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A CRITIQUE OF CROSSFIT: PART I



By Matt Brzycki

Simply mention CrossFit to a group of fitness enthusiasts and most of them will quickly and vehemently make known their allegiance as either fans or foes. Clearly, no other type of training for strength and fitness has ever been more polarizing – or more controversial – than CrossFit.

WHAT IT IS

Legend has it that in the early 1990s, Greg Glassman, a former gymnast, developed and implemented workouts that got him banished from – by his count – seven gyms. He branched out on his own, opening the first CrossFit gym in Santa Cruz (CA) in 1995 and founding the company – CrossFit, Inc. – in 2000.

Since that time, CrossFit has experienced an unparalleled growth in popularity, first as an exercise program and later as a competitive sport.

THE EXERCISE PROGRAM

A CrossFit workout is a series or circuit of multiple-joint exercises/activities that are done with a very high level of intensity (effort) while taking very little recovery between the exercises/activities. Workouts consist of “functional” movements that can include (examples in parentheses) calisthenic-type and bodyweight exercises (air squat, lunge, “burpee,” box jump, push-up, pull-up, muscle-up and dip); Olympic-style lifts (snatch and clean and jerk) and their derivatives (power clean, push jerk and push press); powerlifts (squat, bench press and deadlift) and their derivatives (front squat and overhead squat); and certain aerobic activities (rowing, running/sprinting and swimming).

Equipment for CrossFit workouts can include medicine balls, “slam balls,” plyometric boxes, climbing ropes, gymnastic rings, jump ropes, barbells and kettlebells. Single-joint movements and machine exercises are verboten.

CrossFit incorporates the exercises/activities into a “Workout of the Day” (WOD; pronounced “wad”) which is posted on its company website. The workouts are “constantly varied” and can take countless designs.

In general, the exercises/activities can be done two ways: as quickly as possible – in the shortest amount of time – or for “as many rounds as possible” (AMRAP) in a designated time. The WOD is viewed by individuals from around the world and many post their results on the company website for others to see. As a result, the WOD can become quite competitive.

One of the oldest and best-known WODs is named Fran. First publicized on the company website in August 2003, the workout is a series of three exercises: “thrusters” (each rep is a combination of a front squat immediately followed by a push press) and pull-ups. This series of exercises is repeated three times – essentially, three sets of three exercises – with descending reps of 21, 15 and 9. In other words, the workout is 21 thrusters, 21

pull-ups, 15 thrusters, 15 pull-ups, 9 thrusters and 9 pull-ups. The goal of this WOD is to complete the exercises as quickly as possible.

Another well-known WOD is named Cindy. The workout is a series of 5 pull-ups, 10 push-ups and 15 squats. The goal of this WOD is to complete this series of exercises for AMRAP in 20 minutes.

THE COMPETITIVE SPORT

The CrossFit Games – which began in 2007 – feature mostly the same exercises/activities that are used in CrossFit workouts. In keeping with company dogma that you must prepare “not only for the unknown but the unknowable” and be ready “for any physical contingency,” competitors aren’t told the exact exercises/activities until shortly before the start of the events; in some cases, it’s literally minutes beforehand.

The male and female winners of the CrossFit Games are proclaimed and promoted by CrossFit as the “Fittest on Earth.” It was reported that more than a quarter of a million people worldwide competed in qualifiers that led up to the 2015 CrossFit Games.

