

THE CrossFit JOURNAL

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TITLE	AUTHOR(S)
Long May You Run ... and Lift	Achauer
Fit to Teach	Saline
Rise of the Machines	Starr
Peering Through the Academic Blinds	Kilgore
Hit Me With Your Best Shot	Beers
Authority Figures	Cooper
Double, Double Toil and Trouble	Achauer
Certification and Licensure: Benefit or Liability?	Kilgore



THE
CrossFit JOURNAL

LONG MAY YOU RUN ... AND LIFT

BY HILARY ACHAUER

What makes people stick with CrossFit year after year? Long-term CrossFit athletes talk about what keeps them interested and motivated after seven, 10 or even 19 years of CrossFit.

In a recent [Businessweek](#) article, Yuri Feito said CrossFit is peerless in encouraging people to keep working out. Feito teaches exercise science at Kennesaw State University and studies CrossFit.

Statistics from the fitness industry show traditional gyms generally have a retention rate of about 50 percent every year. Chris Cooper, owner of CrossFit Catalyst in Sault Ste. Marie, Canada, and author of “Two-Brain Business: Grow Your Gym,” said his affiliate maintains an 87 percent retention rate year over year. He also said retention rates for athletes who join through personal training are “higher than ever” at 95 percent.

“CrossFit has a stickiness to it, an addictiveness. It becomes part of people’s lives and changes who they are from the inside out,” said Ben Bergeron, owner of CrossFit New England. “Just about everyone wants to get fitter and look and feel better.”

These factors—and others—have produced a number of athletes who have been doing CrossFit for over a decade, including Michele Mootz, 45. A Level 2 trainer and member of CrossFit’s Seminar Staff, Mootz has been doing CrossFit for 10 years.

“My husband drove by the original gym in Santa Cruz (California) and came home and told me we needed to check this place out. ... Been with it ever since,” Mootz said.

“I have remained with CrossFit for so long because there are so many things to achieve. I love the pursuit of goals, and with CrossFit, as soon as one is achieved, there is a new one to conquer,” Mootz said.

The community is another reason Mootz has stuck with the program for a decade.

“The friends I have made have become an extension of my family in many ways—it is simply amazing,” she said.

Thomas Crubaugh started CrossFit in 1995; he was one of CrossFit Founder and CEO Greg Glassman’s original clients. He has not done CrossFit continuously since then, but he keeps coming back.

“At 58, I am not regularly getting PRs in anything the way I was doing even when I was 50 and learning new skills,” Crubaugh said.

“I partly stick with it because I know that if I ever stop, I won’t be able to get back up to my current level again without a lot of pain and disappointment (about) all I have lost,” he said.

Year 1 of CrossFit is not the same as Year 10. Here, long-term CrossFit athletes pass along the lessons they’ve learned, explain how CrossFit has changed for them over the years and share what they wish they knew when they started. Much has been made of CrossFit supposedly being an ultra-intense, hardcore program, and it’s been suggested that something “so extreme” is not sustainable. But talking to athletes who have been doing CrossFit for eight to 10 years helps explain how CrossFit works in the long term and encourages lifelong fitness.

Dropout Prevention

People start a new exercise program full of good intentions, but after six months, many lose their motivation and stop working out.

According to a 2011 *Annals of Behavioral Medicine* report titled “Attrition and Adherence Rates of Sustained vs. Intermittent Interventions,” “Numerous reports cite the statistic that 50% of people who start an exercise program will drop out within 6 months.” Some of the reasons people report for not exercising are motivation, time, access to facilities or equipment, and lack of energy or a workout partner.

Cooper said year-over-year retention in a global gym is around 43 percent in Canada.

“That’s including contracts that auto renew and doesn’t count how often people actually attend. When we started using CrossFit, our numbers went to 83 percent without using contracts,” Cooper said.

Jon Gilson, chairman and founder of Again Faster, provides guidance and tactical advice to CrossFit affiliates. Gilson has found the retention rate for CrossFit gyms is similar to traditional gyms during the first two months, but the retention rate rises for members who make it through those first two months.

If CrossFit is particularly good at getting people to stick with an exercise program, as Feito suggested in *Businessweek*, what is it about the method of training that breeds such compliance?

Fifty-two-year-old Janice Kusaba has been doing CrossFit for eight years, since 2006. She competed in the 2008 CrossFit Games at The Ranch in Aromas, California. Back then—before the Open, before the StubHub Center—if you had US\$50 for the entry fee, you could participate in the Games.

Kusaba started CrossFit at CrossFit Marina in Huntington Beach, California. A friend had joined the affiliate and was seeing results, so Kusaba decided to try it.



Courtesy of Janice Kusaba

Janice Kusaba (above) has been doing CrossFit since 2006, and she finished 85th at the 2008 CrossFit Games in Aromas, California.

Michele Mootz (left) has been doing CrossFit for a decade and is a member of CrossFit’s Level 1 Seminar Staff.



Alicia Anthony/CrossFit Journal



Courtesy of Quinn Myers

Quinn Myers (middle) is a 26-year-old who already has seven years of CrossFit under his belt.

Kimberly Hathcock (below) said the support of her CrossFit Marina classmates keeps her coming back to train.



Courtesy of Kimberly Hathcock

"I had been seeing a personal trainer, getting minimal results, trying to keep my weight down," Kusaba said. "Fitness-wise, I was in decent shape, but when I joined CrossFit, I realized I needed to improve."

Kusaba has been doing CrossFit almost continuously for the last eight years, although she did take a break after knee and back injuries—she rolled her ankle, and then tweaked her knee, which led to back issues.

In her time off from CrossFit, Kusaba gained weight, but since returning in April 2014 she's lost 30 lb.

"I don't (lift) as much weight as I did in the beginning," Kusaba said, "but I know that I don't always have to lift heavy weights to get a beneficial workout."

She added: "Compared to most 52-year-olds, I'm in pretty good shape. I'm OK with whatever I do."

So what's kept Kusaba coming back, even after time off?

"The staff and the people," she said. "Our oldest member is in her 80s. Her daughter goes (to CrossFit Marina), and her grandson has been coming. Several generations come here."

It's not just the people, though.

"There are so many ways you could modify a workout and still get results," Kusaba said. "I like the variety. It's never the same. Olympic lifting is fun. I never did that at 24 Hour Fitness."

Kimberly Hathcock is also a member of CrossFit Marina. Like Kusaba, she's 52. Hathcock started CrossFit in 2007.

"I loved it from the beginning," Hathcock said. "It was exactly—without knowing it existed—what I was looking for."

The support from her fellow athletes is an important part of what keeps Hathcock coming back.

"I've taken up yoga over the last few years, and it's wonderful and a good complement to CrossFit, but you know, you go in there and you're trying to do some of the more advanced poses, and I'm looking at the person next to me, kind of smiling, 'Isn't this fun? We can't do this but we're trying,' and there's no reaction. There's no 'we're in this together,'" Hathcock said.

"It's just a different experience when you have people cheering you on and you know they really care," she said.

**"I LIKE THE VARIETY. IT'S NEVER THE SAME. OLYMPIC LIFTING IS FUN. I NEVER DID THAT AT 24 HOUR FITNESS."
—JANICE KUSABA**

Quinn Myers, 26, has been doing CrossFit since he was 19 and a sophomore at Southern Methodist University in Dallas, Texas. One Saturday morning in November 2007, he was in the university's fitness center doing biceps curls, bored out of his mind. He saw two guys in the back of the gym doing push-ups, pull-ups and sit-ups.

"They were just killing this workout, going harder than I've ever seen anybody go," Myers said. He was fascinated and had to know what they were doing.

"Are you guys training for the Olympics?" he asked them after they were done.

No Olympics, just CrossFit. The men were Navy SEALs. Myers had never heard of CrossFit, so the men told him to check out CrossFit.com. Myers went to the site, and little by little he learned the movements. He got a friend to commit with him, and for two-and-a-half years they followed CrossFit.com programming.

"If I went a week without doing CrossFit, I started to find I would go crazy," Myers said. "My cognitive ability was way down, I couldn't handle stress, I couldn't handle life. That's one of the main reasons I continue to do it—the physical preparedness. I don't do it to be great at CrossFit. I do it to be good at everything else."

Myers didn't join an affiliate until 2010, when he moved to San Diego, California, and joined CrossFit Pacific Beach. Unlike many CrossFit athletes, Myers said it's not the community that keeps him coming back to CrossFit.

"I loved CrossFit before I had a gym," Myers said. "It was just me and a buddy who would show up every day at 10 a.m."

"The reason it stuck with me through college is not only the structure—three days on, one day off is perfect—but I liked having a mission ... it's very clear what you are going to do and what you are not going to do," he said.

The Evolution of CrossFit and Its Athletes

The size and scope of CrossFit have changed dramatically since the early days, but the sense of discovery, of trying new things in the pursuit of health and fitness, has not.

Crubaugh and Glassman met when they were 10 years old. Crubaugh witnessed the birth and development of CrossFit, and he was part of Glassman's original 6-a.m. class. He became CrossFit's first employee and works for CrossFit Inc. today. He said Glassman was constantly reaching out to athletes from different sports, trying to find out how they trained and what exercises and techniques he could borrow from them.

"We did a lot of experimenting," Crubaugh said.

Glassman found a javelin thrower who had amazing core strength. He discovered she used the glute-ham developer to strengthen her core, so he began using that with his athletes.

"We learned a lot from surfers' fitness programs," Crubaugh said. "For a while, we were all getting in the pool and holding our breath for as long as we could."

Glassman introduced Crubaugh to the rowing machine, and Crubaugh started using it at the gym where he worked. Crubaugh was rowing at the gym one day, and a woman asked him, "So when do you row in the water?" She was part of the Santa Cruz Rowing Club.

"Well, I've never rowed in the water," Crubaugh replied.

The exchange inspired Crubaugh to take his fitness outside the gym. He was an active member of the Santa Cruz Rowing Club for about five years and continues to row in his hometown of Port Townsend, Washington.

At one point, Crubaugh was doing CrossFit five times a week. His job wasn't very demanding, so he had extra time to spend at the gym. Now, Crubaugh does CrossFit about three times a week and goes bike riding or rowing on the others.

"I like doing these other things (like cycling and rowing), and I would probably do them, but I wouldn't do them as well (without CrossFit). I'd probably be bike riding with a less capable group of bike riders," he said.

Crubaugh said he's not competitive in his workouts, except when the CrossFit Games Open comes around.



Courtesy of Thomas Crubaugh

Thomas Crubaugh has made CrossFit a lifelong endeavor that has expanded to include regular rowing and cycling.

The original CrossFit gym in Santa Cruz (right) spawned a global fitness movement.

"The Open has been a really good thing for me," Crubaugh said. "Each year, well, I want to do better than I did last year. Otherwise I don't have a competitive drive around CrossFit. I'm competitive in cycling—I don't want anyone to get to the top of the hill before me."

Hathcock said she's dialed back her workouts recently—although her version of dialing back is different than that of the average 52-year-old.

"I can do about 80 pull-ups in a workout," Hathcock said. "If (my hands) are going to start to rip, I stop. I've done that. I've done it to where my hands bled and I couldn't move the next day. I don't feel like I have to do that anymore."

Even though Hathcock is not pushing as hard as she used to, she hasn't seen a decline in health. CrossFit Marina recently hosted a bone-density test, and she discovered her bone density was in 98th percentile for a woman her age.



Staff/CrossFit Journal

The other benefit of doing CrossFit for a long time is a more sanguine attitude toward workouts that give many newer CrossFit athletes fits of anxiety.

Hathcock said in the past she would get nervous when she knew a benchmark workout like Fran or Fight Gone Bad was coming up.

“I don’t do that anymore. I don’t get nervous. Sure, I want to do well, but if a PR doesn’t happen, or if I’m feeling bad, I know it’s going to come up again,” Hathcock said.

Mootz, who coaches at CrossFit Santa Cruz Central, said what fascinated her in the beginning with CrossFit was being exposed to things she had never done before, such as Olympic weightlifting and powerlifting.

“What kept me incredibly motivated was the change I saw in my own body really quickly. And it was just such a great community ... it was a big party every day,” she said.

The sense of community has not changed for Mootz, but she said she’s gained awareness that CrossFit is a lifelong journey. There’s always something new to master, new skills to learn.

“WHAT KEPT ME INCREDIBLY MOTIVATED WAS THE CHANGE I SAW IN MY OWN BODY REALLY QUICKLY. AND IT WAS JUST SUCH A GREAT COMMUNITY.”

—MICHELE MOOTZ

“One of my pieces of advice to beginners is it’s a journey. You’ve got to be patient with yourself and make sure you understand the mechanics so the journey isn’t interrupted somewhere along the way,” Mootz said.

Even at 26, Myers said he sometimes scales back his CrossFit workouts depending on how he’s feeling, but he said he’ll never stop doing CrossFit. Myers is a competitive beach-volleyball player, and he said CrossFit is essential for his performance on the sand.

“I do CrossFit ... to feel good, physically, and then it helps a lot with beach volleyball. Without CrossFit, I would be a miserable beach-volleyball player,” Myers said.

The Road Ahead

What’s to come for athletes who have been doing CrossFit for a decade or more?

Kusaba said she sees CrossFit as a part of her life indefinitely. Her goals are to lose weight, which she knows will help her do more pull-ups, and maybe put a little more weight on the bar.

“Just being healthier, getting in better shape before I’m 60,” Kusaba said of her long-term goals.

Jason Highbarger was a trainer at Spa Fitness in the early ’90s, when Glassman was developing CrossFit. Highbarger said he tries to challenge himself in new ways, but his focus is on being a good coach and building up the membership at his new affiliate, CrossFit Almaden in San Jose, California.

“One of my biggest motivating factors is to mentor other coaches, just like Glassman did for me,” Highbarger said. “I want to coach other coaches, and I want to build a strong community.”

“(Glassman) truly cared about his clients. A lot of coaches were holding a clipboard and taking notes and not really paying attention. Glassman cared about his clients to the point of telling them shit they didn’t really want to hear,” Highbarger said.

Highbarger said he wishes more CrossFit athletes would take the long view with regard to their fitness. He gave the example of Olympic athletes who train to peak once every four years.

“We get a little too caught up in ‘what am I going to do this next month?’ If (you) learn to have the focus and discipline and foresight of an Olympic athlete, what would that bring you as far as your overall fitness and health and well-being?” Highbarger asked.

“Investing in your health is one of the only guaranteed investments in life. With health and fitness, if you invest the time and energy, you are going to see a guaranteed return and results,” he said.

Crubaugh told a story about his neighbor, a CrossFit athlete who is about to turn 60. The neighbor was landscaping his front lawn—getting rid of the turf and replacing it with drought-tolerant



Jason Highbarger (fourth from the left) started out at the original box in Santa Cruz and now owns his own affiliate.

Courtesy of Jason Highbarger

plants. He dug about 70 holes in the process. As neighbors his age walked by, they all warned him he would pay for his efforts.

“You’re going to need the hot tub tonight. It’s going to be the massage table for you,” they told him.

“No, I do this kind of thing every day. It’s not out of the ordinary for me,” the neighbor replied.

He dug the holes and went on with his life, no hot tub needed.

As for Mootz, she said she’s embraced the idea of being a masters athlete.

“On the weekends, I probably get a good handful of participants in the Level 1 and Level 2 seminars who say, ‘God, it’s good to have someone (teaching us) who is not 20.’”

Mootz said it’s important for her represent that demographic, to show people CrossFit isn’t a short-term program.

“You can certainly do (CrossFit) long term—whether that’s coaching or as an athlete—you can really do it as long as you want to,” Mootz said.

Myers’ goals include bench-pressing 300 lb., snatching 225 lb. and cleaning 300 lb., but he keeps his mind on the big picture.

“On a given month, I establish where I am mentally, and what hurts, and either adapt programming or supplement, adding days or taking days off,” Myers said. “I try to use as much judgment as I can.”

Connect and Engage

When talking to people who have been doing CrossFit for more than five years, people who have woven it so tightly into their lives that stopping would be unthinkable, a few reasons for CrossFit's "stickiness" appear—reasons beyond the addiction of PRs and beginners' gains.

The first is the community. Human beings have a deep need to connect with other humans, but these connections are not forged during occasional dinners out that take months to plan.

According to a New York Times article titled "[Friends of a Certain Age](#)," sociologists since the 1950s have identified three conditions required for making close friends: proximity; repeated, unplanned interactions; and a setting that encourages people to let their guard down and confide in one another.

The typical CrossFit class meets all these conditions. The gym is usually in the neighborhood, the same people tend to show up at the same class time over months and years, and it's difficult to have any kind of guard up when you're covered in sweat and chalk, muscles trembling, post workout.

"In the beginning, I stuck with (CrossFit) because of the results I was getting, and it quickly became the results in combination with the community," Mootz said. "I wanted to go every day and see my friends. It was very much a part of our social network for both myself and my husband."

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The second reason people stick with CrossFit is the workouts are far from boring. Boredom kills many a fitness routine when the thought of walking on the treadmill or running through the same circuit at the gym becomes unbearable.

"There are so many creative ways to exercise," Kusaba said. "Who would have thought? You can't get your hands on a huge tire to flip ... unless you do CrossFit or live on a farm or something. All these other things you would not find in a (regular) gym, you would find in a CrossFit gym."

Myers said his CrossFit workout is the one thing in the day he can count on, and it provides all sorts of stimulation.

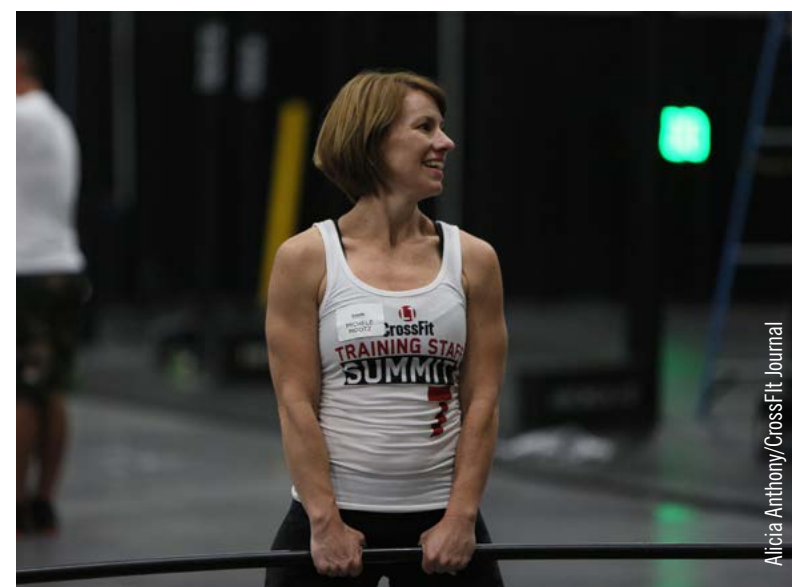
"On any given day, no matter how bad or unproductive my day is, getting in a CrossFit WOD is the only thing in my life that is all-at-the-same-time challenging, hard, scary, nerve-racking, fun, social (and) yields short- and long-term and direct and indirect benefits. It's a daily mini-battle that I know I can win or complete so long as I just show up and engage," Myers said.

