

# MASTER TRAINER

## Science for a Healthy Life

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### Are We Underestimating How Much We Are Accomplishing?

One of the *Master Trainer's* recurrent themes has been not to look back on all the 'used to's', as in 'used to be able to', with resistance training and other training. An emphasis has been to assess training by performance and outcomes relative, for example, to last year and not 10 years ago. In fact, as noted, as we get older, 'staying even' is a major accomplishment and in its own way represents progress compared to expectations of decline with aging.

Still, to be honest, at least some of these comparisons do seep into my own training affecting at times in negative ways my thoughts and emotions. It's very apparent that across various exercises, the resistance I use is about 70% of what I was using 10-15 years ago. It's a bit unsettling even as I know that the absolute amount of resistance used on each exercise is not the critical part of the stimulus from resistance training. But, I 'used to be' a very

*“Training Produces a Myriad of Health Benefits.”*

good responder for strength outcomes from resistance training so this comparison is one that is more or less always in the background. I also was a reasonable responder for body composition change, adding a decent amount of muscle mass and finding it very easy simply by training and following a good nutrition pattern to get very lean. Now I train very hard and consistently and closely follow a very good nutrition pattern, but find it hard to look anything more than an older adult who appears to do some exercise.

I think as noted that these comparisons from then to now are almost inevitable though sometimes the comparisons are much more in the background and not a major negative focus.

**The Issue:** I believe the issue is more than simply deciding if being able to continue to train and do well relative to one's age is a case of the 'glass being half full, or the glass being half empty' – an important differential perspective for guiding thoughts, emotions, and behaviors. Let's take the upside of the glass being half full. However, the issue is more than this optimistic viewpoint. It is how we have and continue to *overall* evaluate what our training is producing and maintaining.

Resistance training, for example, always has been evaluated for its effects on strength and muscle mass. Clearly, these were markers of outcomes when we were younger. So, even if we are doing a lot better than our age group, it is still quite easy now to look at present strength and muscle mass and see we have lost ground.

*MASTER TRAINER* focuses on information about an evidence-based, healthful lifestyle including exercise, physical activity, nutrition, and natural bodybuilding. Information reflects an emphasis on reviews of scientific articles and studies – hence, evidence-based – as well as summaries of books, recent scientific news, and personal commentaries. This publication does **not** provide medical advice for specific medical problems. Medical advice should be obtained from medical personnel.

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## Crossfit in the Courts

by Matt Brzycki\*

A study of CrossFit that was published in the November 2013 issue of the *Journal of Strength and Conditioning Research* – a publication of the National Strength and Conditioning Association (NSCA) – has triggered three lawsuits (or “complaints”). The study was conducted by four researchers from The Ohio State University (OSU): Michael Smith, Allan Sommer, Brooke Starkoff and Steven Devor.

**The Findings:** In the study, 54 members of the Ohio Fit Club LLC – a CrossFit affiliate gym (or “box”) that was located near the OSU campus – did CrossFit workouts as part of a competition (referred to as a “challenge”) that began on January 9, 2012. After 10 weeks of training, the 43 subjects who completed the study – 23 men and 20 women – experienced significant improvements in two widely recognized indicators of fitness: maximum oxygen intake (as measured in milliliters per kilogram per minute or ml/kg/min) and percentage of body fat. Specifically, maximum oxygen intake improved by about 13.6% in men and 11.8% in women (from 43.10 to 48.96 ml/kg/min and 35.98 to 40.22 ml/kg/min, respectively) and body composition improved by about 18.9% in men and 12.8% in women (from 22.2 to 18.0% and 26.6 to 23.2%, respectively).

It must be noted that these were already healthy subjects (age 21 to 48). Prior to the study, they represented a wide range of maximum oxygen intakes (20.00 to 58.00 ml/kg/min) and percentages of body fat (10.7 to 46.1%). Yet, even those whose maximum oxygen intake was “well above average” before the study began made improvements as did those whose percentage of body fat was “well below average.”

Although these results are impressive, it’s important to understand that because the researchers didn’t use another group of subjects for comparison, the study didn’t prove that CrossFit is better than any other type of training, only that it can be effective.

The researchers also noted that of the 11 subjects who dropped out of the study, two cited time concerns and nine – which represented 16.7% of the original 54 subjects – cited “overuse or injury.” And that’s when the defecation impacted the rotary oscillator. (Translation: The poop hit the fan.)

Keep in mind that it’s not unusual for one or more individuals to withdraw from a study before its completion, especially if the study is of long duration. Similarly, it’s not unusual for researchers to discuss the number of dropouts and their reasons for dropping out

even if it’s not the main focus of the study. In fact, this information really should be mentioned since it could be indicative of the safety and suitability of a product or program and, therefore, would be of great interest to readers.

