 38, he focused on getting his handicap down to 10, but found that he was crushingly bored. So he took up a new challenge: cardio. What started as a daily 2-mile walk became an ultraendurance lifestyle within a year--he once ran 63 miles nonstop in a charity race. Sure, his fitness level improved, but what he really noticed was that his brain was overflowing. That's when he went back to work.

Since Haig's return as CEO, his company, Haig Security Systems, has been as invigorated by his exercise as his body has. "It's no coincidence that I've done more to increase the company's value in the past 2 years than I had in the previous 10."

It's not hard to find successful men who will swear by the effect cardiovascular exercise has had on their careers and their whole lives. But what may surprise you is the number who credit it not just as a component of their success, but as the catalyst.

For a group of road-hardened examples, look to the competitors in the CEO Challenge, a program for CEOs competing in Ironman triathlons, which require participants to complete a 2.4-mile swim, a 26.2-mile run, and a 112-mile bike ride in less than 17 hours. At stake: the title "World's Fittest CEO." According to Ted Kennedy (not the senator), president of CEO Challenge, the Colorado company that started the competition 4 years ago, you'll find that the majority of these executives believe their training improves all aspects of their lives, from the family dining room to the corporate boardroom.

"Most of the men who compete in this event say that without aerobic exercise, they wouldn't be CEOs," he says.

You might consider men like Haig and the Ironman CEOs to be a self-selected group: executives who love to run, cycle, or swim, and therefore attribute their success to it. For every successful man who exercises, there are probably two successful men who amply fill, and overflow, the seat of power. And there's no amount of cardio that will lead a career hamburger-flipper to invent Google. But in man-to-man competition--fittest versus fattest--we propose that cardio does grant an earned, unfair advantage. Call it the aristocracy of cardio. And, according to a growing body of scientific research, it all starts between the ears.

There have been thousands of studies on how aerobic exercise affects cardiovascular health, but there are equally powerful ones that assess its impact on mental performance. Of course, intuitively, one could argue that cardio is just mentally arousing, like a Starbucks double latte. Exercise, after all, raises your heart rate and increases the flow of oxygen-rich blood throughout your body, including your brain. This is a partial explanation, but the whole picture is more complicated.

One of the first studies to find that exercise improves brain performance was a 1986 investigation of 30 women at Purdue University. During the study, the women boosted their fitness levels by 17 percent and simultaneously netted a 12 to 68 percent improvement in their ability to process information and make sound decisions. This suggested, for the first time in a laboratory setting, that exercise improves high-level cognitive function. The women in the study weren't simply more alert; they were, in effect, better thinkers.

In 1991, a Kent State researcher named Wojtek Chodzko-Zajko proposed that the more complex the mental task, the more beneficial the effect of aerobic exercise. Over the next few years, his theory gained currency, and a name was given to the thought process he described: Appropriately enough, it became known as executive control.

Twelve years later, scientists demonstrated the effect of a single session of exercise on these higher mental processes. In his lab at the University of Illinois at Urbana-Champaign, Charles Hillman, Ph.D., tested the hypothesis that cardio improves a person's ability to process information immediately after exercise. He recruited 20 college-age men and women to work out at a moderate intensity on a treadmill for 30 minutes, on two separate occasions. He outfitted them with an electroencephalo-graph--which looks like a 1920s leather football helmet decorated with two dozen electrodes--allowing him to monitor which brain functions exercise affected most.

At one session, the participants were asked to take a mental test before they exercised; at the other, they took the test afterward. When they worked out before the test, they showed increased activity in areas of the brain that control attention and memory. According to Hillman, this should translate into being able to multitask at a greater speed while making more accurate decisions. Does that sound like a guy fit for the boss's chair, or what?

The results of the electroencephalograph may explain the difference in brain activity. The data showed that the single 30-minute bout of cardio had two major effects on an electrical system of the brain called P3. First, the exercise session "decreased P3 latency," which means subjects were able to process information faster. Second, Hillman found that the cardio session "increased P3 amplitude," a measurement of brain activity related to memory and focus. So their aerobic exercise helped them concentrate better and recall information faster.

A follow-up study in 2004 yielded similar results, although this time, Hillman used both younger and older adults. The study found that 60- to 70-year-olds have worse memory and attention spans than 20-year-olds and are slower at processing information. No surprise there. But, just as in the earlier research, older adults who regularly exercised showed faster reaction times and better accuracy than the sedentary seniors.