Another reason so many people stick with their CrossFit routine is that it's easy to adjust the workout as your fitness needs and goals change. A lot can happen in 10 years. Jobs change, children are born, and—inevitably—we age. But, as Glassman wrote in "[What Is Fitness?](#)" in 2002, "The needs of our grandparents and Olympic athletes differ by degree not kind." CrossFit's scalability ensures the program can be modified for any situation, allowing long-term commitment.

Just because you don't want to lift the weights you used to, or you've decided for whatever reason handstand push-ups are off the table, that doesn't mean you have to stop doing CrossFit. You can still get a killer workout and maintain or improve your health—and perhaps you'll even hit a PR you never saw coming. ■

About the Author

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In 2008, Myers was featured on CrossFit.com doing pull-ups in Norway.

Like many others, Mootz (left) came for the fitness and stayed for the friends.

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Fit to Teach

Staff at Cannon School set an example for their students as CrossFit is set to become part of the elementary curriculum in 2015.

By Brittney Saline

January 2015



Courtesy of Amber Herlocker

At 16 years old, Meredith Davis (then Wittman) was strong.

A ballerina of 12 years, Davis used her thick, sinewy thighs to propel herself nimbly across the floor as music swelled. Her back muscles rippling as she extended in a graceful arch, she looked to her instructors for approval.

“Your legs look like tree trunks,” Davis quoted her teacher. “You should stretch them out a bit because we don’t want to look like that.”

1 of 7

The callous remark was the prelude to a 10-year battle with distorted body image and eating disorders. But when CrossFit taught Davis to love PRs more than pants size, she ended the war and took up a cause. The dancer-turned-science-teacher would use CrossFit to forge an army of fit educators—the role models she never had.

“It’s important as an educator to set a positive example,” she said. “Your body is meant to do things. It’s not just meant to hold clothing or to look a certain way.”

Finding Purpose

When Davis, now 29, was still in diapers, she danced her way down the halls to her mother’s music boxes. After being enrolled in ballet at age 4, she danced competitively from 11 to 17, sacrificing outings with friends, sleepovers and summer camp to study her art.

“I loved the discipline required,” she said. “I loved the fact that you could express almost any emotion with movement, the fact that your body does things you didn’t think it could before.”

But on the stage, aesthetics were more important than function. At 16 years old, Davis cut her intake to just 800 calories a day

and whittled her 5-foot-2 frame down to 85 lb. in an attempt to destroy the muscle her teachers found unsightly.

For the first time in her life, people ogled her muscular legs with admiration, not disgust.

“That’s when I started getting the solo pieces,” she said.

After a year of surviving on a spoonful of yogurt and a few clementines per day, Davis started losing her hair. When her doctor warned her she might never have children, she decided the spotlight wasn’t worth it.

“But I didn’t know how to gain weight in a healthy way, so I ate like crap and I ballooned up,” Davis said, recounting her rapid 60-lb. weight gain.



Courtesy of Gary Roberts

After Meredith Davis had a chance meeting with Greg Glassman, 18 teachers and administrators from Cannon School took a 12-week course at CrossFit Vitality.



No longer ashamed of her strength, Davis uses CrossFit to forge an army of healthy role models in her school.

Too self-conscious to face the studio mirrors, she quit dancing competitively when she began college.

"I was a mess," she said. "I didn't know what to do with myself if I wasn't dancing, because that was all I had known."

Davis continued to struggle with poor body image throughout college and into her first few years of teaching, doing penance on the elliptical machine for every candy-coated slip-up.

When her Globo Gym membership expired in the summer of 2012, she took to the track outside the school where she taught. Remembering workout suggestions she had read in a popular fitness magazine, she spent a hot August afternoon doing 400-m sandbag-sprint repeats in the sun.

"It sounded fun and I wanted to sweat," she said.

Her antics attracted the attention of a curious passerby.

"He came over and said, 'Do you do CrossFit?'" Davis recounted. "I asked him what CrossFit was, and he said, 'You're doing it.'"

After a brief Internet search, Davis found herself on the neon-green AstroTurf at CrossFit Vitality. And for the first time in her life, people ogled her muscular legs with admiration, not disgust.

"My mentality totally shifted," she said. "I could eat food again and realize it's good for me because it's going to make me stronger. And to get this rush of killing a workout makes you feel so positive, like you can conquer anything."

Five months after starting CrossFit, Davis began coaching at CrossFit Vitality. But still she saw her 16-year-old self reflected in the eyes of her teenage students, many of whom were girls struggling with the same poor body image Davis had fought.

"I didn't know what was my purpose because I wasn't dancing," she said. "Now I thought my purpose in life might be to help someone else ... and the only way to do that is to be a role model, because there's no class for self-confidence."

A Window of Opportunity

On Feb. 28, 2013, Davis' vision became a reality.

It was the morning after the live announcement of Open Workout 13.1 at CrossFit Vitality, where the world watched CrossFit Games athletes Dan Bailey and Scott Panchik take on the 17-minute couplet of burpees and snatches.

Stepping into Starbucks for her morning coffee, she recognized the man sitting at the table to her left. It was Greg Glassman, Founder and CEO of CrossFit Inc.

"I introduced myself and said, 'I just wanted to tell you that this has changed my life,'" Davis said.

But Glassman did more than listen when Davis told him of her dream to bring CrossFit into Cannon School, an independent school in North Carolina serving students from junior kindergarten through 12th grade. He offered to fly her to Northern California to visit Saratoga High School, where students do CrossFit as their regular physical-education curriculum.

"I just started crying on the spot," Davis remembered.

At Saratoga High School, home to CrossFit Sawmill, CrossFit is mandatory for all students not participating in team sports or marching band. CrossFit classes are taught by Level 1 trainers who are also classroom teachers or coaches for team sports.

"It was neat to see so many kids involved and to hear that test scores had improved after the advent of the curriculum," Davis said.

As she observed the young co-eds doing cleans side by side, she saw CrossFit's potential to transform her own students' lives.

"In the gym, everyone's egos get checked, and the popular guy could be out-lifted by a smaller girl," she said. "It diminishes a lot of that high-school banter that screws people up."

Armed with fresh inspiration, knowledge and Glassman's support, Davis returned to North Carolina eager to change lives with CrossFit. Though the administration would not bring CrossFit into the classroom just yet, it would send a coalition of teachers out to test the waters. And so in November 2013, Davis piloted a 12-week program immersing 18 members of the faculty and administration at Cannon School in CrossFit. The group trained three days per week at CrossFit Vitality.

"It will impact people positively more than it will negatively," Davis said. "I believe that with my whole heart."

Building Role Models

Just after 4 p.m. on a crisp November Monday, CrossFit Vitality coach Steve Pinkerton stood before 18 hesitant Cannon School teachers and administrators, demonstrating the air squat.

"I don't care how many inches we lose, I don't care what our bodies look like in three months," he said. "All I care is that we feel better."

The circle stared back at him with crossed arms and dubious expressions.

"They all looked like students on the first day of school," Davis said. "They were all very self-conscious."

With the new athletes' ages ranging from mid-20s to mid-60s and athletic backgrounds varying from former college athlete to those who had never run a mile, Pinkerton started slowly.



Courtesy of Amy Holland

Spanish teacher Michelle Zelaya had never lifted weights but can now clean and jerk 130 lb.

"We worked on a lot of mobility and stretching and spent the majority of the first two weeks learning how to squat correctly," he said. "My goal from the very beginning was simple: I wanted them to feel better."

For 36-year-old Michelle Zelaya, the goal was just to keep coming. A Spanish teacher for grades nine to 12, the educator of 13 years and mother of two wasn't used to taking time away from her students to focus on herself.

"I have to be available to each of them, and each of them has many different needs and wants and demands," Zelaya said.

But she knew that in order to best serve her students, she had to start taking care of herself.

"I have to have the energy and stamina to be able to give them what they need," she said. "I knew I needed something, but I didn't know what that something was until this opportunity came along."

Over 12 weeks, Pinkerton turned the educators into athletes.

After a 10-minute warm-up, the class would perform 15 to 20 minutes of skill work focusing on midline stability and the fundamentals of movements such as the squat,

deadlift and press. Then they would finish with a 10- to 12-minute workout, occasionally done in teams to build skills in trust and communication.

By the second week, the once-apprehensive educators were joking about burpees and celebrating each other's milestones.

"I think the biggest limitation was mentally being able to prepare for the workouts," Pinkerton said. "It was out of the ordinary routine, and I could tell in the beginning quite a few of them weren't overly excited to be at the box getting ready to train."

But by the second week, the once-apprehensive educators were joking about burpees and celebrating each other's



Courtesy of Steve Pinkerton

Videographer Gary Roberts (second from left) poses with educators from Cannon School.

milestones. After 12 weeks, athletes who could barely squat to parallel were performing full thrusters with an empty barbell.

Zelaya, who had never lifted weights before CrossFit, can now clean and jerk 130 lb., and she performed her first 5 unbroken push-ups before the final class.

"It was proof to me that if I stuck with something long enough and I was persistent, I was gonna get it," she said.

Angela Pennington, administrator and executive assistant to the head of Cannon School, ran her first mile on the last day of class, just before her 40th birthday. A car accident a decade ago and years of restorative surgery had left her grateful just to walk, and she had never imagined she would run again.

"I didn't think I was going to be able to do any of it," she said. "Now I run with my dog."

Pennington said she hopes her accomplishment will serve as an example to the students who recognized her best in a wheelchair or on crutches.

"I want them to know that you could have something bad happen to you, but that you can come back from that," Pennington said. "You can be thoughtful, you can be deliberate, and you can make small milestones, and one day those milestones are going to take you to a place you can't even believe."

According to Zelaya, the time carved out of her schedule to do CrossFit paid returns in her profession.

"As I went through the program, I started getting more energy, and I felt I was more impactful in the classroom," she said. "CrossFit teaches you to think on your feet and make decisions quickly and communicate effectively, and (it) gave me the energy and stamina to do more and perform better."

While the educators practiced CrossFit in the box, Davis taught it in the classroom, incorporating CrossFit videos into her anatomy-and-physiology curriculum and demonstrating movements in the weight room next door. The connection between her message and the teachers' transformations was not lost on the students, Davis said.



Courtesy of Gary Roberts

While the educators were apprehensive at first, they started to gain momentum by the second week of the program.



Courtesy of Amber Herlocker

CrossFit Vitality owner Steve Pinkerton started slowly with the group and gradually ramped things up as their skill and strength improved.

"The students saw our teachers gaining more muscle, and all of the sudden they're connecting with them better," she said. "It breaks down that stereotype that not everyone can be strong."

Twelve weeks after that first November workout, more than half the program's participants remained. The pounds that had melted from their bodies appeared on their barbells, and several have made CrossFit a permanent part of their lives.

"It's been a paradigm shift for me," Zelaya said. "It's no longer a workout to me; it's a lifestyle."

For Zelaya, that means she now strives to teach more than just Spanish in the classroom.

"I want my students to see me as a positive female figure, a working mom who's fit and who takes time to take care of herself," Zelaya said. "I want this next generation to make exercise a part of their lifestyle."

She added: "I want to be the one who sets this example for them."

While the school has yet to sanction CrossFit as physical education for its high-school students, Davis said CrossFit will be integrated into the elementary-school curriculum in 2015. In the meantime, the students have mentors who embody the example of a sound mind and fit body.

"I just hope that girls will have an interest in becoming strong," Davis said.

She added: "Strong is healthy, and wanting to be skinny isn't always a healthy outlook."



About the Author

Brittney Saline contributes to the CrossFit Journal and CrossFit Games website.

THE CrossFit JOURNAL

Rise of the Machines

Bill Starr chronicles how Universal and Nautilus changed the face of fitness and made black iron a memory in most gyms.

By Bill Starr

January 2015



Dmytro Kutz/Getty Images

The earliest pieces of equipment used by men wanting to get stronger and build more impressive physiques were kettlebells, dumbbells and barbells with rounded globes at each end. These globes varied in size, and some were solid iron, while others were filled with shot. Then barbells advanced so plates of different weights could be added and removed from the bars. The next step in the evolution was to put ball bearings in the collars so the bars could rotate as they were lifted off the floor.

1 of 9

The number of people who lifted weights as a form of exercise was meager, at best, so there wasn't a call for any other equipment. Nor were there any fitness facilities as such, but YMCAs always provided some space for weight training. The spaces typically contained the equipment I mentioned, plus stall bars, medicine balls and Indian clubs. YMCAs became hubs of weight training and continued to serve that purpose for over half a century.

In the '20s, there was a flurry of interest in physical culture, led by such icons as Bernarr MacFadden, Alan Calvert, Charles Atlas and George Jowett. These men promoted their views on weight training and nutrition in the pages of two magazines: Calvert's *Strength*, which was the publishing arm for his Milo Barbell Company, and MacFadden's *Physical Culture*. These publications fueled the movement to make people stronger and healthier, which led to a few health clubs opening up in the larger metropolitan areas. The most renowned was Sigmund Klein's facility in New York City.



Allan Grant/The LIFE Picture Collection/Getty Images

Vic Tanny is widely recognized as one of the creators of the modern fitness facility.

When word got around about Klein's successful venture, other weight-training gyms sprung up around the country. Ed Yarick had one in Oakland, California; Tony Terlazzo opened one in Los Angeles, California; George Yacos had the first such operation in Detroit, Michigan; and John Fritsche ran a profitable gym in Philadelphia, Pennsylvania. In all these facilities, the emphasis was on health more so than strength. There was one in Atlantic City named the Healthorium. Most offered massages, steam rooms, treatments with infrared lamps, and classes in self-defense and even acrobatics.

This is when machines entered the picture.

Primitive Tools

Nearly all the first machines in gyms were handmade, usually by the owner of the gym. If he didn't construct the machine himself, he designed it. Most of the equipment was crude, but it got the job done, and the owner found that the more equipment he made available to his clientele, the more his membership grew.

Most of the equipment was crude, but it got the job done, and the owner found that the more equipment he made available to his clientele, the more his membership grew.

To keep pace with this new competition, YMCAs also began adding equipment to their weight rooms. Nothing elaborate by any means. The first pieces of equipment I encountered were in the Wichita Falls YMCA in Texas. There was a flat bench with uprights to support a bar, a lat-pull machine mounted on a wall, a dips bar on another wall and a leg-extension/leg-curl machine. This latter piece of equipment was nothing fancy. It was a wide bench, about the size of a massage table with metal extensions, and the user could lie on his belly and do leg curls, then sit up and do leg extensions. While it was primitive by today's standards, it worked just fine. So did the pulley apparatus for the lats.

Nothing changed very much for some time. Someone came up with the idea for a staircase squat rack and a simple leg press—but nothing very innovative. Then in the '50s, the health-club business exploded, and with it came a transformation in weight-training equipment. This was due to several factors, all which happened at the same time.

Vic Tanny saw a golden business opportunity in providing the average citizen a place to exercise and opened a string of health clubs across the Western and Midwestern states. Soon after Tanny's concept proved to be a giant money maker, Jack Lalanne, using the fame he had gained from his TV show, followed Vic's example and flooded the West Coast with health clubs bearing his name.

While this was transpiring, the fitness movement was gaining momentum by virtue of the many players wanting a piece of the pie. Since the '30s, Bob Hoffman basically had a lock on the sales of weight-training equipment and nutritional supplements. The Weider brothers (Ben and Joe), Dan Lurie and Peary Rader changed all that. Those competitors began publishing magazines that expressed their views on health and fitness, with the greatest prominence given to bodybuilding.

This not-so-friendly rivalry inspired a whole new generation to get stronger and build a more pleasing physique. The YMCA was still the center of competitive bodybuilding and Olympic lifting, but the average Joe wasn't interested in having huge muscles or moving heavy weights. He just wanted to train to become more fit so he could walk down a beach with pride.

And women wanted to get into better shape as well. So began a whole new era for fitness. The number of potential paying customers suddenly doubled, and enterprising individuals, almost all with a background in weightlifting or bodybuilding, saw the chance to make a good living doing something they enjoyed, so they began opening health clubs all across the country. They sprung up in strip malls in metropolitan areas and in small towns.

The owners of these new enterprises knew their potential members wanted something different from what was being offered at the local YMCAs—something more modern, something that made training easier. And the atmosphere of these new fitness centers needed to be more inviting, so there was background music and lots and lots of mirrors. Instead of barbells, the various



Simon Ladefoged/Getty Images

Before the '50s, fitness facilities were rugged, sparse places where equipment was often very limited. Stall bars were a fixture, as were medicine balls, dumbbells and barbells.

exercises incorporated light dumbbells and machines. These machines needed to be well crafted and pleasant to the eye. Chrome was in, and black iron was out. Even the dumbbells were chrome, and if the owner did decide to include barbells and plates, they, too, were chrome.

These small health clubs did their best to emulate those larger operations of Tanny and Lalanne. Both men and women were welcome, but the two sexes trained on different days: three days for men, three for women.

There was a machine for each of the exercises in the program, and the machines available differed from one facility to another depending on what the owners considered the

most appropriate for their potential clientele. There were machines for seated curls, flat bench presses, incline bench presses, lat pulls, and both standing and seated calf raises, as well as Smith machines for overhead pressing and squats. Pulleys attached to walls allowed for a wide variety of leg and arm exercises and, of course, leg-extension and leg-curl machines could be found.

Chrome was in, and black iron was out.