The researchers also expressed their concerns about the risk of

injury from *any* type of high-intensity training. In this study – despite being supervised by certified fitness professionals – 16.7% didn’t complete the program and return for follow-up testing due to “overuse or injury.” Furthermore, the researchers questioned the risk-benefit ratio for “extreme training programs.” Even though the word “injury” only appears five times in the study, that information garnered far more attention than the improvements in maximum oxygen intake and percentage of body fat.

**The Lawsuits:** As noted earlier, the study prompted three lawsuits. Let’s take a closer look.

### Lawsuit #1

In March 2014, Mitchell Potterf IV – the owner of the Ohio Fit Club LLC – filed a lawsuit against Smith, Devor and the NSCA. Previously, Potterf had contacted the defendants, alleging that no individuals were injured in the study and “demanded” that a correction be made. When the study wasn’t corrected or retracted, the lawsuit was filed, claiming that the defendants engaged in fraud, misrepresentation, false light invasion of privacy – essentially, damaging Potterf’s “personal and professional reputation” – and defamation.

“Why is CrossFit Involved in Major Lawsuits?”

In May 2014, Devor responded to the complaint – through an attorney who represented the OSU Department of Health and Exercise Science – denying any wrongdoing. Furthermore, the response claims that Potterf’s negligence “caused or contributed to the injuries.”

### **Lawsuit #2**

In May 2014, CrossFit Inc., filed a lawsuit against the NSCA. Previously, CrossFit had contacted the NSCA, alleging that the data in the study were falsified. When the study wasn’t corrected or retracted, the lawsuit was filed, claiming that the NSCA engaged in false advertising and unfair competition. Among other things, the complaint alleges that the NSCA published the study and used the injury rate “to attack one of its competitors, CrossFit, Inc.” and its business model. It further alleges that the data on injuries were “contrived to dissuade people from pursuing CrossFit as a form of exercise” and “to dissuade trainers from seeking CrossFit certification instead of NSCA and [American College of Sports Medicine] certifications.” The lawsuit demanded a trial by jury.

In June 2014, the NSCA responded to the complaint, denying any wrongdoing. In addition, the response claims that CrossFit’s allegations “are frivolous without foundation in fact or law” and that the lawsuit “is being pursued in bad faith and for vexatious reasons for the purpose of harassing [the NSCA].” Finally, the response claims that the NSCA’s conduct is protected by the First Amendment to the Constitution of the United States. It, too, demanded a trial by jury.

### **Lawsuit #3**

In February 2015, Potterf filed another lawsuit, this one against OSU and Devor under the False Claims Act (aka the Lincoln Law). This act allows private individuals – whistleblowers – who aren’t affiliated with the government to file a lawsuit on behalf of the government to recover money that was paid as a result of fraud. The lawsuit claims that Devor submitted or caused to be submitted fraudulent data that were related to the study. Furthermore, it claims that OSU used the study to receive a total of more than \$273 million in federal grants that were awarded in 2012 and 2013 through the National Institutes of Health. According to

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the law, Potterf is eligible to receive as much as 30% of any money that's recovered. The federal government declined to intervene in the lawsuit.

**Note:** At the time of this writing, OSU and Devor haven't responded to the complaint; the other two lawsuits were still making their way through the legal system.

**Commentary:** Of the three lawsuits, the one with the greatest potential for impacting the fitness industry is CrossFit's filing against the NSCA (lawsuit #2). The complaint makes a number of allegations that can best be described as bizarre. For example, it blames the NSCA and American College of Sports Medicine (ACSM) for the low level of fitness and high level of obesity in America. Believe me, I'm no big fan of either the NSCA – having been at odds with it since 1983 – or the ACSM. But accusing the NSCA and ACSM – or any other organization – of being responsible for the state of health and fitness in this country is beyond ridiculous. Besides, I think it's safe to say that the vast majority of Americans have never even heard of the NSCA and ACSM let alone follow their recommendations for exercise or, per the lawsuit, their “physical training standards.”

In addition, the lawsuit claims that “the NSCA and ACSM are largely responsible for maintaining the status quo in the massive fitness industry.” No mention is made as to who tasked those two organizations with that responsibility. Further, the lawsuit states that CrossFit “achieves better and faster results than traditional forms of fitness training.” No proof is given to support this claim. The lawsuit also suggests a vast conspiracy that includes individuals within the NSCA and ACSM, the four researchers who conducted the study, the editor of the *Journal of Strength and Conditioning Research*, and the reviewers of the study. At the heart of the lawsuit is the claim that “the NSCA and CrossFit are competitors in the fitness industry.” Consider three areas where they might compete:

1. Gyms. CrossFit is a for-profit company that currently has more than 12,000 licensed affiliate gyms throughout the world from which it receives as much as \$3,000 from each in annual fees. This alone could amount to revenues of as much as \$36 million per year.