So, if you're keeping score, **hard science shows that running for 30 minutes three times a week leads to an improvement in decision-making proficiency, better memory, a longer attention span, and greater mental longevity.** Yet it's arguable that data collected in milliseconds with a sci-fi skullcap don't necessarily manifest themselves in the real-world mental tasks you perform at your job.

But one guy isn't buying that: "I work out solutions to complex problems when I train, and put them into action as soon as I get back to the office," says Brian Carroll, president and chief operating officer of Carroll Enterprises, a Boston brokerage firm that provides management services to HMOs, insurance companies, and national banks.

He discovered cardio 3 years ago. "I was 39 and didn't like what I saw in the mirror," he says. He was inspired by the memory of his older brother, who died 4 years earlier of a cardiac condition at 38, and had once challenged Carroll to run the Boston Marathon before he turned 40. At the time, Carroll was 25 pounds

overweight and living a high-stress life with three young children. But he persevered, and 3 weeks before turning 40, he finished the race. "Cardio brought on a new lifestyle that

I find contagious in my life and my business," Carroll says. He's now a veteran of 14 marathons, all while keeping a hectic work schedule of sales meetings, conference calls, and travel. He refuses to do business on the golf course, instead using that time for exercise. "I feel that the heightened mental focus I get from triathlon and marathon training helps me win more deals than I could playing golf."



There is more lab-based support for the notion that more cardio in your life means more success in the office. In June of this year, researchers at Leeds Metropolitan University, in the United Kingdom, released findings of a new study that looked at how exercise affects job performance. It worked like this: They asked 210 workers to provide feedback on their job-related duties and time management, on a day when they participated in an exercise program and again on a day when they did no exercise. They simply reported observations of their own behavior based on a 7-point scale. For example, they were asked to rate their ability to work without stopping for unscheduled breaks, and how effectively they were able to stick to their "to-do" lists. They also provided details about their workloads and exercise sessions. When the results were tallied, even the researchers were surprised.

Workers scored 15 percent higher in their ability to meet both time and output demands on the day they exercised. "What we found staggered us, and we were left wondering what companies might do otherwise to produce these 15 percent improvements," says Jim McKenna, Ph.D., the lead researcher.

Now consider for a moment what these numbers mean to you: On days when you exercise, you can--theoretically, at least--accomplish in an 8-hour day what normally would take you 9 hours and 25 minutes. Or you'd still work 9 hours, but get more done, leaving you feeling less stressed and happier with your job, another perk that McKenna says the workers reported. Obviously, the responses that led to these results were subjective. But it's hard to deny that perception is reality when it comes to job satisfaction. And a 15 percent boost in productivity might just give you a case for a similar boost in pay.

Besides showing how Hillman's laboratory findings are expressed in the real world, this study may also explain why busy men who regularly exercise are able to fit cardio into their schedules, while equally busy men who don't exercise claim they don't have the time. Arkansas governor Mike Huckabee can relate to both sides of the story. In June 2003, he was sedentary and weighed 280 pounds; he now runs marathons and weighs 170.

"I've never found time to exercise," he says. "I make time."

Consider him a poster boy for what cardio can do for a man who's already good at his job. Huckabee, ever the conscientious politician, wants to be clear: He didn't have a problem keeping his schedule or accomplishing tasks before he started running. And it's true; this guy became governor in 1996--7 years before he initiated his exercise program--and was reelected twice along the way. It's just that he's even better now.

"I'm more creative, because I have mental energy. When I finish running several miles, it's like my mind is running on overdrive," he says. And, he adds, "It's made a dramatic difference in my ability to focus."

Focus. It's a word that comes up frequently when you speak with cardio fanatics. It makes sense, given what scientists have already established about the effects of aerobic workouts on mental performance. But focus is really more descriptive of mental state. And in that capacity, cardio appears therapeutic. "Aerobic exercise seems to have a focusing effect similar to that of attention-deficit-disorder medications," says Alex Giorgio, a psychotherapist and founder of a personal consulting group.

Over a span of 15 years, Giorgio worked with more than 10,000 successful people, and by his estimate, 60 percent of them were looking for help with attention difficulties. But there were two subsets in the group:

Some had smooth career trajectories; others went through wrenching peaks and valleys. After thousands of interviews with clients, Giorgio identified certain factors that typified smoother career paths. Among the most important: adherence to an aerobic exercise program. The cause could be simple: Like Ritalin, exercise increases blood-dopamine levels, upping the rate of communication between different areas of your brain. And when your brain is working better, so are you.