The workouts were designed so members could go through a workout in a short period of time and achieve the results they were seeking without any strenuous exertion. The biggest selling point of using the machines was the sessions could be done quickly. These facilities were aiming at the middle class. Time was money, and this attitude fit the needs of the new fitness generation to a T.

Universal Appeal

In the '50s, a bodybuilder and Olympic lifter from California, Harold Zinkin, came up with a brilliant idea that fit perfectly with the attitude toward resistance training in the country: He created the Universal Gym and pushed the fitness revolution forward rather remarkably in the early '60s. Instead of having a dozen or more machines scattered around the training room, all the stations were housed in one compact unit. The Universals were made of sturdy stainless steel, so they were as shiny as chrome and resistant to tarnish and rust.

Not only was his piece of equipment innovative, but the way he marketed it was also different from the way the other major players in the fitness-equipment business sold their goods. The York Barbell Company, Weider and Paramount got their orders from the catalogs they printed or from ads in fitness magazines. Universal chose a different route: They divided the country up into territories—East Coast, South, Midwest, etc. Then they found experienced salesmen in these areas and offered them an exclusive deal selling the Universals. As long as they met the quotas set for them, no one else could sell the product in their territory.



Harold Zinkin, inventor of the Universal Gym, displays impressive skill at Muscle Beach in California.

Hulton Archive/Getty Images

Naturally, they jumped at the chance and began selling Universals like hotcakes. The salesmen, armed with a slick brochure, didn't target health clubs as their first objective. Rather, they went after high schools, rehab centers, physical-therapy clinics and hospitals. The response was astounding.

Schools and college administrators loved the concept. There were no free weights to deal with. The resistance was in the form of stacks that were locked into the machine, and moving from one level of resistance to another was achieved simply by changing the position of a metal pin. The Universals took up very little space, and the workouts could be done expediently. Two or three circuits around the stations and the session was over. And the Universal satisfied the most important criteria of all in the minds of coaches, athletic directors and school principals: It was extremely safe.

**By the middle of the '60s,
Universals could be found in
nearly every space set aside for
physical fitness.**

By the middle of the '60s, Universals could be found in nearly every space set aside for physical fitness: YMCAs, church basements, both large and small fitness centers, rooms in homes of the affluent, military bases, and rehab centers.

Yet those who were training for strength pretty much shunned the Universals. I used them, but only for a few auxiliary movements. I liked their adjustable sit-up station and the chinning bar, and I used the pulley station to work my triceps. Other than that, I stuck with the barbell and power rack because this was also the era of isometrics. (For more on isometrics, read the CrossFit Journal article "[Short and Simple—and Effective](#)." During the late '60s, there was a surge of interest in strength training for athletes, particularly football players. Tommy Suggs and I, with the blessing of Hoffman and York, went on a campaign to educate football coaches as to how to make their teams stronger by using free weights. We pushed the idea in the pages of *Strength & Health*; went to coaches conventions in Atlantic City, New Jersey, and Washington, D.C.; and gave



Underwood Archives/Getty Images

While some gravitated toward circuits that could be done on Universals, Starr says serious strength athletes stuck to barbells and free weights.

countless demonstrations at high schools, as well as a few colleges, such as Gettysburg, Rider, the Naval Academy, and the University of Delaware. Others, such as Russ Knipp and Gary Glenney, who held national titles in Olympic lifting, were doing the same thing in the Western states. We were spreading the word that the very best way to increase strength was by using free weights.

The campaign worked because athletes in a wide range of sports were not getting that much stronger when they used the Universal or any other type of machine. So when they went back to training on barbells, gains came quickly. The athletic community was ready for a change once again.

Collegiate and scholastic athletic programs began either selling their Universals or pushing them to the back of their weight rooms. Then they pulled the weights and bars out of storage, or bought new ones, and went to work. Teams that lifted hard and heavy began to win national titles, and when professional teams began hiring strength coaches—all of whom came from Olympic lifting—the shift was complete.

Universals and other machines continued to be a part of the fitness industry and proved to be valuable in rehabbing, but the machine revolution seemed to have run its course. In order for an athlete in any sport to improve his strength considerably, he had to move black iron. It looked as if this was the way things would continue to be in strength training, but that didn't turn out to be the case.

The Tidal Wave

At the beginning of the '70s, a former Olympic lifter named Arthur Jones shook physical culture to its foundation. He was a visionary and businessman who came up with a unique design for exercise machines. But that was just a start. He also launched a marketing scheme that was simply overwhelming in relation to what had gone on before.

In order for an athlete in any sport to improve his strength considerably, he had to move black iron.

Jones had already been very successful in several ventures in his life. He had flown planes across the Atlantic, led safaris in Africa and invented a camera that didn't vibrate so he could film the racing animals from a plane or fast-moving vehicle. He sold the footage he took to the very popular "Wild Kingdom" television show for many years, and the royalties he made from the camera and that show provided him with the capital to finance his newest venture: Nautilus machines.

He built the prototype while he was living in Africa so he would have some way to stay fit. Jones named his new machine after the shell of the chambered nautilus, a cephalopod found in the Pacific and Indian Oceans, because the rotating mechanism in each machine resembled that aquatic animal. Jones was extremely intelligent, and he was the consummate salesman. To state that he could sell refrigerators in the Arctic would not have been an exaggeration.

He revealed his invention for the first time at the 1970 Senior Nationals Olympic Championships and Mr. America Contest at the Veterans Memorial Auditorium in Culver City, California. It was on display in the lobby and looked

like something out of a science-fiction magazine. A mass of iron stretched almost 20 feet, with a station at each end—one for working the biceps and one for the triceps. This, he explained, was just for show. The actual machines were much smaller and separate from one another.

And when he told the crowd the cost of each machine, we all thought he was out of his mind. What gym owner, high school or college would lay out that kind of money for a machine that only did one exercise when he or she could purchase a half dozen 400-lb. Olympic sets for the same amount? None that I knew of, that was for sure. But we greatly underestimated Jones.

Not only had he created a unique product, but he also soon proved he was a marketing master. To prove how well this line of machines could improve strength and build amazing physiques, he told us to watch the upcoming Mr. America contest and keep our eyes on a 19-year-old from Louisiana, Casey Viator, who had been training exclusively on Nautilus equipment in preparation for this show.



In the mid-'60s, the plate stacks and cables of Universal equipment came to dominate weight rooms around North America.



Mike Harrington/Getty Images

As Universals gave way to Nautilus equipment and its knockoffs in the '70s and '80s, the fitness industry entered the true era of the machines.

While Chris Dickerson made history by becoming the first black Mr. America, it was Viator who blew the minds of everyone in attendance that night, including me. He absolutely stole the show, coming in third in the voting for Mr. America, third in the most-muscular division, and first in the categories for best arms, back and chest.

Immediately after Viator's stunning performance, magazines were filled with the story of how he achieved such remarkable results in such a short span of time. This became known as "the Colorado Experiment." The articles show Viator before he embarked on the program Jones designed for him, and he looked as if he had just gotten over a long illness. He showed little in the way of muscles and had a sad posture. The "after" photo revealed an unbelievable transformation. Within just 30 days of using the Nautilus exclusively and not taking any steroids, he appeared as he did on the stage in Culver City.

The following year, in York, Pennsylvania, Viator became the youngest Mr. America ever, and sales for the machines soared. Although Jones wanted to capture a big slice of the bodybuilding and weightlifting market, he also

wanted a piece of fitness market. To do so, he came up with a scheme that was very creative. He married his new machines to a program that could be done in a short period of time: 2 sets to limit on a battery of machines. For the first couple of weeks, members merely learned how to use the machines. After that, they were pushed to max at every workout. They left the gyms with weak knees and some nausea. This had never happened before, and they liked the sensation. It meant they were working extra hard, and that meant fast results.

Jones married his new machines to a program that could be done in a short period of time: 2 sets to limit on a battery of machines.

Gym owners began clamoring for the machines, especially those for the arms and chest. But Jones wasn't in any hurry. He had a long-range plan. If someone wanted to buy Nautilus, they had to purchase the entire line. And when a prospective buyer did that, he had the right to be a franchised Nautilus facility; that is, if they were willing to pay a yearly fee. His manufacturing plant in western North Carolina couldn't make machines fast enough to meet the demand.

Next, he turned his attention to professional sports teams, primarily focusing on football. He would invite coaches and owners of teams to his headquarters in Lakeland, Florida, take them on a tour of the facilities and wow them with his knowledge of kinesiology, applied anatomy engineering and biomechanics. He spoke with such confidence and fluidity that they went away stunned and greatly impressed.

Soon thereafter, rows of Nautilus machines could be found in training camps and sports complexes for NFL teams. Then Jones stood back and watched the trickledown effect take its course in universities and high schools all across the country. The consensus in the football community was, "If the pros are doing it, it must work."

The '70s belonged to Nautilus. Even Olympic lifters such as Ken Patera and top bodybuilders such as Robby Robinson,

Gary Leonard and Sergio Olivia used the machines. However, they didn't use them for very long. What they all discovered was they lost strength when they did the Nautilus routine. Lifters found the Nautilus machines just didn't work the tendons and ligaments like free weights did, and they were not able to maintain or gain strength with the machines. Isolation exercises on machines were simply no substitute for compound movements when it came to strength.

There was also confusion as to what Viator had really done. For his entire life, Viator had to respond to questions about whether he did extra work outside Jones' program, whether he had used steroids while on the program, and whether his weight was artificially low at the program's start due to a tetanus infection.

When Viator came to York to take part in the Mr. America Contest in 1971, I had left the employ of the York Barbell and started my own magazine, *Weightlifting Journal*. In my editorials, I had blasted Hoffman and John Terpak for the way I believed they had negatively affected Olympic lifting, so I didn't go to the contest because I knew I wasn't welcome. Viator drove out to Thomasville, where I was living in a brick farmhouse built in the 1800s. He wanted to thank me for running an article on him in *Strength & Health*. It was the first one ever done about him, and he believed it really helped advance his career. Curious, I asked him about the Colorado Experiment. Did he only use the Nautilus routine?

Viator told me that he did, indeed, do the program Jones gave him at every workout, but Viator told me Jones didn't know he slipped out at night, went to the Denver Y and went through a complete session with the weights. However, Viator publicly denied this claim in at least one interview, saying he only did what Jones prescribed. He passed away in 2013, leaving a lot of confusion about the exact details of the program.

Whatever had really happened, Viator claimed to have gotten unbelievable results from the Colorado Experiment, yet other lifters were unable to duplicate those results.

The New Renaissance

By the mid-'80s, Nautilus equipment went the way of Universals. They were sold or moved to storage or given away to high schools or community centers. Yet the machine revolution didn't go away. It just changed its face. Newer types of machines appeared on the market,



Dado Goldieri/Bloomberg via Getty Images

"Weight rooms are no longer designed with productivity in mind." —Bill Starr

announcing that they were more efficient and brought better results than any of those that had come before them. There were newly designed machines with stacks, and some to which Olympic plates could be added to increase resistance.

There was a line of machines that operated with air pressure, thus eliminating all forms of plates and stacks. The trouble with them was they kept breaking down and someone had to be called in from the company to re-hook the connections.

Across the country, new fitness facilities began to open up that not only had free weights and machines but also indoor swimming pools, basketball and racquetball courts, aerobic and yoga classes, plus snack bars and regular social events. The fitness centers were doing what YMCAs had been doing for years, but on a larger economic scale.

Some of these upscale health and fitness centers had rows and rows of machines. And they didn't restrict themselves to just one brand. To be competitive, they installed several lines of machines so members could have a wide range to choose from.

That hasn't changed, and I doubt if it ever will. Machines are deeply immersed in the fitness movement, as they are in the sports world. One of the biggest markets for machines is colleges and universities. Weight rooms are no longer designed with productivity in mind. They are designed for recruiting. The more equipment the coaches can show a prospective recruit, the better. It's big business, and I know of many universities laying out a quarter of a million dollars on new weight rooms in an attempt to break into the upper echelons of collegiate sports.

So where does that leave free weights? While it's true barbells and dumbbells often take a back seat to using machines in strength training, this is not always the case. Many strength coaches fully understand their athletes can get much stronger by using the free weights than they can by exercising on machines.

Why? Using barbells and dumbbells forces the tendons and ligaments to get more involved. When an exercise is done on a machine, those attachments receive very little



Richard Hernandez

The appeal of machine training is fading in some areas, sending athletes in search of CrossFit gyms and garages stacked with barbells and bumpers.

attention. Those attachments, not the muscles, are the source of pure strength, and therefore free weights are more beneficial to anyone wanting to get considerably stronger. For fitness and rehabbing, machines are great, but to get really strong, free weights are the way to go.

CrossFit has done a remarkable job in making coaches and athletes aware of the benefits of training with free weights.

However, fans of free weights need not be distraught. The future's looking bright for strength training because a movement is slowly but steadily bringing high-skill lifts done with barbells back into the mainstream. CrossFit has done a remarkable job in making coaches and athletes aware of the benefits of training with free weights. The movement is spreading, and hopefully CrossFit will lead the way and encourage all athletes to train on barbells instead of machines.



About the Author

Bill Starr coached at the 1968 Olympics in Mexico City, the 1970 Olympic Weightlifting World Championship in Columbus, Ohio, and the 1975 World Powerlifting Championships in Birmingham, England. He was selected as head coach of the 1969 team that competed in the Tournament of Americas in Mayaguez, Puerto Rico, where the United States won the team title, making him the first active lifter to be head coach of an international Olympic weightlifting team. Starr is the author of the books "The Strongest Shall Survive: Strength Training for Football" and "Defying Gravity," which can be found at [The Aasgaard Company Bookstore](#).

THE CrossFit JOURNAL

Peering Through the Academic Blinds

Peer review is held up as the gold standard of legitimacy in academic publishing, but Lon Kilgore says the system has inherent flaws and isn't as foolproof as journals would have you believe.

By Lon Kilgore

January 2015



Dave Re/CrossFit Journal

As any reader of [CrossFit.com](#) and [The Russells blog](#) can attest, exercise-science journals seem to be suffering from compromised systems of publication and ethics.

As scientists, clinicians and practitioners rely on the information contained within journals to provide factual basis for their experimental, therapeutic and training activities, a corrupted system has dire effects on every aspect of

1 of 8

the exercise, fitness and sport industries. This is why it is absolutely important to publicly challenge journal editors, the peer-review process and even individual researchers when warranted. We must safeguard our professional livelihoods by ensuring we are operating on fact rather than misrepresented or fabricated data.

A number of processes in academic publishing are intended to ensure the quality and accuracy of manuscripts in publication. Let's take a look at these systems, their components and their gatekeepers as they are all purported pillars of academic credibility.

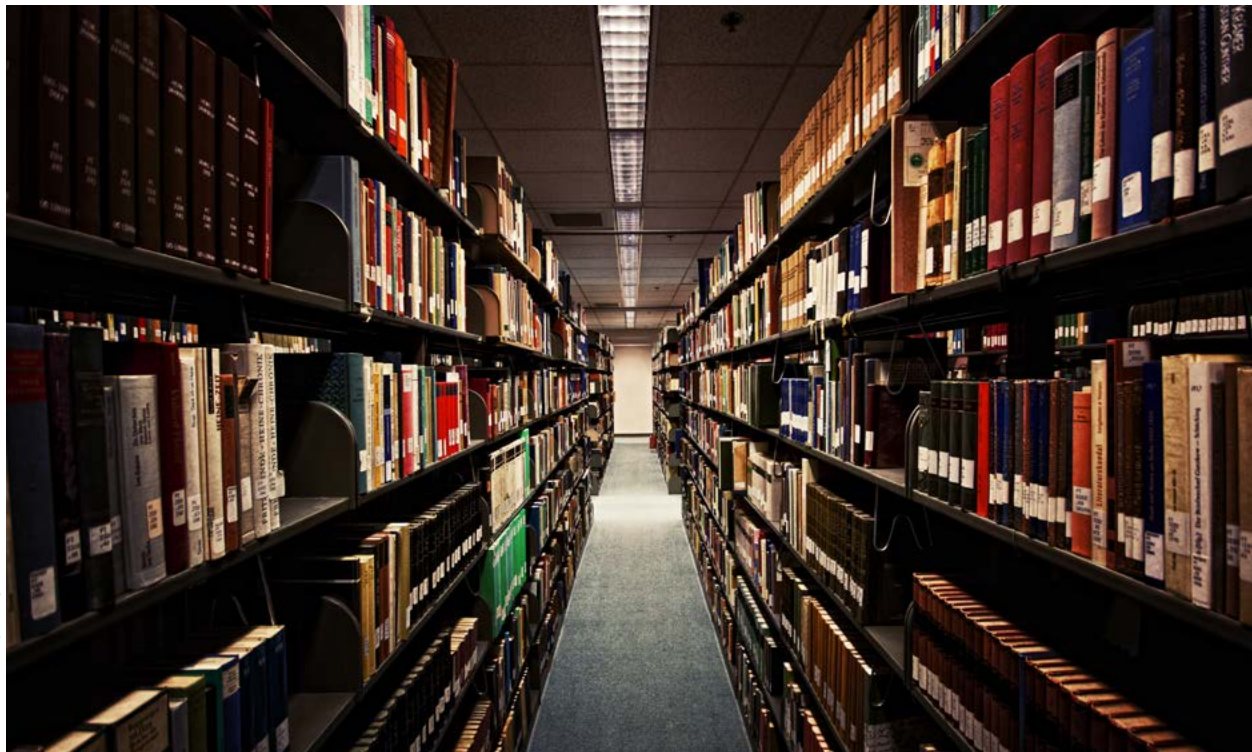
Element 1: The Scientist

The first level of consideration is the author of scientific papers, typically a faculty member at a university. These professional academics design and conduct experiments, then submit the details and results for publication in peer-reviewed academic journals. It is a basic expectation that academics will publish regularly; in fact, their continued employment is essentially linked to their publication history. If they don't publish, they generally

do not get tenure or promotion, or, in many instances, a continued employment contract. This is a harsh reality and source of tremendous professional pressure, but it is not the only pressure. To keep their jobs, academics must provide three things: teaching, research, and service to the university and discipline (their specialty subject matter).