The NSCA is a non-profit organization that has no gyms of any kind.

2. Journals. CrossFit first published the *CrossFit Journal* in April 2002. It's not a peer-reviewed journal. The June 2015 issue had articles titled “Deadly Myth”; “A Theoretical CrossFit Model for Professional Baseball Players”; “Where Students Become Coaches”; “Dehydrated and Dominant”; and “Mind over Muscle-Ups.”

The NSCA first published the *Journal of Strength and Conditioning Research* in February 1987. It's a peer-reviewed journal. The June 2015 issue had articles titled “Aerobic Capacity is Associated with Improved Repeated Shift Performance in Hockey”; “Relative Contributions of Strength, Anthropometric, and Body Composition Characteristics to Estimated Propulsive Force in Young Male Swimmers”; “Stature and Jumping Height are Required in Female Volleyball, but Motor Coordination is a Key Factor for Future Elite Success”; and “Vertical Jump Performance of Professional Male and Female Volleyball Players: Effects of Playing Position and Competition Level.”

3. Certifications. CrossFit has two certificate courses: CrossFit Level 1 Trainer (CF-L1) and CrossFit Level 2 Trainer (CF-L2). It also has one certification: Certified CrossFit Trainer (CCFT). A second certification, CrossFit Coach (CCFC), is currently in the pipeline. Requirements for the CCFT are a current CF-L1 certificate; a CrossFit Coach's Prep Course Trainer certificate or CF-L2; and 750 hours of coaching CrossFit. Candidates must be at least 17 years old. An alternate “path” for the CCFT has one requirement: completing 1,500 hours of strength and conditioning coaching at the collegiate or professional level. The caveat is that the 1,500 hours must involve general physical preparedness (GPP); CrossFit makes it clear that sport-specific training “does not count” toward those hours. The CrossFit certificates and certification are required only for employment in – or ownership of – a CrossFit affiliate gym.

The NSCA has four certifications: Certified Strength and Conditioning Specialist (CSCS), Certified Special Population Specialist (CSPS), NSCA-Certified Personal Trainer (NSCA-CPT) and Tactical Strength

and Conditioning Facilitator (TSAC-F). Prerequisites for the CSCS – the most recognized of the four NSCA certifications and widely regarded as the “gold standard” in the fitness industry – are a bachelor’s degree (or being a senior at an accredited college) and current CPR/AED certification. NSCA certifications – especially the CSCS and NSCA-CPT – are often required, recommended or otherwise accepted for employment throughout much of the industry.

**Full disclosure:** In 1986, when I was an assistant strength coach at Rutgers University, at the behest of the associate director of athletics, I took the CSCS exam, becoming one of the first individuals to ever earn that certification. Thereafter, I never had any interest in getting recertified or reinstated.

**Bottom-line:** In May 2015, the television program *60 Minutes* did a feature on CrossFit and its founder, Greg Glassman. At one point, Sharyn Alfonsi, a correspondent for the show, asked Glassman, “How many attorneys do you have working for you now?” He replied, “Dozens. They’re everywhere. Like freakin’ leprechauns.”

The fact of the matter is that Glassman employs so many attorneys that he truly may have no idea how many are on his payroll. According to *60 Minutes*, Glassman has a general counsel and an in-house legal staff of 12 as well as another 80 outside law firms to defend CrossFit’s trademark and, as is the case here, its reputation.

As far as the basis of this particular lawsuit, however, I don’t see that CrossFit and the NSCA

are competitors in the fitness industry. CrossFit has thousands of affiliate gyms from which it derives substantial revenue while the NSCA has none. Both organizations publish journals but the journals are as different as night and day.

The biggest debate about whether or not the two are competitors probably has to do with certifications. Both organizations offer certifications but the certifications are very dissimilar. If you want to work in a CrossFit affiliate gym – or own one – you’ll want to get a CrossFit certification; if you want to work at almost anywhere else in the fitness industry, you’ll want to get an NSCA certification. Period.

In summary, the two entities may do similar things but they operate in different worlds and appeal to different crowds. It’s a bit like claiming that Olive Garden and Outback Steakhouse are competitors because they both sell food. Yes, but the two restaurant chains don’t sell the same type of food.

\*Matt Brzycki has authored, co-authored and edited 17 books on strength and fitness including four that are devoted to wrestling. His latest book is *A Practical Approach to Strength Training* (4th edition).

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1. Smith MM, Sommer AJ, Starkoff BE, Devor, ST. Crossfit-based high-intensity power training improves maximal aerobic fitness and body composition. *Journal of Strength and Conditioning Research*. 2013; 27: 3159-3172. ◆

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