Edward Hallowell, M.D., a Harvard-trained psychiatrist and coauthor of *Delivered from Distraction*, concurs with Giorgio's observations. "Cardio is one of the best treatments for ADD and poor mental focus, as well as for anxiety," he says. "It's like a wonder drug for the brain."

And shall we add "happiness" to the list, too? Duke University researchers found that performing moderate-intensity cardio three times a week was as effective as the antidepressant Zoloft at reducing major depression.

You can't beat that, even if your insurance carrier only requires a co-pay.

Clearly, there are two kinds of men: Those who do cardio and those who don't; the beneficiaries, and the men who are leaving this advantage unclaimed. But if you understand the science--and look at the living, dominant examples of men who embody it--you have to conclude that cardio gives you an edge in life. In the first 30 minutes, it can make you a better man. And if you stick with it, the effects not only last a lifetime, but may even extend it, as well.

Think of it as building sweat equity in yourself. It's truly a no-brainer.

The busy man's day-expander

3 ways to make time for cardio

Remember this number: 1.4. That's the percentage of your week that five 30-minute cardio sessions requires, enough for a brain-boosting dose of exercise Monday through Friday. Sound doable? It is.

We talked to dozens of successful, time-crunched men who are dedicated exercisers. Their strategies:



1. Wake up early.

"Once you form the habit, it just becomes ingrained in your lifestyle," says Joe Hogan, CEO of GE Healthcare. He's been waking up at 5 a.m. for 30 minutes of cardio, 4 days a week, for 20 years. A 2005 study published in *Health Psychology* reports that it took new exercisers about 5 weeks to make their sessions a habit. And hitting the road at dawn doesn't mean you'll miss out on sleep. Researchers at Northwestern University found that men who started exercising in the morning slept better than they had before they began working out.

2. Prioritize your life.

Calculate the average time you spend daily doing everything from analyzing spreadsheets to watching TV. "Once I counted up the wasted hours, it was easy to see that I could fit exercise in by deciding what's most important," says Joe Blesse, a pilot for Continental Express who lost 150 pounds after initiating a cardio program 2 years ago. Blesse's advice: Always give priority to activities that serve the greatest purpose--those involving work, family, and exercise. For example, a 30-minute run trumps a 30-minute sitcom--every time. It's that simple.

3. Call it multitasking.

"I work on my most challenging business issues while running, cycling, or skiing," says David Varwig, CEO of the Citadel Group, a global investment firm. Exercise isn't work time lost; it's an opportunity to focus on problems without distraction. At home, exercising with your spouse or kids is quality time. "Whether it's a hike with my wife or hitting the streets with the baby jogger, I make exercise a family event whenever

possible," says David Daggett, an Ironman triathlete and a managing partner at Lewis and Daggett, a North Carolina law firm.

THE SUCCESS WORKOUT

Get the edge with the thinking man's exercise plan

The research is clear: Thirty minutes of exercise makes you smarter--immediately. But what about the effects of 20 minutes, or even 10? Scientists don't know yet. So play it safe, and use the same exercise program they used in the lab. Here's all you need to know.

Duration

Keep moving for 30 minutes. Any cardio exercise will do--running, cycling, swimming, rowing. In fact, it's best to diversify, especially if you're a beginner, to avoid overuse injuries.

Frequency

Do your cardio anytime you want a mental boost. For the long haul, doing as few as three sessions a week has been shown to improve the mental performance of older adults, says Charles Hillman, Ph.D. So consider that your minimum.

Intensity

Even walking appears to have brain benefits, but you need to pick up the pace to ensure that you replicate the results from Hillman's research. Simply use the Borg Scale, below (named after the Swedish scientist who invented it), to gauge your effort level. It starts at 6, because the numbers correlate very accurately to heart rate when you multiply them by 10. To match the research, exercise between levels 13 (somewhat hard) and 15 (hard) for the duration of your session. It's a "perceived exertion" scale, so you can't mess up: Just use your own judgment.

THE BORG SCALE

Exhaustion (you're done) 20

Extremely hard (fastest you can go) 19

Very hard (strenuous pace that's hard to maintain) 17

Hard (about 80 percent of your full effort) 15

13 Somewhat hard (tiring but steady pace)

11 Fairly light (brisk walking or easy jogging)

9 Very light (easy, slow walking)

6 Resting (sitting on the couch)