Teaching

Universities generally derive 60 to more than 90 percent of their income from student tuition (paid by students and government sources). "Research" universities receive a small-but-significant percentage of income from grants or commercially funded research, but it should be obvious that their main income is from student tuition. University faculty must teach, and that activity absorbs a large amount of work time. Do not assume teaching only takes place in a classroom as a lecture. Teaching is hard work that requires preparation long before the classroom or lab and requires work long after class and lab time ends. Teaching, in fact, limits the time available for other academic activities.



Brad Sloan/Getty Images

While research publications can serve the noble purpose of educating students, many universities see publication as an opportunity to generate revenue through research grants.

Research

To create better students, all teaching should be underpinned by the best facts and concepts available. This should be the real purpose of conducting research at most universities: Research is a tool to improve the quality of information delivered to students and the public. However, administrations look at research as a means of increasing university income through the work of individual academics in obtaining research grants from external organizations or industry. A chunk of almost every grant, or the “overhead,” goes to the university to support general operations, so it is financially beneficial for universities to obtain grants.

The work involved in writing an application for a major grant is significant. The grant application, the ethics-review application, the budget-proposal forms and many other documents add up to the equivalent of writing a short textbook. Academics generally do not get any compensation or reduction in workload for this task unless the grant is successful. If they are incredibly lucky, academics might get three or four hours per week made available for grant writing. In many instances, they do not get additional time allocations to conduct the actual research unless the grant is large enough to buy out teaching and get a temp to instruct while the contracted research is conducted. More often than not, all research activities are unfunded mandates placed upon academics.

A recent study showed that nearly 2 percent of all scientists admit to fabricating data at some point in their career. In the same study, 33 percent admitted to other ethical indiscretions during their professional careers.

Here, with the scientist and his employment, begins the problem with research publication. A recent study showed that nearly 2 percent of all scientists admit to fabricating data at some point in their career. In the same study, 33 percent admitted to other ethical indiscretions during



Thomas Barwick/Getty Images

With the huge increase in the number of journals since 1950, many articles are read only by their authors and editors.

their professional careers. If evidence of scientific wrongdoing is discovered, the results can end careers. This is happening increasingly often, and some of the cases are quite remarkable. In 2012, anaesthesiologist [Yoshitaka Fujii](#) had a publication history of 172 papers retracted by his university and the journals in which he published them, effectively wiping out a career of work and the possibility of any future of work.

Exercise sciences are no different, with a number of active investigations into alleged unethical scientific conduct receiving press coverage in [Europe](#) and [North America](#).

But why would a scientist risk his or her career by fabricating or misreporting data in a scientific journal? Pressure to publish from employers may be a contributing factor, as [institutional publication pressure is related to author bias](#), but we cannot truly speculate about individual motivations. It is, however, important to note that with every single journal submission, an author must submit a signed acknowledgement that the paper is original work

and accurately represents the facts of the experiment reported. So each time there is a finding of academic fraud in regard to a published scientific paper, the author has twice strayed from accepted academic ethical standards.

Service

Every university has committees and leadership activities, and academics are expected to participate in carrying out these service activities. Doing so is generally not too difficult or time consuming in the U.S. model of higher education, though this service is much more involved in the U.K. model. Academics are also expected to contribute service to their profession or discipline. This means membership in professional or academic organizations and some form of contribution to those organizations. Most often, this contribution is made through membership in organizations and peer-review activities for academic journals. The peer-review system provides the second element of the problem with exercise-science publications.

Element 2: Peer Review

Scientific journals arose 400 or so years ago from activities of the members of learned societies. Membership in those societies and academies was by invitation, and the works published were quite tightly controlled. The current system of science publication only rudimentarily follows

the same processes. The old system had time for consideration, pontification, discussion and eventually publication. The new system does not; it is fast and furious.

The peer-review process follows a fairly standard path. After the completion of an experiment, a scientist, often in conjunction with a number of collaborators, will write up a formulaic report of the experiment and its results:

Introduction—The background, rationale and hypothesis/purpose of the experiment.

Methods—Description of the methods.

Results—Reporting of the outcome of the experiment.

Discussion—Contextualizing the findings and proposing conclusions.

The resulting document is submitted to a journal for consideration of publication. At this point, an editor of some status within the journal will acknowledge receipt of the manuscript and assign it to peer academics to review and determine suitability for publication.



Hill Street Studios/Getty Images

Teaching is required of academics, and it significantly cuts into the time available for research and writing.

This is a very tricky bit. Although the primary responsibility of the peer reviewers is to evaluate the paper's scientific merit and its relevance to the journal's mission, the meaning of "suitability" is actually left open to the interpretation of the individual reviewer. As such, a paper delivered to two peer reviewers might return review commentary that appears bipolar or seems like a good-cop-bad-cop interrogation transcript. In other cases, commentary may be focused solely upon statistics, or it may be a collection of typo corrections. Commentary may even be a balanced evaluation that improves the manuscript.

The peer reviewers exert considerable influence on the content of the papers they review because they can recommend outright rejection of a paper, require extensive revision and resubmission, or accept a paper pending minor (a very subjective term) changes in the text.

Authors love the reviews where the peer reviewer has obviously only read the abstract, scanned the article, and then made a few simple comments and suggestions to implement. They hate the ones that contain obsessive-compulsive line-by-line analyses of word choice, punctuation and grammar; what-if interrogatives; why-did-you-do-this

questions; you-should-have-done-this statements; include-this demands; and a seemingly endless amount of other minute and aggressive bits of critique. Regardless of which type of reviews are returned to the authors, they must consider including any recommended change in a revision, and they must write a written response to the journal editor detailing how they dealt with the reviewer comments, noting where they addressed them in the manuscript or justifying why they did not.

Peer reviewers are the second level of quality control in scientific publication But who are the reviewers who occupy this important position?

Peer reviewers are the second level of quality control in scientific publication, with the individual author and his or her adherence to professional ethics being the first. But who are the reviewers who occupy this important position?

The term "peer reviewer" implies the academics occupy positions similar to those of the authors of the submitted papers. This means peer reviewers are academics under the same pressures as authors, and they provide a review service for journals without any compensation—just their name listed in the journal or on the journal's website to identify them as reviewers.

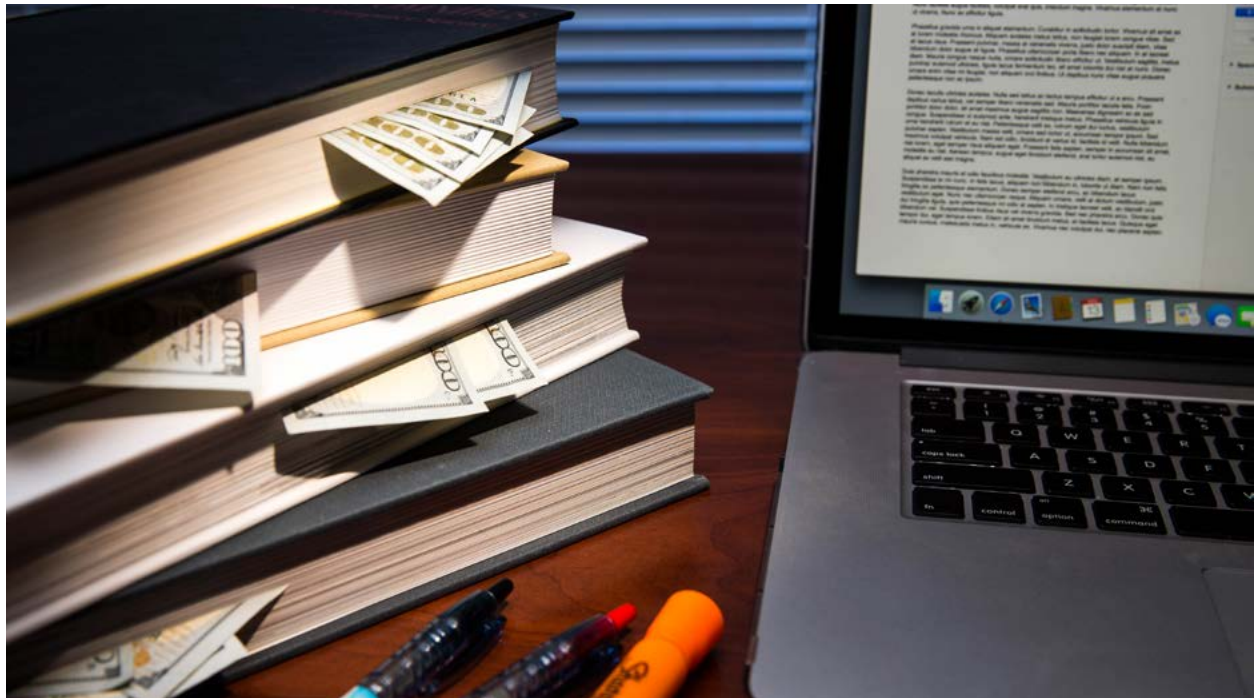
A problem with exercise-science journals is that the pressure to publish and provide service creates a situation in which clinically trained or professionally trained doctorates (these are not traditional research-intensive degrees) are called on to peer-review the research of others without having the training or experience to do so with a high degree of rigor or competence. It is also quite common for individuals to review papers without having a background—academic or experiential—specifically relevant to the paper considered. This can be illustrated when an individual who is exquisitely trained in aerobic metabolism reviews a paper on strength-training methods, or, in recent cases, when such an individual reviews a paper on CrossFit. This flaw weakens the peer review.



Leverstock/Getty Images

With an increasing number of journals and articles, universities are hard pressed to produce qualified peer reviewers.

Dave Re/CrossFit Journal



In the publish-or-perish world of academia, journal publishers can profit from researchers whose careers depend on getting their work into print.

Additionally, the volume of papers produced has become so large and the number of journals so expansive that the need for peer reviewers and editors has outstripped the availability of qualified academics. When a just-graduated early career lecturer or assistant professor is called upon to review a manuscript outside his or her field of training, the system is flawed.

Despite the noble intent of academia, a cottage industry—an academic vanity press—has emerged to provide publication outlets to meet the huge university demand for academics to publish. Academics pay “page charges” or “publication fees” to get their works published. These are fees that journals require the academic or his or her university to pay so the work will be published. Some journals charge nothing, but many others charge up to several thousand dollars. The ACSM charges US\$3,000 for its relatively new open-access option. Interestingly, when an author pays the fee, he signs a transfer of copyright or ownership of the manuscript to the journal. It’s the opposite of normal publishing operations, in which authors are paid by publishers. This creates a fish-in-a-barrel scenario for academic publishers: Academics have to publish, so why not profit from this need?

Since 1950, the number of journals and journal articles has been estimated to have increased about 1,700 percent (2000 data). We are led to believe that the explosion of new information can only benefit us, and conceptually this is correct. However, there are more than 1.8 million science papers published each year in about 28,000 journals (and these numbers grow each year). One 2007 study suggested about half of those articles will never be read by anyone other than the authors, peer reviewers and editors of the journal.

Do these unread papers contribute to education and the real world? They really can’t, can they? So why were they written? Pressure to publish and continue employment? Why do peer reviewers review manuscripts for journals that publish papers that will never be read? Pressure to provide professional service?

Whether articles are read or unread, the review process is ideally the same in all academic journals, and peer reviewers rely on the authors to present them with facts. They cannot discriminate between fact and non-fact when they read a paper; they trust in the academic’s attestation that he or she has presented true facts. This makes ethical behavior on the author’s part a cornerstone of academic publication.



PM Images/Getty Images

The world of academic publishing can be nebulous, and peer review is often no guarantee of quality.

Just as it is imperative for authors to act ethically, it is incumbent on reviewers to do the same and review the paper before them fairly and objectively. It is not acceptable practice for reviewers to consider papers in topics where they cannot render informed decisions or for them to request changes in articles to enforce their own biases.

Element 3: Editors

If authors are the first level of quality control in publishing and peer reviewers are the second, then section or associate editors form the penultimate level of quality control.

When the peer review is complete and the authors have revised the paper as necessary, the associate editors (also academics who are unpaid volunteers just like peer reviewers) will make a decision whether the author has adequately addressed the reviewer comments and recommendations. They may or may not have the peer reviewers make a final recommendation prior to rendering a publication decision to the final quality-control check in the system: the editor-in-chief.

These associate editors are intended to be experts in their domain of review and to be able to separate journal-appropriate papers from those that are not relevant to the reader. They also make determinations on whether reviewer recommendations are reasonable, and they determine the merit and completeness of author responses to reviews.

The editor-in-chief is responsible, by definition, for ensuring that the papers published in the journal are fairly and objectively reviewed and that they present factual information without bias, either external (author) or internal (reviewer and editor). They are the final authority in what papers appear in the journal, and they can overrule any editorial decision. In cases of potential academic-integrity offenses, the editor-in-chief is absolutely responsible for aggressively investigating any claims or suspicions of unintentional and intentional misrepresentations of data. The editor-in-chief, along with associate editors, must consider all potential cases of author misconduct and be unafraid to reject or retract offending papers. The health of academia and the reputation of their journal demand no less.

There is a disturbing phenomenon that occurs in some exercise-science journals when the review and editorial staff act as a coterie, a group of people who treat and develop their shared interests above those of anyone else.

There is a disturbing phenomenon that occurs in some exercise-science journals when the review and editorial staff act as a coterie, a group of people who treat and develop their shared interests above those of anyone else or academia as a whole. Look at a journal's list of peer reviewers and editors, then look at the authors of the articles included in the issues. In an objective journal with a healthy review and publication process, there will be a relatively low frequency of appearance of editors and reviewers as authors. If the journal is relatively myopic and inbred, for want of a better term, the editors and reviewers will appear as authors of an exceedingly high number of

papers published by the journal. An editor-in-chief should be attentive to authorship and not allow a journal to become a potentially biased mouthpiece for a group of like-minded academics at the expense of healthy academic discourse.

The Big Question

How can we be certain the papers published in exercise-science journals are truthful?

We have to believe in the 98 percent of scientists who haven't falsified data. Without their continued and exemplary ethical behavior, academia and scientific publication is a house of cards.

We have to believe that reviewers will objectively review papers and will not use their positions to advance their own biases.

We have to believe that editors will consider publication as open scientific discussion and that their decisions on which papers appear in their journals will promote the health of the disciplines, the industries and the professional practices of their readership. It is also an absolute necessity that editors-in-chief do everything within their power to ensure their journals are pillars of integrity and that every hint of author, reviewer and editor impropriety is investigated, with any offenses dealt with in a meaningful way. This can and should entail public retraction of papers found to be intentionally or unintentionally fabricated or misrepresented.

We have to believe that universities will fully support the research activities of the academics they require to conduct research, pursue grants and publish. High-quality research and publication will not emerge from unfunded mandates and little or no specific time allocated to actually doing the laborious and time-consuming work of experimentation. Failing to address this problem can only further drive the expansion of the number of academic journals and articles no one will ever read.

And then there is the "we" in all of this. Everything presented above suggests we buy into an idealistic vision of academia, a view that allows us to believe the system will work and offenders will change. But we also have to be realistic. We, as exercise professionals, have to be equipped to read scientific articles critically. If we lack the ability to read a scientific article that is specifically

relevant to the training of our clients, we are at the mercy of those who would pass off fabrication and misinformation as truth.

And finally, we cannot shy away from questioning those who purport to be experts when there appears to be a problem. We have to be ready to act as ethical watchdogs who demand integrity in publication. Our clients, our peers, our businesses and our profession can only benefit when we do.



About the Author

Prof. Lon Kilgore graduated from Lincoln University with a B.Sc. in biology and M.Sc. in kinesiology from Kansas State University, and he earned a Ph.D. from the Department of Anatomy and Physiology at Kansas State University's College of Veterinary Medicine. He has competed in weightlifting to the national level since 1972 and coached his first athletes from a garage gym to national-championship event medals in 1974. He has also competed in powerlifting, the first CrossFit Total event, wrestling and rowing. He has worked in the trenches, as a coach or scientific consultant, with athletes from rank novices to professionals and the Olympic elite, and as a collegiate strength coach. He was co-developer of the Basic Barbell Training and Exercise Science specialty seminars for CrossFit (mid-2000s). He was a certifying instructor for USA Weightlifting for more than a decade and a frequent lecturer at events at the U.S. Olympic Training Center. He is a decorated military veteran (sergeant, U.S. Army). His illustration, authorship and co-authorship efforts include the best-selling books "Starting Strength" (first and second editions) and "Practical Programming for Strength Training" (first and second editions), recent releases "Anatomy Without a Scalpel" and "FIT," magazine columns, textbook chapters, and numerous research-journal publications. His professional goal is to provide the best quality, most practical, most accessible and highly affordable educational experiences to fitness professionals through his university work and through his AnatomyWOD and PhysiologyWOD courses. His students have gone on to become highly notable figures in weightlifting, powerlifting, cycling, fitness and academia.



Dave Re/ CrossFit Journal

HIT ME WITH YOUR BEST SHOT

BY EMILY BEERS

With basic technical skills and some practice, affiliates can create great images that showcase their businesses.

One of the most humbling aspects of CrossFit is how it exposes weaknesses—and not just in the realm of fitness.

Each CrossFit gym has a website that requires a modest degree of skill with words, videos and pictures, and these sites can showcase the strengths and weaknesses of those who manage them.

Even if you have the best coaches and facility, posting poor pictures online can give would-be clients the impression a lack of care might spill over into other areas of your business—such as the way you train your clients. It's no mistake CrossFit Founder and CEO Greg Glassman has said he can determine the quality of a gym by the [cleanliness of its bathrooms](#).

Attention to detail is important, and what you post online matters. When a picture is sharp and clear, it can bring a moment to life and make a statement about your business. Taking the time to create quality images can help develop a brand that radiates quality and professionalism.

Affiliate owners certainly don't need to become professional photographers, but a few simple tips can help them dramatically improve the quality of the images that represent their businesses.