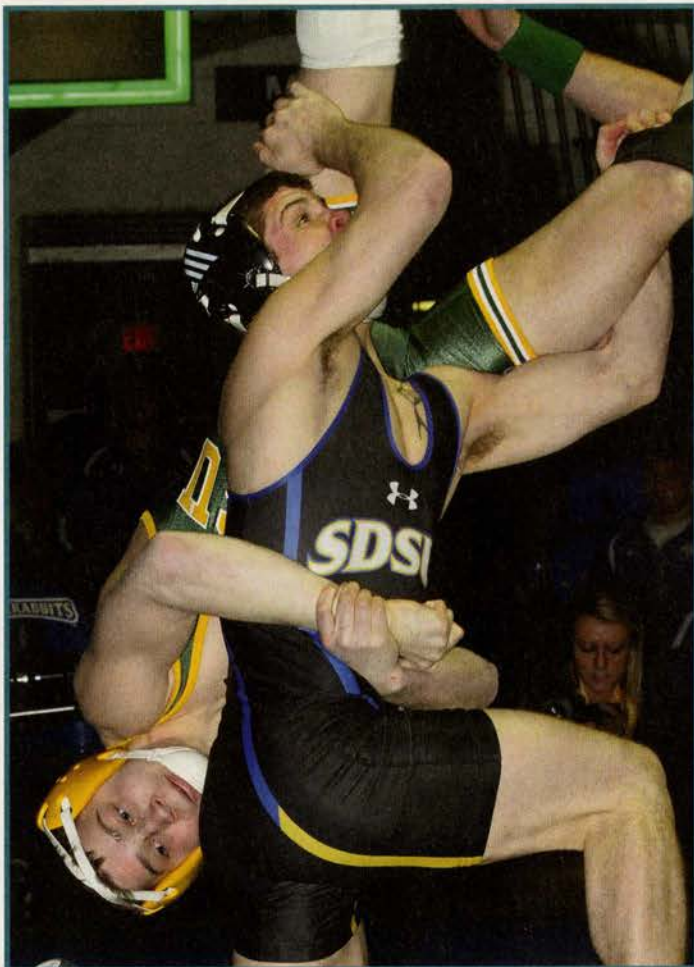
METABOLIC CONDITIONING

CrossFit workouts are a type of metabolic conditioning. Essentially, metabolic conditioning – aka “metcon” in CrossFit lingo – is the collective efforts of the musculoskeletal, respiratory and circulatory systems. These three systems can be developed at the same time by doing exercises/activities that engage a large amount of muscle mass with efforts that are short-term and intense while taking very little recovery between the exercises/activities.

But metabolic conditioning isn’t anything new or original. Metabolic conditioning has its roots in circuit training which was developed by Ronald Morgan and Graham Adamson in the early 1950s.

In his excellent book, *Wrestling Physical Conditioning Encyclopedia*, John Jesse notes that originally, circuit training was “designed to simultaneously develop the four aspects of general or athletic fitness: strength, power, muscular and circulo-respiratory endurance.” (Note: CrossFit recognizes 10 “fitness domains”: cardiovascular and respiratory endurance, stamina, strength, flexibility, power, speed, coordination, agility, balance and accuracy.)

Further, Jesse states that circuit training was “designed for use by a reasonably large group of individuals, with a minimum expenditure of time.” He adds that the exercises in circuit training “can be non-apparatus (calisthenic, partner resistance, self-resistance) type activities or apparatus (weights, wall-pulleys, chest expanders, gymnastic apparatus, bleacher seats, weighted vests, medicine balls, etc.) or a combination of both type activities.” This information was published in 1974.



2015 Western Wrestling Conference Championship Dual - 133 lbs. Brance Simms (South Dakota State) steps up to finish the takedown on Kyle Gliva (North Dakota State). Simms went on to win by decision 7-4. Photo by Mike Smith / MatShots.

Jesse lists the following circuit that was designed for a high-school phys ed ("gym") class: straddle hops, bench press, 3/4 squats, skip rope, upright rowing, deadlift, Harvard step test, military press, bent over rowing, one lap of gym, sit-ups, curls, toe raises and "goose step with weights on shoulders." Each of those 14 exercises/activities was to be done for 20 seconds, trying to get as many reps as possible. This workout was from 1966.

And he lists the following circuit that was designed for a high-school wrestler (to be repeated three times): rope climb (twice), 20 bench jumps, 10 jump chins, 10 sit-ups, 5 split jumps, 10 neck bridges, 4 handstand push-ups, 8 long sit-outs, 12 double leg raises on back and 6 four-count burpees. This workout was from 1968.

Not to belabor the point but in 1969, Patrick O'Shea – a researcher and competitive weightlifter – advanced a version of circuit training that he referred to as "interval weight training." In April 1987, the *National Strength and Conditioning Association Journal* – later renamed the *Strength and Conditioning Journal* – published an article that O'Shea wrote called "Interval Weight Training – A Scientific Approach to Cross-Training for Athletic Strength Fitness." The article stated that interval weight train-

ing was "an effective method of athletic cross-training for the physiological variables of strength, muscular endurance, [anaerobic] power and aerobic power."