Trading Squats for Shots

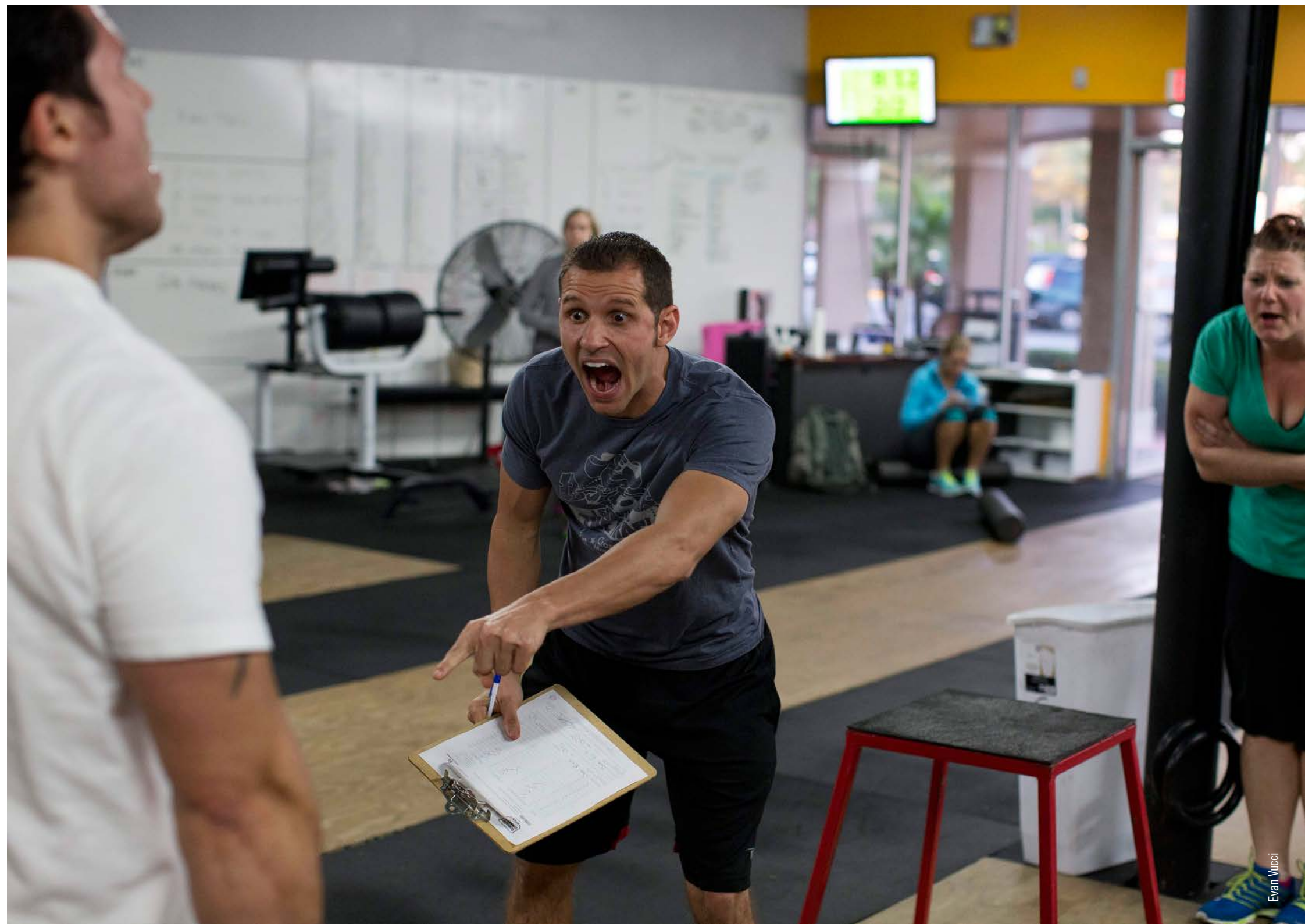
Joe Vaughn of CrossFit Mousetrap in Orlando, Florida, always liked taking pictures, but he didn't have a great camera and often used his iPhone to snap action shots of his athletes.

His gym is located more or less across the street from Disney World, so tourists regularly drop in for workouts. One day, Associated Press photographer Evan Vucci showed up at Vaughn's door. In town to cover baseball spring training, Vucci worked out at CrossFit Mousetrap a few times, and to show his appreciation for Vaughn's hospitality, the photographer decided to snap some pictures before he left Orlando.

“(Vaughn's) such a cool guy, and I thought, 'I'd love to do something nice for these guys,' so I brought my camera in one day and started taking pictures,” Vucci explained.

When he gave the shots to Vaughn, the affiliate owner immediately noticed their remarkable quality.

“They were beautiful shots. Action shots that had no motion blur,” Vaughn said.



Associated Press photographer Evan Vucci dropped in at CrossFit Mousetrap and advised owner Joe Vaughn (pictured) on the basics of taking quality photos.



Courtesy of Joe Vaughn

Vaughn's new camera takes great high-resolution photos that have helped increase CrossFit Mousetrap's social-media presence.

Vaughn immediately knew he needed to up his game in the multimedia department, so he asked Vucci—who has been with the Associated Press for 11 years—to offer some advice.

“He told me exactly what camera to buy and what software to use to edit (photos),” Vaughn said.

“The next day, he ordered a new camera and new lenses—everything,” Vucci said.

Vaughn dropped US\$3,300 on a Canon 5D camera and two lenses. Costly as the equipment was, Vaughn admitted it's been a worthwhile investment. His new camera takes great high-resolution images that have helped increase CrossFit Mousetrap's social-media presence. In terms of Facebook metrics, two months before Vaughn bought his Canon 5D his Facebook page listed 4,386 interactions. In the two months after the purchase, the number jumped to 10,364.

**Costly as the equipment was,
Vaughn admitted it's been a
worthwhile investment.**

“Essentially, my engagement more than doubled,” he said. And although it's hard to pinpoint exactly what is helping drive new business, Vaughn's membership numbers have increased as his Facebook reach has grown—enough for him to assume there's a significant correlation between the two.

“People are more likely to tag themselves (in posted photos), and friends are more likely to comment,” said Vaughn, who ensures every single picture he posts is stamped with the CrossFit



Courtesy of Joe Vaughn

Vaughn's aim is to create an honest representation of his box through photos. Vucci says an affiliate's athletes are its best advertising.

Mousetrap watermark. And because of their high quality, Vaughn's pictures often become his clients' profile pictures.

At present, if Vaughn goes a week without posting new pictures, members start asking for more.

Similarly, Vaughn's pictures have helped drive business through his advertisements in a local Disney magazine. Since buying his new camera, these advertisements have become second only to word of mouth in bringing in new members.

“It really shows people what they can expect from our program,” Vaughn said of how his ads have consistently attracted new leads.

On top of improving the quality of his pictures, Vaughn invested money in hiring a professional to produce high-quality videos for his homepage. The videos advertise his program by showing the

various types of athletes who work out at his box.

“In the video, we were very strategic. We weren't just showing the fit people. We show people of all different ages, body types. We wanted to create an honest representation of the box,” he said, explaining that it's not just the quality of the media but also the message that matters for a business.

Although we're living in a world where every single device seems to have the ability to take a picture or video of varying quality, Vaughn believes his story shows people still care about quality. He said understanding that has helped his business more than he would have imagined.

Vucci put it this way: “You can't just be good in the gym. You have to be a salesman and a brand owner. It's community relations 101. Make people feel good. Make them be proud to be a part of your brand. Your athletes are your best advertisement.”



High shutter speed allows you to blur the background of a picture so the image you want to focus on really pops out.

Basic Training

Vucci discovered CrossFit in 2010. Although he travels a lot for work, his home box is CrossFit Balance in Washington, D.C.

The best part about being an Associated Press photographer is that it gives him “a front row seat at history,” Vucci said.

While fun, photography is business for him, and he believes CrossFit affiliates only hurt themselves if they don’t make photography part of their business as well. He’s seen how photography has helped CrossFit Mousetrap improve the profile of its brand.

“Every single picture he has a watermark on it It’s a no-brainer for a business,” Vucci said. “The difference between what (Vaughn) is doing at his place (and) iPhone pictures is like night and day.”

While Vucci doesn’t think all affiliate owners should drop \$3,000 on a camera, he explained that the most important feature buyers should look for is high shutter speed. Shutter speed is the amount of time a camera’s shutter is open when you take a picture. If shutter speed is too low, blur is the result when athletes are moving. And when you’re shooting action shots—as is usually the case with CrossFit—blur is the last thing you want.

“You want to freeze the action,” Vucci said, explaining that a higher shutter speed also allows you to blur the background of a picture so the image you want to focus on really pops out.

“More expensive lenses are faster lenses, so you can shoot in darker areas.”

—Evan Vucci

Vucci’s second tip is to use a fast lens.

“More expensive lenses are faster lenses, so you can shoot in darker areas,” Vucci said. And because many gyms have low light and few windows, a fast lens is particularly important.



Dave Re/CrossFit Journal

CrossFit Inc. photographer Dave Re advises new photographers to learn the timing of their cameras to help capture the right action shot.

Dave Re has been a photographer with CrossFit Inc. since the summer of 2012, and he advises affiliate owners to find a camera that has a manual mode as well as quality high-ISO performance. ISO refers to the level of sensitivity a camera has to available light. Lower ISO means less sensitivity to light, while higher ISO means more sensitivity.

“Inevitably, you’re going to have to shoot at high ISO in most boxes to stop action, because they’re relatively dark,” Re said. But he warns that when ISO is too high, images can become grainy and noisy. So the key is finding a camera that still has the ability to shoot quality pictures at a relatively high ISO.

Most cameras work well if the lighting is good and nobody is moving, Re said. But this isn’t a luxury you have when you’re shooting at a gym, so learning the timing of your camera is also important.

“If you’re trying to shoot someone doing a clean and you want to catch it at the apex of the second pull, you need to know when to hit the trigger. So spend some time learning how to use the different modes on the camera,” Re said.

Re suggests learning about manual, shutter-priority and aperture-priority modes. The aperture is the opening that allows light to travel into the camera through the lens, and a larger aperture— $f/1.8$, for example—lets more light into the camera.

Re explained the modes: “In manual, you control everything—shutter speed and aperture. In aperture priority, you tell the camera what aperture to use, and then it figures out the right shutter speed. ... In shutter priority, you tell the camera what shutter speed to use, and it figures out the right aperture.”

But to Re, there’s another key to photography that’s even more important than shutter speed, ISO and aperture. The final piece



Dave Re/CrossFit Journal

A camera is only as good as the person behind it, so affiliate owners are encouraged to learn how to use their equipment properly.

of the puzzle is the photographer, who is more important even than the price tag on the camera. Despite the fact that Re often packs around \$20,000 in top-of-the-line equipment, spending a lot of money isn’t the critical aspect of photography.

“It really comes down to the guy trying to use it,” Re said. “There’s not a camera you’ll buy that will take perfect pictures just by pointing and shooting.”

He continued: “There’s this whole crop of cameras that have popped up that are in the \$400-to-\$600 range that do a good job if you know how to use them. ... You can get a camera that knocks it out of the park for \$400 right now.”

Picture quality aside, when it comes to CrossFit photography in particular, the picture’s message is also very important. For example, pictures of round-back deadlifts aren’t ideal.

“Definitely go for quality over quantity, and think about the message you’re sending,” Re said.

He continued: “People will take that image and interpret it as the quality of training you’re going to get at the box. You could have the best trainers in the world, but you don’t want a picture up there that suggests that it wouldn’t be.”

“People will take that image and interpret it as the quality of training you’re going to get at the box.”

—Dave Re

This doesn't mean you should only post pictures of the fittest people at your box. It simply means you need to be mindful of movement.

"Just catch them in good positions. Even if it's a scaled movement, there's a good time to shoot that movement," Re said.

The bottom line is that you can use your pictures to give an impressive representation of what you do inside your gym.

All this advice doesn't begin to scratch the surface of what you can do with a good camera, but Vucci and Re believe picture quality will go up if you learn about these basic elements and then practice.

Picture Perfect

Whether they spend \$400, part with \$3,000 or choose to barter a gym membership with a talented photographer, affiliate owners can use photography to enhance both their businesses and their community.

"If you post something that looks good, it gives you the idea that you have a professional thing going on," Re said.

Anyone can snap a shot and post it to social media. But to produce a memorable picture that conveys and elicits emotion is something altogether different. A picture that encourages people to comment and share might even convince someone to join your community. That's the kind of picture an affiliate owner should strive to take. ■

About the Author

Emily Beers is a CrossFit Journal contributor and coach at [CrossFit Vancouver](#). She finished 37th at the 2014 Reebok CrossFit Games.



Affiliate owners should strive to take photos that encourage people to join their community.

Courtesy of Joe Vaughn

THE CrossFit JOURNAL

Authority Figures

By establishing expertise, great coaches can make connections with current members as well as potential clients.

By Chris Cooper

January 2015



Chris Cooper/CrossFit Journal

When people have fitness-related questions, whom do they call? In the age of opinion, many aren't sure where to turn for real answers.

Before 2001, CrossFit Founder and CEO Greg Glassman was teaching CrossFit, but few knew about it. In 2001, CrossFit.com went up, and in April 2002 the CrossFit Journal site followed and became home to Glassman's foundational writings about the program.

1 of 5

Through articles such as “[Foundations](#),” seminars, technique videos and other media output, the CrossFit message spread from Santa Cruz, California, and generated more than 10,000 affiliated gyms by 2014.

Glassman is called “Coach” by most who meet him, and he’s an authority figure in the fitness world. Coaches and affiliate owners keenly attuned to Glassman’s “pursuit of excellence” credo work hard to better their skills daily through self-evaluation, continuing education and professional development. CrossFit coaches are getting better all the time. But do their clients know? Their clients’ friends? The local community at large? The baker, the butcher, the candlestick maker?

In other words, does the market appreciate their expertise?

“Authority is recognizability and trustability,” Seth Godin, a popular business writer, wrote in “[Striving for Authority](#).” Godin believes establishing authority is one of the most critical branding strategies in the new business landscape. In the “opinion age,” it can be hard for clients to trust service providers. With dodgy information available everywhere, professional coaches can

still stand out as experts if they practice the strategy of “show, don’t tell.”

Authority “comes from showing up. It comes from telling your truth and consistently sharing your point of view,” Godin wrote.

CrossFit coaches have the opportunity to display expertise in every class, but some gym owners are taking it beyond the walls of their gym and finding ways to stand out in their local market.

Every Damn Day

“Why are we doing this workout?”

Coaches who clearly explain the benefit of each workout aren’t just helping the client; they might be helping themselves. A man concerned with weight loss is bound to care less about improving his Fran time than reducing his midline—at least at first. If he knows the value of short, intense anaerobic exercise, he’s more likely to buy into the program. If he isn’t sure how thrusters and pull-ups will help him meet his goals, he might keep one eye on the door. Keep in mind many people have been raised on long bouts of cardio and 3-sets-of-8 routines with roots in bodybuilding.



Dave Re/CrossFit Journal

By showcasing his knowledge through media, unknown California trainer Greg Glassman quickly became one of the foremost authorities in fitness today.

“Greg (Glassman) helped me realize the training I was doing in the gym had real-life value to it.”

—Greg Amundson

A useful analogy from the business world is that of buying drill bits and buying holes. As the lesson goes, “People don’t go to the hardware store to buy a half-inch drill bit; they go to buy a half-inch hole in their wall.” In other words, the drill bit is the tool required to hang a picture; it’s not the goal itself. Thrusters, cleans and ring dips are versatile tools that can be used to deliver different elements of fitness. It’s up to the coach to explain how they’re used. The best coaches can demonstrate proper use but also reveal why those tools were chosen for the workout.

Authority ... (continued)

Establishing expertise doesn't always mean technical lectures on energy pathways and metabolic processes. But coaches who can explain complex concepts in simple terms are often highly regarded by their members.

"You don't understand mathematics until you can explain it to your grandmother," Albert Einstein famously said, comparing the possession of knowledge with its application.

Rendering a scientific concept relevant to a wide variety of clientele is one of Glassman's greatest strengths. A whiteboard lecture at the original CrossFit gym was more than an outline of the daily workout. It was an explanation of the workout's particular benefits to each athlete.

"Greg (Glassman) helped me realize the training I was doing in the gym had real-life value to it," said Greg Amundson, who trained with Glassman and now runs CrossFit Amundson in Santa Cruz.

"I was result-driven then," Amundson continued. "I cared about the effect, not the cause. I was a cop. Eva (Twardokens) was a gold medalist. Mike (Weaver) was fighting. (Glassman) taught us that what we were doing in the gym exceeded what the real world would ask of us."

Before Amundson became a coach, the knowledge imparted at a daily whiteboard meeting met his needs as a client. Only later did he care to delve into Glassman's rationale more deeply.

"The first two times he told me about the Zone Diet, it was very technical," Amundson recalled. "He gave me the book; I read the book. A couple of days later I said, 'Coach, just tell me what to eat.'"

When Amundson was ready for the next level of knowledge, Glassman provided more. The learning curve was thus spread over years, and Amundson never doubted he was training with the best.

Other clients also knew how CrossFit would benefit them. Some, like Jimmy Baker, recognized Glassman's expertise had the potential to change an industry.

"We didn't think he was histrionic when he was saying, 'We're going to change the way people think about fitness in the world,'" Baker said in a [2009 CrossFit Journal interview](#).



Chris Cooper/CrossFit Journal

By filming your coaches at work, you can easily create great content that helps athletes and showcases the expertise of your staff members.

Glassman could make such a statement because he had established his expertise in the minds of his clients.

Knowing a client's real-world application of CrossFit is important to establishing authority. A good coach will discover a client's goals and make the link between the stimulus and the intended outcome.

As Ashley Forbis of CrossFit Voltage put it, "We want our clients to know more about fitness than the trainers at any other gym in town."

Successfully branding a gym as the local source of fitness knowledge creates an umbrella effect: When new fitness enthusiasts wonder about a diet or workout program, they know whom to ask. Building a reputation as the source of that expertise requires consistent delivery of content. In short, you have to put yourself onstage. Show, don't tell.

Daily workout posts can include the rationale behind the prescription. Blog posts explaining the value and implementation of the Zone Diet will appeal to dieters

who haven't yet found CrossFit. Chiropractors might find a "how to squat" handout helpful for their clients. Shoe stores might appreciate a squat clinic. And nurses might appreciate a nutrition seminar at 11 p.m.

For example, offering a local newspaper a monthly column on health and fitness benefits everyone involved. The paper gains an expert opinion and can then sell ads around popular, informative content, while the reader learns how to squat or eat better. The coach improves his or her reputation as a fount of knowledge and draws attention to the gym and its programs.

In another example, offering a free nutrition seminar to a local business can help increase market exposure, but it also helps the business by improving morale, staff health and teamwork. As above, the gym owner gains repute and might even acquire a new client or two. Everyone wins.

The key is to identify your areas of expertise, find someone who needs help and then offer it. The whole idea relates

back to Glassman's original ideas: Markets are ultimately unknowable, but excellence and expertise are rewarded in almost every market.

The Power of Media

The question "what is CrossFit?" has been a topic of discussion among affiliate owners from the start. "Constantly varied functional movement performed at high intensity" is a good description, but many coaches attempt to tailor their answer to the audience in front of them. Whatever their go-to "elevator pitch," owners and coaches might be better served by answering the questions before they're asked.

For example, a two-minute video titled "Why You Should Squat" is more likely to resonate with a non-exerciser than another called "Ankle Flexibility in the Overhead Squat." The two clips will appeal to very different markets and showcase expertise in different ways.

Many coaches recognize these opportunities to brand themselves as experts but aren't sure how to take advantage of them. After all, is there anything YouTube hasn't already covered? Don't people already know how to squat?

Perhaps, but globo-gym patrons and couch potatoes need information, and a video of a local expert demonstrating a squat, push-up or deadlift might trigger the start of a new fitness journey. It might also give people new insight, demonstrating they actually don't know what they don't know. After all, everyone knows how to squat—until they realize they really don't.

Demonstrating expertise to a broader audience is easier than ever before. Content creation was once the province of those with the money to buy expensive equipment. That's no longer the case, and affiliates and coaches can generate quality content without investing a lot of money in gear. A bit of technical expertise or skill might be needed to focus the camera or edit a blog article, but that can be learned, and publishing costs are minimal or non-existent in the age of websites and YouTube. Content costs coaches little more than time.

Taking a short video while coaching, adding a logo and uploading to YouTube is a good demonstration of competence. Asking other coaches in the gym to create content as part of a continuing-education strategy is another, and



Tyson Oldroyd/CrossFit Journal

Video and print content help a business establish its expertise and connect with members of the community.



Michael Brian/CrossFit Journal

Through videos and a strong online presence, experts such as Tony Blauer (right) shared their knowledge and established themselves as authority figures in their fields.

doing so doesn't have to add hours of work to a packed schedule. Similarly, filming in-class coaching can simply be part of a coach's routine, creating a way to capture scenes that are happening every day.

CrossFit coaches have changed the lives of thousands and have the opportunity to help millions more. But their collective knowledge lies silent until they show it off.

The ability to distill, translate and deliver knowledge is the hallmark of a great coach. CrossFit coaches have changed the lives of thousands and have the opportunity to help millions more. But their collective knowledge lies silent until they show it off.

As more gyms embrace the "functional fitness" approach, including some who do so simply by throwing a few kettlebells in a corner, it's important for coaches to nurture their reputation as experts, differentiate themselves from the competition, and showcase their excellence and value.

After all, if you don't tell people what you know—who will?



About the Author:

Chris Cooper owns [CrossFit Catalyst](http://www.crossfitcatalyst.com) and writes for the [CrossFit Journal](http://journal.crossfit.com). He's the author of "Two-Brain Business."

THE CrossFit JOURNAL

Double, Double Toil and Trouble

Expert Dave Newman dissects the double-under and offers tips that transfer over to triple-unders.

By Hilary Achauer

January 2015



On the surface, the double-under is simple. Grab a jump rope and let it pass under your feet twice each time you jump.

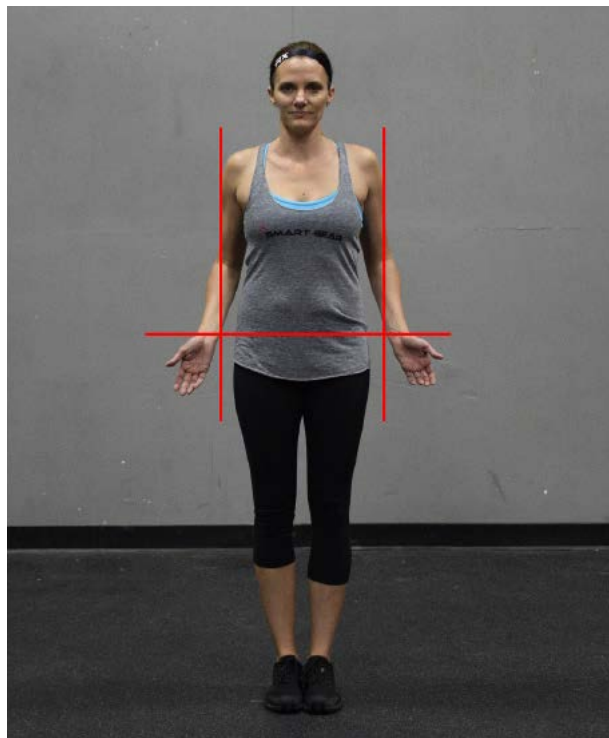
When double-unders go well, they are a thing of beauty. The rope is a blur as the athlete bounces up and down, relaxed and composed, the calm in the eye of a storm.

1 of 7

When double-unders fall apart, it's painful to watch—and experience. The rope whips the athlete in the legs. The rope catches under the athlete's feet. The hands and body seem to move at cross purposes. The athlete gets increasingly frustrated, and the situation gets worse. The scenario usually ends with a rope getting thrown across the gym. Often, there are tears.

The movement seems simple, but so much can go wrong. Double-unders require perfect timing and consistency. The athlete must stay relaxed and fluid, which is not easy when the clock is counting down and the stupid rope is whipping you.

Dave Newman has witnessed every type of double-under mistake. With his team, the RX Smart Gear owner and double-under expert leads workshops across the country. In an effort to help people identify their mistakes and learn double-unders quickly and smoothly, Newman has broken the movement into three primary components: bounding, rotational mechanics and timing. He's created drills to work on each component and cues to fix the most common double-under errors.



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Ideally, the athlete assumes a position in which the hands are 4 to 6 inches from the hip crease. This positioning should be maintained for all reps.

With a little help, your double-unders will become a thing of beauty, and you can then move on to the next frontier: triple-unders.

Bounding

When an athlete first attempts a double-under, his instinct is to whip the rope around as quickly as possible in a desperate attempt to get the rope to pass under his feet twice before he hits the ground.

This is not the best strategy. A quickly moving rope does not guarantee a successful double-under, especially for an athlete who is just learning. The rope doesn't have to move quicker to turn a single into a double; the athlete has to jump higher. To make the jumps efficient and smooth, Newman says the body should be like a pogo stick, with the athlete staying on his toes. According to Newman, the height of the jump is the most important aspect of the double-under.

The ideal posture for double-unders is characterized by a very upright, straight body.

"The higher you get off the ground, the more chance you have for success," Newman said.

The analogy Newman and his team give is Neil Armstrong doing double-unders on the moon. Picture Armstrong floating in the air. How easy would it be to keep rotating the rope? The longer you are in the air, the more you are able to slow the speed of the rope. A slower rope is more relaxing, leaving you fresh for the other movements in the workout. According to Newman, slowing the rope down also helps bring other senses into play, allowing the athlete to see the rope and perfect his timing.

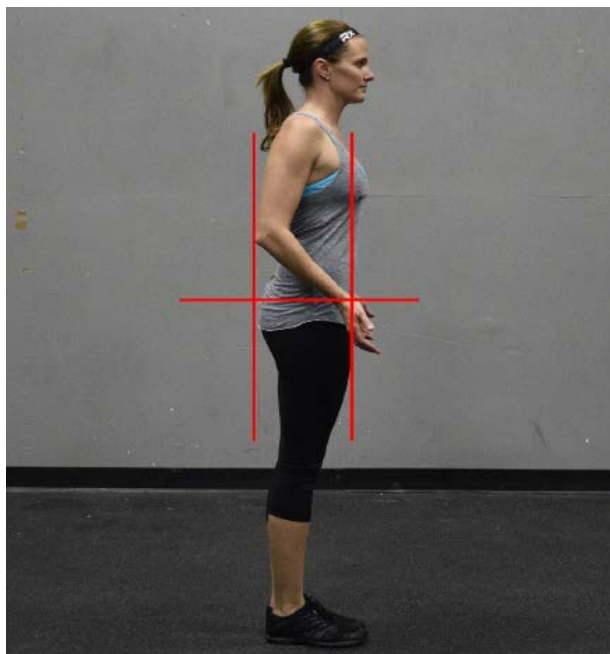
"You also lose the fear of whipping yourself," Newman said. "That (fear) creates a flinch reflex. People are flinching because they either really want to make it or they are worried about getting whipped."

Bounding Drills

1. Grab a partner or set up a video camera or phone to record. Start by bounding as if doing low singles, and then bound higher as if doing double-unders (don't use a rope). Pick a reference point on the horizon, and try to go above that line or mark when switching to double-unders. There should be a noticeable difference between the height of the low and high jumps. Next, try this drill with a jump rope.

2. To practice bounding off your toes, have a friend stand on a box and hold a stick or a PVC pipe over your head at about the height you need for a double-under. Practice bounding up and down (without a rope) and touching your head to the stick each time (see photo on Page 6).

In this drill, try to stay as tall as you can, making your body as long as possible. Hold the stick at different heights for your partner, so he or she can see the difference between a low single and a high double. Work on achieving a slight knee flex with very engaged quads when jumping higher. Use the flex to spring off your toes, and keep your feet together.



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If the hands are too far forward or too far back, skipping will be inefficient. The athlete should be able to see the hands working at the hips in peripheral vision.

Before an athlete begins bounding, Newman and his team work on posture. The ideal posture for double-unders is characterized by a very upright, straight body. Tuck in the hips, engage the glutes and quads, and keep the core tight. Finally, make sure the back of your neck is long and your chin is tucked in.

In a double-under, the calves do most of the work. Imagine your body is a pogo stick, and your calves are the spring.

"That's the primary motor: your calves," Newman said. "You'll get some quad engagement and a little more knee flex as you start bounding higher, but for the most part, it's calves."

Once the athlete has a sense of the correct posture, the next step is to feel the difference in height between singles and doubles. With singles, the athlete can stay very low to the ground, jumping only about a half inch. The heels can lightly kiss the ground. A low jump helps the athlete feel how to turn the rope with his wrists instead of rotating his arms.

"That's where we see the biggest problem," Newman said. "People do these really high, loopy singles with this big arm rotation, and then when they are ready to go for a double, all of sudden they forget about getting off the ground and jerk the rope into a tight little rotation, and the timing is off and they catch themselves."

When you transition to double-unders, keep the heels as high off the ground as possible and spring off your toes. Newman suggests athletes imagine they're wearing high heels.

"We want to spring, not absorb. If you let your heels sink down, you are absorbing, and that changes your timing," Newman said.

Rotational Mechanics

After bounding, the next essential piece of the double-under is what Newman calls "rotational mechanics," a term that refers to the positioning of the arms and hands. Poor hand positioning is one of the biggest causes of missed double-unders. As people get tired, their hands drift out from their body, which changes the shape of the rope.

Ideally, the elbows should be by the athlete's side and drawn back, with the palms forward. There should be about 4 to 6 inches between the hip crease and the wrist. If you were wearing a belt buckle—which is usually in the middle between the hip crease and hip bone—your wrists would be in line with the belt buckle.

"Without looking down, just using your peripheral vision, you should just see your hands wiggling," Newman said.

"When you lose (sight of) one or both hands, then your hands are out of position. When your hands are out of position, the spacing between you and the rope has just changed," he said.

If your hands are too tight against your body, it creates a narrow rope shape. If the hands go too wide, the rope shortens. The ideal is a happy medium.

The athlete should look at a spot on the ground about 10 to 15 feet in the distance. The goal is to have the rope hit the same spot each time, about 12 inches in front of your toes.

If your hands are too far forward, the rope is going to hit the ground farther out from the body, which causes the rope to rebound too quickly, Newman said.

The goal is to have the rope hit the same spot each time, about 12 inches in front of your toes.

"Those people are usually tuck jumpers—they have to get their feet out of the way," Newman said.

"When their hands are too far out in front of them, they see the rope out in front of them and the rope keeps catching their feet, so they start raising their feet up to miss it. It's counterintuitive for them to do the right thing, which is to pull the rope in closer to them so that the bottom-out point on the ground is closer to their feet," he said.

Newman said he also sees people who "operate from the back seat." These people jump with their hands too far

back. In this case, the athlete uses more back and shoulder muscles, which is tiring, and the bottom-out point is too close to their toes.

The next element of rotational mechanics is wrist rotation.

"We want the wrist to do the swiveling," Newman said. That means the wrist is disengaged from the arm. When the wrist is the swivel, the forearms and the grip can be relaxed.

"I can't clench my fingers and have a really loose wrist," Newman said. "If you lock down your wrist, that will promote a shoulder turn, which is not good."

Newman said the movement is a snapping motion, like the one you'd do if you washed your hands and couldn't find a towel. The snapping motion you'd use to dry your hands is the same type of movement you want in a double-under. The only difference is you are turning that snapping motion into a rotation. When it comes to rotational mechanics, the type of rope does make a difference.

Newman thinks a heavier rope helps the athlete feel the rhythm of the double-under.

"I don't think beginners should use speed ropes," Newman said. "They need to slow things down."

Once the rope slows down, the athlete can make sure he is bounding off the toes and maintaining the correct hand positioning—from the first to the 50th double-under.

Timing

The final piece of a double-under is timing—when to jump. Just like the Olympic lifts, double-unders require patience.

According to Newman, most people jump too soon, when they first see the rope. The best time to jump is right after the rope passes below the knee. As Newman explained, the rope has farther to travel than your body. It has a 360-degree orbit to make around the body, and the athlete only has to move up about 4 inches. This means it's essential to be patient and wait for rope. You can start prepping your body by bending your knees and loading up, but the minute your feet leave the ground, the rope should be passing under your body.

"That's one of the biggest missteps (people make)," Newman said. "They don't know when to jump. They equate their hand motion with jumping. The minute they start moving their hands, they think it's time to jump."

He added: "If the timing is correct, half of the double-under—that first rotation—is done the very instant you leave the ground. And then the second rotation happens and finishes before you even hit the apex of your jump. So the double-under is really done on the way up," he said.

For this reason, Newman likes to count as the athlete is on the way up when judging double-unders in a competition. If the rope doesn't catch on the athlete's foot, he counts it as a good rep each time they leave the ground. If the rope catches and the athlete stops, he doesn't count the rep.

Thinking about timing is a good strategy if you find yourself repeatedly stepping on the rope in the middle of a workout. Stop for a second, take a deep breath and start again, but try to slow everything down. You can speed up once you're in the double-under groove, but take some time to establish a slow, controlled rhythm, keeping your body still, bounding off your toes and rotating the handles with your wrists.

Triple-unders

Once an athlete can do 50 or 100 double-unders with ease, the next challenge is triple-unders. Just like the transition from singles to doubles, Newman said the secret to going from a double-under to a triple-under is elevation. It's not about moving the rope faster.

The best time to jump is right after the rope passes below the knee.

The only thing that might change in a triple-under is a slight tuck of the feet, Newman said—not a dramatic donkey kick but a small tuck, about the amount of knee bend you'd use for the dip in a push jerk.

It's crucial not to change your hand position when attempting a triple-under. People are tempted to crank the rope around, but Newman said doing so can pull your hands out of position and shorten the rope.

Rotational-Mechanics Drill

To learn to feel the correct isolated wrist movement, position a 5-gallon bucket on each side of the athlete. Each bucket should be on its side and propped up on boxes to sit at waist level. The athlete holds a 2-foot PVC pipe in each hand and tries to paint the insides of the buckets in a smooth, continuous movement using only the wrists. Position the boxes and buckets to create correct posture, and ensure the end of the PVC is just touching the inside of the bucket. It's surprisingly difficult to make a smooth, round shape.

"People will start going 'clank, clank, clank, clank'" as they bang the stick into the bucket, Newman said. The goal is to relax and release your wrist, letting the stick make a full circle.



By using only the wrists to trace the PVC around the insides of the buckets, athletes can learn the correct rotational mechanics for double-unders.

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Before attempting a triple, try exaggerating your jump on the double-under. Jump higher than you need to while keeping the hands close to the body and in your peripheral vision. Once you feel comfortable with a higher jump, try a triple-under, pulling your feet in slightly at the end if you need a little extra room for that third rotation. The first two rotations of the rope happen while you are on your way up, and the third should occur just as you are coming down.

In order to connect triple-unders, land with your legs at full extension, not in a quarter squat. This will allow you to bound off your toes and be more explosive for the next triple-under.

"Singles should look like doubles should look like triples," Newman said. "You're just higher in the air for each one."

Recovery on a Rope

You'll know you've mastered the double-under when you can consistently do 50 in 30 seconds and 100 in 60 seconds without breaking a sweat, Newman said.

"Look, I don't care if you can do 10,000 double-unders," Newman said. "It's really 50 and 100. Know you can confidently get through those, maybe with one break, and know how long it takes you."

In the 2014 CrossFit Games, the first event on Friday was Triple 3: a 3,000-m row, 300 double-unders and a 3-mile run. Newman remembers Julie Foucher was one of the



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In this drill, a coach can help an athlete find the correct jumping height. Once the athlete hits the requisite height regularly, double-unders will become more consistent.

last women off the rower. She moved on to the double-unders and was able to make up time by completing them in sets of 100, 100, 50 and 50. She made up even more time on the run and took sixth.