In brief, O'Shea proposed a two-phase protocol. The first phase was a work interval that consisted of one set of "an athletic type core lift" (such as the squat, push press, power snatch or power clean) followed immediately by 90 to 180 seconds of a "free [anaerobic] exercise" (such as pedaling a stationary bike, running on a treadmill or jumping rope) that would elevate the heart rate to 90 to 95% of the age-predicted maximum. An "active rest interval" of 90 to 180 seconds was then given that involved walking and stretching. This series of exercises/activities was repeated three or four times with the same core lift. Thereafter, the process was replicated for one or two additional core lifts.

Following a five-minute recovery, the second phase consisted of four sport-specific exercises for the upper body done in a circuit. Each exercise was performed for 12 to 15 reps with 30 to 45 seconds of recovery between each exercise. The circuit was repeated two or three times with 120 to 180 seconds of anaerobic exercise done at the end of each series.

O'Shea gave this example for a strength athlete:

Phase 1 – One set of the power clean and push press followed by 120 seconds of stationary biking then 90 to 120 seconds of active rest. Repeat three times. One set of the power snatch with squat followed by 90 seconds of stationary biking then 120 seconds of active rest. Repeat three times. One set of the squat followed by 90 seconds of stationary biking then 120 seconds of active rest. Repeat four times. To summarize, this is three core exercises done for a total of 10 sets that are alternated with 10 anaerobic intervals of 90 to 120 seconds per interval.

Phase 2 – Cable exercise (specific exercise not named), hammer curl, seated press (dumbbells), flies (dumbbells), stationary bike (two minutes) and abdominal work followed by 120 seconds of active rest. Repeat two or three times.

Glassman first wrote about metabolic conditioning in the October 2002 issue of the *CrossFit Journal*. However, the term "metabolic conditioning" was used as early as 1975. In October of that year, the *Athletic Journal* published an article that Arthur Jones wrote called "Flexibility and Metabolic Conditioning."

In December 1996, *Coach and Athletic Director* published an article that I wrote called "Metabolic Conditioning with the 3x3 Workout." As discussed in the article, the 3 x 3 Workout – pronounced "three by three" – is a series of three exercises: one for the hips, one for the chest and one for the upper back. This series of exercises is repeated three times – essentially, three sets of three exercises – with descending reps of 20, 15 and 10 for the hips and 12, 10 and 8 for the chest and back. The article also notes that the most challenging 3 x 3 Workout is the deadlift, dip and chin-up. Sound familiar? Like Fran, maybe? Keep in mind that this was published nearly seven years before CrossFit went public with Fran's three sets of three exercises (front squat, push press and pull-up) with descending reps of 21, 15 and 9. Actually, the 3 x 3 Workout can be traced back to the late 1980s, being credited to Bob Rogucki when he was the Strength Coach at the US Military Academy.

So, again, metabolic conditioning isn't anything new or original. CrossFit workouts are packaged a bit differently but the underlying concepts of metabolic conditioning have been employed for more than 60 years.

THE GOOD

Every system of exercise has aspects that are good and bad. Here are the things that I like about CrossFit:

1. Participants are encouraged to work hard. Training with a high level of intensity is a requirement for increasing strength and fitness. In my opinion, other than genetics, intensity is the most critical factor in determining the rate and extent that someone responds to training.

But training with a high level of intensity is nothing new or original. This notion was popularized by Jones in the early 1970s and likely dates back even further. Among other things, Jones advocated performing an exercise until no further reps could be done while taking very little recovery between exercises. Sound familiar?

2. The workouts tend to be relatively brief. Because of the requisite high level of intensity, CrossFit workouts are usually of short duration. This is a big plus for time-conscious individuals and those who want to get "the most bang for their buck."

3. It emphasizes metabolic conditioning. This can be helpful in virtually any sport and is absolutely ideal for wrestling.

4. The workouts are easy to understand and follow. Many workouts use only a few exercises/activities and the instructions for completing the workouts are often concise.

5. It gets people to work out. There's no scientific data to support this contention but it appears as if CrossFit has motivated more people to exercise.

6. The workouts maintain interest. Since CrossFit workouts are "constantly varied," there's little risk of boredom. This increases the likelihood of compliance and adherence to the program.

7. It promotes a social atmosphere. When CrossFit workouts are done in a group setting, there's a sense of comradery and community which can provide inspiration for many individuals (although this is something that's generally true of any group exercise).

THE LAST REP

CrossFit is a highly popular exercise program and competitive sport with a major focus on metabolic conditioning and a distinct connection to circuit training. It has a number of favorable aspects.

Part 2 of this article will examine the unfavorable aspects.

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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