Timing Drills

1. To ensure your timing is consistent, Newman recommends alternating between 10 singles and 10 double-unders.

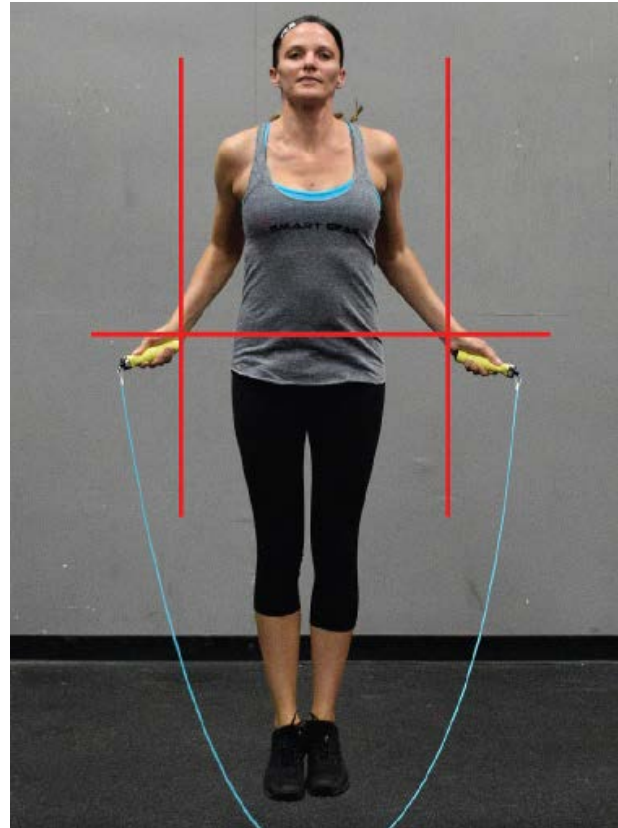
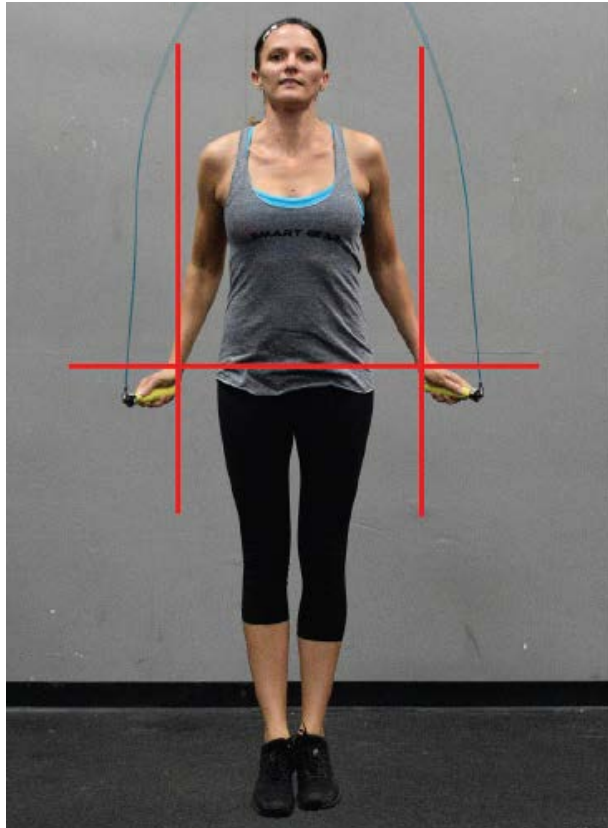
"If you can do that smoothly, it means you have good control over your rope speed and pace," Newman said.

He is not a proponent of alternating between one single and one double-under because he thinks it reinforces a habit of switching from high to low jumping rather than getting the flow of bounding high for double-unders.

"The minute somebody is turning one double-under, we immediately try to get them turning multiples," Newman said.

2. Another timing drill is try to do the slowest double-under you can possibly achieve. This will allow you to really understand the timing of the movement, helping you feel how it's not just about flinging the rope around as quickly as possible. To do this, jump as high as you can. You can even break form and bend your knees, just slow the whole movement down. Turn the rope continuously but slowly.

"You're flirting with your tolerances," Newman said. "How slow can I go? How fast can I go?"



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Note the parabolic rope shape created by the correct hand position. Moving the hands in or out will alter this shape and change the timing required to complete the rep.

When Newman works with Games athletes, he tells them to keep a relaxed pace with their double-unders. Moving faster increases the odds of catching or tripping and creates more fatigue in the shoulders, traps and arms. The athlete may be three or four seconds slower, but he or she will be recovered and ready for the next movement.

To improve your double-unders, work on perfecting your bounding, rotational mechanics and timing.

And make friends with your rope.



Moving faster increases the odds of catching or tripping and creates more fatigue in the shoulders, traps and arms.

About the Author

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Once you've gotten the hang of skipping, "Every other movement is harder than a double-under," Newman said.

CERTIFICATION AND LICENSURE: BENEFIT OR LIABILITY?

BY LON KILGORE

Lon Kilgore reviews recent legislation affecting personal trainers and discusses what it might mean for CrossFit trainers and affiliate owners.



In 2014, Washington, D.C., passed legislation giving the D.C. Board of Physical Therapy regulatory authority over fitness professionals, who also had to register with the mayor's office in order to practice.

Omnibus Health Regulation Amendment Act of 2013 established DC Code 3-1209.08 with an effective date of March 26, 2014.

In Florida in 2009, a proposed law regarding personal-trainer preparation would have placed regulation of personal-training and fitness professions under the auspices of the Board of Athletic Trainers, which was specifically created to regulate the allied health-care profession "athletic trainer," not fitness professionals. The bill, SB 984, was unsuccessful and was revised, modified and resubmitted as SB 1616 in March 2013 to remove the oversight by the Board of Athletic Trainers through the creation of the state Board of Personal Training.

Although SB 1616 died in committee, the concept of statutory regulation of personal trainers has persisted in some form in the Florida legislature for over five years. More than half a dozen other states have considered statutory regulation of personal trainers in the past decade under the guise of protection of the public, so it's important to examine what such regulation proposes and how it might affect our businesses.

Anatomy of Bad Legislation

The D.C. law is very simple. It registers personal trainers in order that their services can be taxed according to code (4). An individual must register if he or she meets the following definition:

"The term 'personal fitness trainer' means a person who develops and implements an individualized approach to exercise, including personal training and instruction in physical fitness and conditioning for an individual and a person who performs similar physical fitness training regardless of the designation used."

SB 1616's definition of the regulated professional is also quite broad in scope:

"'Personal trainer' means a person who evaluates a client's health and physical fitness; develops a personal exercise plan or program, or core-induced activity, for the client; and demonstrates, with or without equipment, exercises designed to improve cardiovascular condition, muscular strength, flexibility, or weight loss" (6).



If licensure legislation passes, many currently held certificates will not allow trainers to practice legally.

These definitions certainly bring to light a set of interesting questions that have direct effects on every CrossFit affiliate, its trainers, its coaches and the exercising public. In fact, the generic wording could easily apply to and affect phys.-ed. teachers, professional sport coaches, volunteer coaches, nurses, physical therapists, and any person who helps another through programming and delivering exercise advice and instruction—unless they are specifically exempted from the regulation for some reason.

Foremost among the questions: “Would I have to have a university education to meet state requirements?”

The short answer in the proposed legislation is no. The regulatory framework, as written, creates a minimum age and requires

only a standard first-aid/CPR/AED certification and the holding of an exercise-related certification. A university education is not required and is likely overkill for the basic duties of a personal trainer working with a healthy clientele. Fortunately, numerous organizations offer certification tests that potentially satisfy these requirements.

An interesting follow-up question: “If no education is required, how would someone pass a certification or then a licensure test?”

There are a variety of answers. It should be apparent that a valid test of one’s ability to be a fitness professional, someone who teaches exercise and programs exercise for the general population, would be an assessment of relevant fact-based knowledge

and an assessment of the candidate’s practical ability in teaching and programming.

Curiously, the answer to this question from every major professional credentialing and certifying body—save one—is to read a book at a minimum, maybe watch some videos, possibly do some pen-and-paper exercises, and then take a computerized or pen-and-paper test. The test can be proctored at a computerized facility or taken at home depending on the organization. When looking in detail at credentialing in the fitness professions, it is a telling indictment that a glut of organizations provide such without any evidence the candidate has actually interacted with another person in the learning process or can deliver training and programming to a live person.

When the quality and completeness of preparation to deliver fitness training to the general population is examined, only one major fitness organization requires (A) face-to-face instruction, (B) a supervised period of work-based or internship-based practice, and (C) an in-person assessment of practical abilities. That organization is CrossFit, with its newly restructured credential and certification system (3).

Table 1 compares the activities and requirements of the major credentialing and certifying bodies.

	ACE-CPT	ACE-GFI	ACSM-CPT	ACSM-HFS (Clinical specialist)	AFAA-CPT	Cooper Institute-CPT	AFPA-CPT	CrossFit L1	CrossFit L2	CCFT/CrossFit L3	CrossFit L4	IFPA-CPFT	ISSA-CPT	NASM-CPT	NCSF-NCPT	NETA-CPT	NEPT-CPFT	NCSA-CSCS (Professional sport strength coach)	NCSA-CPT
Costs for Credentialing																			
Cost of education	\$-	\$-	\$-	\$35,972	\$499	\$-	\$395	\$1,000	\$1,000	\$-	\$-	\$-	\$599	\$-	\$-	\$-	\$-	\$35,972	\$-
Cost of books	\$130	\$90	\$121	\$5,500	\$89	\$35	\$-	\$-	\$-	\$-	\$-	\$50	\$-	\$59	\$79	\$88	\$89	\$5,500	\$166
Cost of testing	\$400	\$250	\$279	\$279	\$-	\$289	\$-	\$-	\$-	\$650	\$500	\$349	\$-	\$599	\$249	\$449	\$329	\$445	\$420
Cost of test prep materials	\$269	\$159	\$423	\$275	\$-	\$39	\$-	\$-	\$-	\$-	\$-	\$600	\$-	\$191	\$252	\$198	\$151	\$539	\$280
Total cost	\$799	\$499	\$823	\$42,026	\$588	\$363	\$395	\$1,000	\$1,000	\$650	\$500	\$999	\$599	\$849	\$580	\$735	\$569	\$42,456	\$866
Average of cost carried as borrowed debt	\$-	\$-	\$-	\$29,400	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$29,400	\$-
Credentialing Facts																			
Study duration in years	<1	<1	<1	4+	<1	<1	<1	<1	1	>1	>1	<1	<1	<1	<1	<1	<1	4+	<1
University degree required	No	No	No	Yes	No	No	No	No	No	No"	No	No	No	No	No	No	No	Yes	No
Exercise-related degree required	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
High school or GED required	No	No	Yes	Yes	Yes	No	Yes	No	No	No	No	No	No	No	Yes	No	Yes	Yes	Yes
Face-to-face & practical instruction required	No	No	No	No	No	No	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No
In-person practical testing required	No	No	No	No	No	No	No	No	No	No	Yes	No	No	No	No	No	No	No	No
Externally accredited	Yes	Yes	Yes	Yes	Yes^	Yes	Yes'	Yes	No	Pending	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Content proposed relevance to training %	100	100	100	30	100	100	100	100	100	100	100	100	100	100	100	100	100	0-30	100
Required practice hours at worksite	0	0	0	0-500	0	0	0	130*	750	>750	0	0	0	0	0	0	0	0-500	0
Requires CEUs to maintain certification	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

' Accredited by Vital Research
^Accredited by ICE, NCCA parent organization
*Based on 5 hours per week for recommended 26 weeks
"University degree holders with 1,500 hours of practical experience may take the certification test
NOTE: Cost of testing included in AFAA educational fee
NOTE: All face-to-face, online, and text educational materials included with CrossFit educational or testing fees
NOTE: Another NCCA accredited program is often listed as fitness related, NATA-BOC, but this is a clinical certification and practice

TABLE 1

Words Can Hurt

A fairly significant issue that emerges from the wording of SB 984 and SB 1616 is that the candidate for licensure “has obtained the required certification from a program that is accredited by the National Commission for Certifying Agencies (NCCA) or the Distance Education and Training Council (DETC) and that is recognized and approved by the board.”

There are potential problems here. The most apparent is that by restricting the recognition of professional certification to the 13 fitness organizations accredited by the NCCA and the six degree-granting and four post-secondary training programs accredited by the DETC, all other externally accredited certifying organizations and their certificate holders would be in violation of the law by practicing.

The newest version of the Florida bill places failure to comply as a “misdemeanor of the first degree,” punishable by up to a year imprisonment, up to US\$1,000 in fines and potential loss of future eligibility for licensure. Passage of such a law would require currently practicing CrossFit trainers and coaches to abandon their existing credential or require them to pay for and complete a different and additional NCCA-accredited credential, such as ACSM-CPT, NSCA-CPT, ACE-CPT, etc. And this process would have to occur before the candidate could take the newly mandated state licensure test.

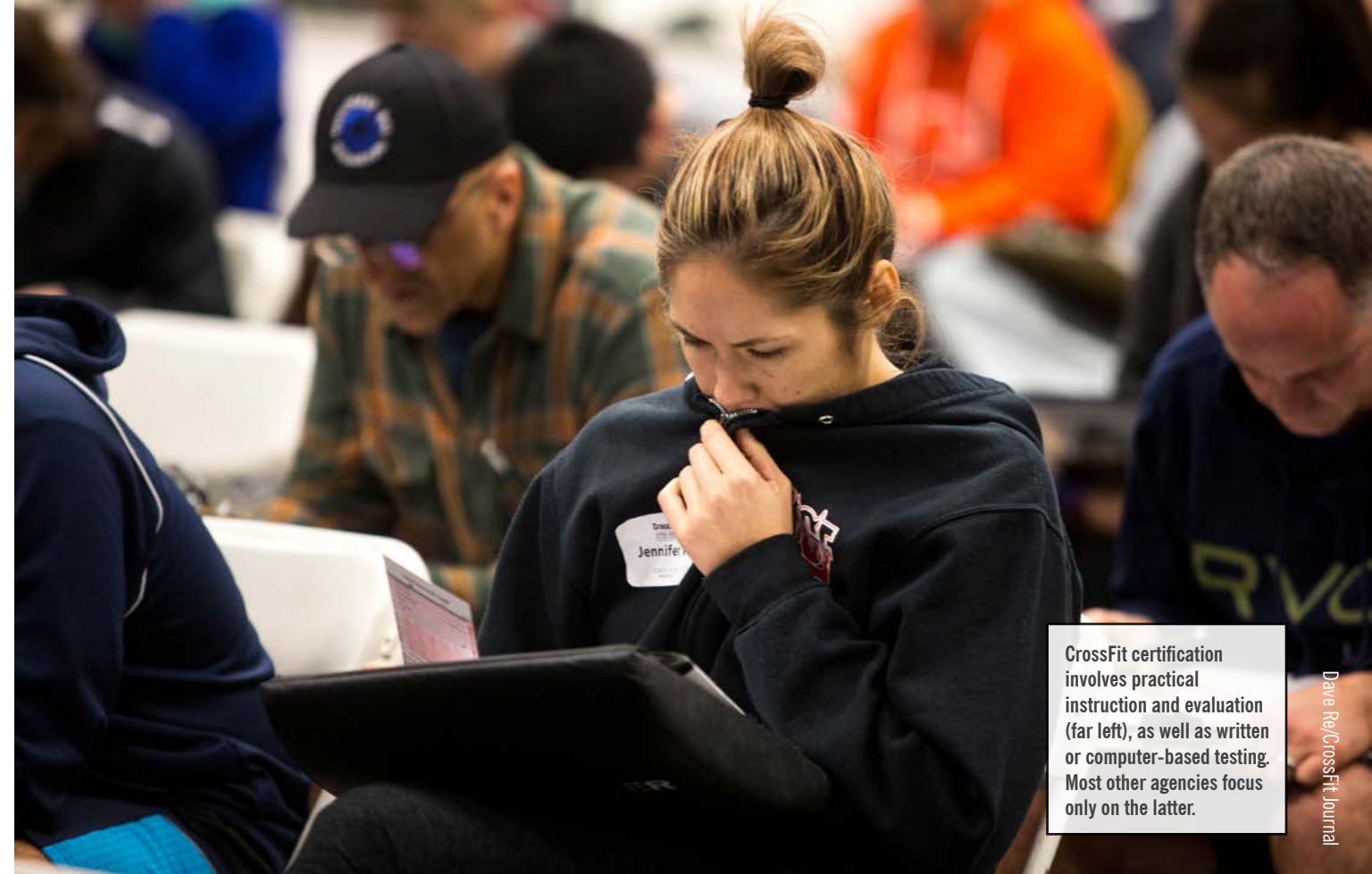
In short, if the proposed law passes, the cost of being a personal trainer in Florida will increase by doubling the number of formal tests to be paid for by many existing professionals, and it would triple the number of formal tests for others who hold credentials not recognized by the NCCA/DETC. For CrossFit trainers, it could specifically add the requirement to obtain a second accredited credential.

It is imperative to understand here that accrediting organizations do not make judgments on the quality of the content tested. There are no fitness professionals within the NCCA making judgments about how good or bad a test is. The NCCA is simply there to ensure that the assessment and credentialing system meets a set of guidelines the NCCA created and applies to all professions it accredits.

There is nothing magical about the NCCA, formed in 1989. In fact, the American National Standards Institute (ANSI) that accredits CrossFit’s Level 1 Certificate Course has been operating since 1918 and created the International Standard for Organizations framework. As with the NCCA, ANSI staff are not exercise experts; they are experts in ensuring organizations can carry out their business fairly, equitably and according to a set of general standards.



In the proposed Florida bill, trainers who practice without a license could face fines and jail time.



CrossFit certification involves practical instruction and evaluation (far left), as well as written or computer-based testing. Most other agencies focus only on the latter.

Tai Randall/CrossFit Journal

Dave ReCrossFit Journal

Another small problem—or a large one, depending on perspective—is that it will become a criminal offense to operate a personal-training business without a specific license, to employ unlicensed personal trainers, to fail to list license numbers on media or advertising, or to train clients while the trainer is ill or injured (mentally or physically). Most of the wording in the Florida bill is relatively nebulous, but interpretations in court could place the trainer in precarious situations.

An easily overlooked and insidious problem with the original bill was not all personal trainers would require certification, in what appeared to be a specifically designed codicil to incrementally move the profession under the auspices of another clinical profession (note the earlier reference to the boards of Physical Therapy and Athletic Trainers).

SB 984 included such a clause: “468.769 Exemptions.—Sections 468.7501-468.769 do not prevent or restrict: (1) The professional practice of a licensee of the department who is acting within the scope of that practice” (5). This would likely mean that a National Athletic Trainers’ Association Board of Certification (NATA-BOC) athletic trainer, physical therapist, nurse, physician, or any another person not trained, certified, or licensed as a personal trainer could act as a personal trainer if he or she is working for or within a duly licensed clinical

premise (physician’s practice, hospital, physical therapist’s practice, chiropractor’s practice, or a high-school or collegiate athletic-training practice).

The problem of uncertified individuals working as trainers—the problem the proposed law was intended to solve—would be allowed to continue within the legislation. Untrained personnel, under that proposed bill, could act as personal trainers but only under medical or allied-health-professional supervision? A clear bias is present: Degreed clinical professionals should be managing fitness training and personal trainers even if they have neither experience nor training in delivering fitness.

Who Advocates for You and Your Practice?

Who are the people and groups that are lobbying for professional regulation and licensure? A number of organizations say they are representing your and the profession’s needs in seeking regulation and licensure. It has long been a goal of academic exercise organizations to influence the government at the national, state or local level to regulate the exercise industry through some type of legislation that restricts who may or may not deliver training with or without compensation.

American College of Sports Medicine (ACSM)—In the ACSM’s Science Outcomes Advocacy Resources (SOAR) Statement outlining organization goals, this was included in the advocacy section: “Increase media advocacy and policy influence.” But nowhere in the four statements does “fitness” appear. (1). What does the ACSM actually advocate? Legislation that requires any person acting as a personal trainer (loosely defined) to possess a bachelor’s degree in “exercise science, kinesiology, exercise physiology, physical education, or a related health-and-fitness field,” plus a certification gained through testing by an external organization that is further certified by another body to offer the certification (2)?

National Strength and Conditioning Association (NSCA)—The NSCA, like the ACSM, has long been interested in licensure, publishing articles on such as early as 1994. Further, the NSCA and ACSM retain the same legal expert on certification and licensure (7).

Accrediting organizations also can be found working with academic organizations to lobby for professional regulation and licensure.

National Commission for Certifying Agencies—Named prominently in SB 984 and several other similar propositions around

the country, this organization aids its customers, such as the ACSM and NSCA, in their lobbying efforts.

National Board of Fitness Examiners—This organization has lobbied in several attempts to position itself to be named as the examination provider for state and national licensure. It aids client-certifying bodies, some listed in Table 1 above, in their lobbying efforts.

Interestingly, the published ACSM position that a bachelor’s degree is required to be an effective personal trainer is not reflected in its personal-training certification test. The biased belief that university degrees are the gold standard for personal trainers—a belief shared by the NSCA—is often trotted out and paraded in front of the media and politicians in an attempt to prove superiority over certifications that do not require degrees. When both organizations certify personal trainers without requiring university degrees, this perception of superiority is unearned. This perception is especially ludicrous given the NSCA’s degree requirement for its Certified Strength and Conditioning Specialist credential, its flagship certification for strength-and-conditioning professionals, not personal trainers. The degree requirement can be satisfied with any bachelor’s degree—in English, theater, anthropology, math, history or any other major.

A curious circumstance is likely to arise in the future. Both organizations are happy to take the money of non-degreed individuals and award them the title of certified personal trainer, but what happens to those same individuals when lobbying efforts are successful and licensure requires a university education in addition to certification? Will the individual's certifications stand and allow him or her to practice? Or will the trainer have to go to university and, upon degree completion, retake the same certifying test that was previously passed, followed then by a state licensure test? What happens to the non-university-based certifying organizations? Will being forced to require a university degree shut them down or will they simply tack on a prerequisite of a degree and still deliver the same certification test as previous?

A fairly significant consideration here is this: Does the ACSM or the NSCA really represent the majority of fitness professionals? Do these organizations actually represent you and your system of certification? Do they affect your daily professional work? A large portion of fitness professionals will likely answer no (See Table 2).

So how did we end up worrying about legislative proposals driven by a minority?

Organizational Impact on Fitness Professionals		
Organization	Active Credential Holders	Percent of professional body
CrossFit	100,000	21.2
ISSA*	90,000	19.1
AFAA	79,000	16.7
NETA*	65,000	13.8
ACE	53,000	11.2
AFAA	25,000	5.3
NSCA	11,000	2.3
ACSM*	10,000	2.1
NCSF	9,000	1.9
TOTAL	442,000	

*Assumption that 40 percent of ACSM credential holders are in non-B.S.-requiring certificates; assumption that 50 percent of 180,000 ISSA and 130,000 NETA credential holders since 1988 and 1977, respectively, are still active.

NOTE: All organizations listed are externally accredited. Only accredited organizations with publicly available data are included.

Impact is defined as percent of total professional body presented with specific organizational learning materials or standards.

TABLE 2

Cui Bono?

One of the easiest ways to sort through the present quagmire is to ask the above question in English: Who benefits?

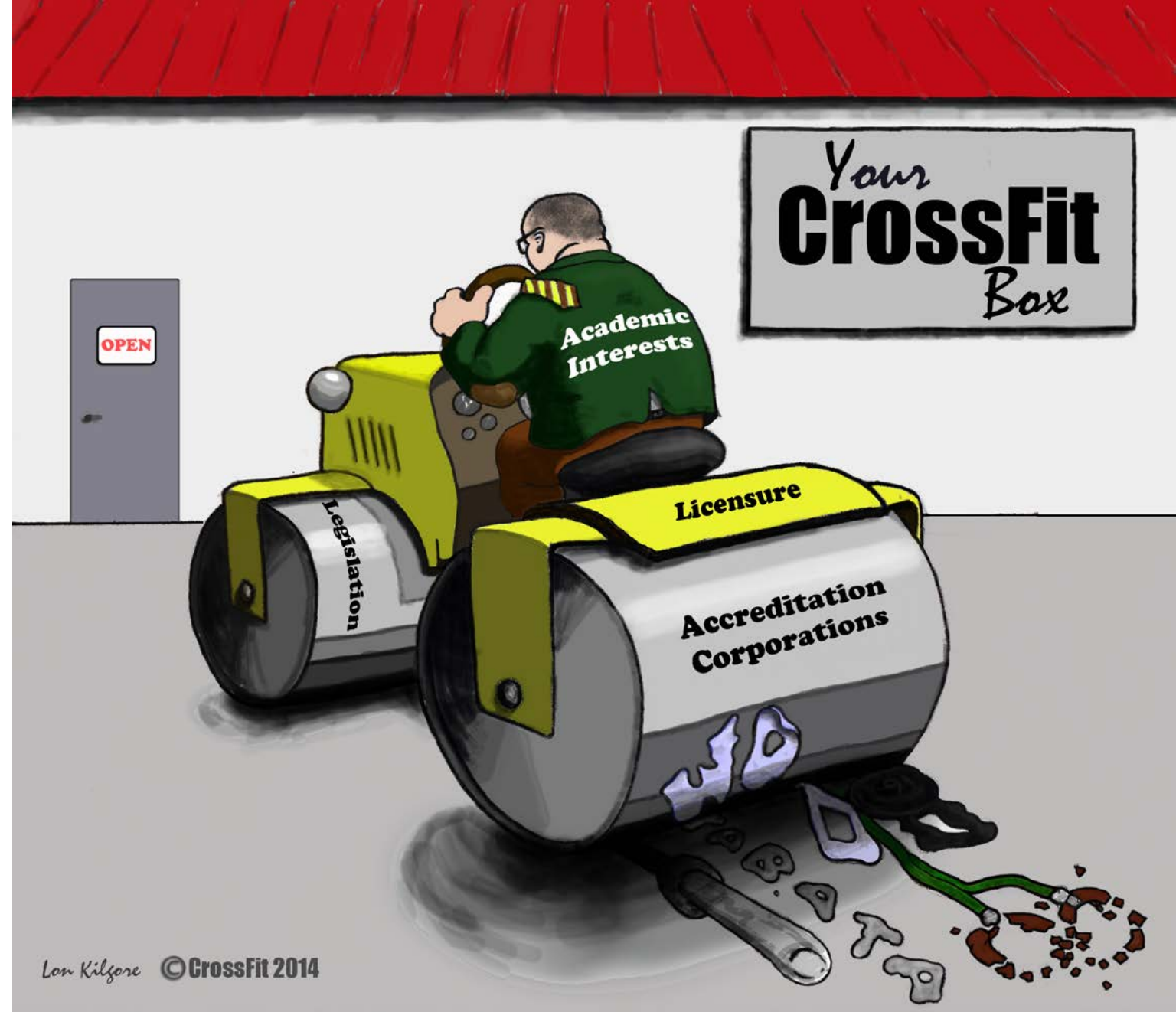
Let's start at square one. The ACSM and NSCA propose university education is required to be a competent professional in some publications, but they also, through certification requirements, intimate that a university degree is beyond the educational needs for personal trainers. Why the non sequitur?

Look at Table 2 and note the number of currently certified professionals who do not have a credential requiring a university degree. It's approximately 442,000 individuals. While a university degree is not required for the credential, many of those trainers will have a degree—about 30 percent of them. So, if we consider only the 70 percent of fitness professionals who do not have a university education (9), there are approximately 309,000 credentialed trainers without formal university degrees.

If a lobby group succeeded in motivating sponsored legislation requiring a degree as a prerequisite for licensure and legal fitness practice, what would the resulting higher-education market look like? Most officials and members within the ACSM and NSCA are university based, and 300,000 to 400,000 or more new students for the 2,870 four-year colleges and universities in the United States would be a significant source of income. For universities that have been slowly starved of state and federal funding over the past 20 years, the new blood would be a huge benefit.

University programs in exercise-related subjects already enroll 7 percent of the sum total of American students, and the huge influx of students following legislation mandating university education would be a windfall for universities everywhere. Similarly, certifying bodies with links to academia would also expect a financial boon.

There is a tremendously large "however" here. The average cost of a four-year degree is presently \$35,972. That's a large financial cost to the prospective professional, and one that will largely be funded by loans. The average university student graduates with \$29,400 of student-loan debt, which equates to about \$330 per month out of pocket for 10 years before any other expenses are considered. The U.S. Department of Labor Statistics lists an average income for fitness trainers as \$31,720 (2012) just by virtue of being a certified fitness professional, with or without a degree. This is an extra \$4,201 per year over the median compensation for the average American of \$27,519 (2012). The cost of a university education (loans) forfeits approximately \$4,000 per year of this income for 10 years. In



this instance, a licensure-required university education would create a de facto debtor profession.

Is a university education worth it if it nets less than \$20 per month in additional salary, an amount at least 10 times less than annual certification and licensure fees? (Note: This does not consider the other intrinsic values of university education or its significance in preparing a person to deliver exercise to diseased populations in a clinical setting.) If a professional or academic organization and a political body specifically author and legislate a law that enforces indebtedness as a professional pre-condition, is the best interest of the professional at the heart of the matter? It appears obvious that regulation and licensure do little to benefit the individual professional.

Does it benefit the consumer? In the D.C. law, only individual fitness instruction is targeted. If you are an instructor for any group-exercise activity, the law allows unrestricted practice with or without certification and registration. It's easy to see where globo gyms might be tempted to begin to cut back on personal training services in favor of group instruction to avoid legal hassle. It's also easy to see a bit of irony here as personal attention to a single individual makes personal training a generally safer and more effective means of fitness delivery than group spinning, dance-type aerobic exercise, etc.

As we see in the originally proposed Florida bill, there will still be ways untrained, uncertified and unlicensed persons can practice under the umbrella of another profession's scope of practice.

A mild consumer effect would also be observed, in that certification would be required of independent trainers, thus removing all individuals in independent practice who have not passed a test. Unfortunately, the choice of certified individuals would become myopic, controlled by just a few organizations. Competition-driven improvement in the preparation of personal trainers would be a thing of the past. One-size-fits-all training would likely become the rule of the day.

Who Benefits?

It should be obvious that if a certifying body, for profit or not for profit, can get itself written directly or indirectly into a regulation-and-licensure bill, it will be good for the bottom line. Doing so is a way to eliminate competition and drive customers to the door. Any certifying organization—and, by extension, its certificate holders—unlucky enough not to be specifically or generally included in the wording of a law will find itself in dire financial straits.

It's worrying that three certifying organizations are written into seats on the state board in Florida's most recent bill attempt: "Five members of the board must be personal trainers who are certified by the Aerobics and

Fitness Association of America, the National Academy of Sports Medicine, the American Council on Exercise, or their successor organizations."

This places a great deal of influence in the hands of these organizations because the board will "(1) Establish education and training standards for initial licensure and renewal of licenses. (2) Approve educational programs for initial licensure. (3) Establish a code of ethics and standards of practice and care for personal trainers" (6).

These five members, the majority of the board, are also charged to "Administer and certify continuing education credits, and establish and collect fees for administering and certifying such credits" (6).

It should be obvious how this might play out in terms of licensure content and content of the required continuing-education units.

Similarly, any accrediting organizations named in any regulatory or licensure law, as the NCCA and DETC are in SB 1616, will financially benefit. If a certifying organization wants to be viable, it will have to file the forms and pay the fees required to the accrediting agency named in the law—NCCA and DETC in Florida if the bill passes. It almost seems like a piecemeal pyramid scheme (Figure 1).



FIGURE 1

CROSSFIT: A HIGHER STANDARD

In the California Senate in 2009, Sen. Ron Calderon (D) proposed Senate Bill (SB) 374 on the regulation of personal trainers, and it was reintroduced as SB 1043 in 2010. Each time, it was strongly opposed and defeated. These proposals motivated CrossFit to seek accreditation for its training programs, as it had become strikingly apparent that organizations such as the National Strength and Conditioning Association (NSCA) and American College of Sports Medicine (ACSM) were lobbying for legislation to protect their interests as regulators of fitness-industry standards. This lobbying was happening specifically as CrossFit's popularity was exploding.

On Dec. 15, 2010, CrossFit's Level 1 Certificate Course received accredited status from the American National Standards Institute (ANSI). As of this writing, we are awaiting final review of our Certified CrossFit Trainer (CCFT) credential as an accredited certification. Achieving these standards makes CrossFit certificates and certifications equal to or more legitimate than any others in the fitness industry.

What makes CrossFit's certification unique is that it requires literary competency in conjunction with hands-on practical experience. This is a revolutionary diversion from the status quo of personal-trainer qualifications requiring only book learning, being of age (e.g., 18), holding a CPR card and passing a written exam. While some organizations tout this process as the standard of excellence, the reality is individuals can be deemed "qualified" to work in the profession without ever having received movement instruction of any kind. The lack of any instruction on movement mechanics is at best absurd and at worst dangerous when qualifying individuals to offer these same services to others.

CrossFit's break from the status quo reinstalls legitimacy in the industry and sets a new standard for quality fitness education and certification. We are not looking to the NSCA or ASCM to set standards and have instead chosen to lead by example. We've gone beyond current standards to create new expectations for fitness professionals.

CrossFit; ANSI; The International Health, Racquet and Sportsclub Association (IHRSA); and others will continue to oppose and petition against all or parts of legislative proposals similar to SB 1043. CrossFit will continue to lobby for, educate and provide resources to the community, and it will always fight to ensure CrossFit trainers are recognized as setting the new professional standards in fitness training.

Nicole Carroll
Director of Certification
CrossFit Inc.



Dave Re/CrossFit Journal

CrossFit trainers are encouraged to be vigilant and to advocate against any proposed legislation that will negatively affect their livelihoods.

What You Need to Do

Is there really an imminent danger of having poorly conceived and clearly biased legislation that affects you and me passed? For three decades, every attempt at regulating the personal fitness industry has failed, until the D.C. law was passed. The Florida bill was strongly under consideration, having been proposed in 2009 and 2014, but ultimately failed. There are no guarantees that such a persistent legislation type will not reappear, and perhaps in your home state.

Although the D.C. law targets the fitness professions as a taxation device and does little to regulate operations, we cannot ignore proposed legislation and hope that someone will do the right and informed thing. There is money and influence in play. For example, within SB 1616's inclusion of the DETC as an appropriate route of certification is the fact that DETC accredits only secondary-level (high school), post-secondary-level (college and university) and military education organizations approved by the state board of education. So the existing Florida bill would have established a foothold for the evolution of future personal-trainer qualifications to include a college or university degree.

Over 70 percent of all colleges and universities in the U.S. plan on expanding their distance-education (online) programs to increase revenues (8). We must ask if there is a connection here.

The other side of the coin is this: If the DETC only deals with secondary and post-secondary educational organizations, all other certification-offering organizations must go through the NCCA. Would this make it a legislated accreditation monopoly in Florida?

We must pay attention to the political environment in our city and state. Periodically, we need to review the various professional organizations' websites to see if they're trying to move legislation forward in our home states. Google can also be a valuable tool, but other, more direct online tools, such as Legiscan.com, can specifically equip you to search through proposed legislation around the country. Further, [The Russells blog](http://TheRussells.com) does an excellent job of providing affiliates and the rest of the world with information about issues relevant to CrossFit affiliates and the CrossFit brand.

A very bright note here is that the CrossFit community is surprisingly politically astute and active. It's a good bet that if a bill is proposed in your state, someone will post the information on the [CrossFit Discussion Board](http://CrossFitDiscussionBoard.com). If a proposed bill will negatively affect you or your customers, do not be afraid of communicating with the network of affiliates in your area and their communities. There is power in our numbers, and that power can alter the course of poor legislative direction. ■

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About the Author

Lon Kilgore graduated from Lincoln University with a B.Sc. in biology and M.Sc. in kinesiology from Kansas State University, and he earned a Ph.D. from the Department of Anatomy and Physiology at Kansas State University's College of Veterinary Medicine. He has competed in weightlifting to the national level since 1972 and coached his first athletes from a garage gym to national-championship event medals in 1974. He has also competed in powerlifting, the first CrossFit Total event, wrestling and rowing. He has worked in the trenches, as a coach or scientific consultant, with athletes from rank novices to professionals and the Olympic elite, and as a collegiate strength coach. He was co-developer of the Basic Barbell Training and Exercise Science specialty seminars for CrossFit (mid-2000s). He was a certifying instructor for USA Weightlifting for more than a decade and a frequent lecturer at events at the U.S. Olympic Training Center. He is a decorated military veteran (sergeant, U.S. Army). His illustration, authorship and co-authorship efforts include the best-selling books "Starting Strength" (first and second editions) and "Practical Programming for Strength Training" (first and second editions), recent releases "Anatomy Without a Scalpel" and "FIT," magazine columns, textbook chapters, and numerous research-journal publications. His professional goal is to provide the best quality, most practical, most accessible and highly affordable educational experiences to fitness professionals through his university work and through his [AnatomyWOD](http://AnatomyWOD.com) and [PhysiologyWOD](http://PhysiologyWOD.com) courses. His students have gone on to become highly notable figures in weightlifting, powerlifting, cycling, fitness and academia.