

Zumba Fitness: Sure It's Fun But Is it Effective?



By Mary Luetzgen, M.S., John P. Porcari, Ph.D., Carl Foster, Ph.D., Richard Mikat, Ph.D., and Jose Rodriguez-Morroyo, Ph.D.

Zumba fitness has quickly grown to one of the most popular group exercise classes on the planet. In fact, the Latin-dance inspired workout is reportedly performed by more than 12 million people at 110,000 sites, in 125 countries around the world.

"Ditch the Workout – Join the Party!" That's the marketing slogan for Zumba fitness, which attracts exercisers with a fun fusion of dance moves from styles like Salsa, Merengue, Reggaeton and Flamenco, and the sort of choreography you might see in a nightclub.

"Historically, aerobic dance was always like paint by the numbers," says John Porcari, Ph.D., of the University of Wisconsin-La Crosse's Department of Exercise and Sport Science. "I think sometimes people get frustrated if dance steps get too intricate and complicated. But Zumba fitness leaves more room for interpretation. And it's non-judgmental. You don't have to move exactly like the instructor. It's more like dancing in a club—people can just move the way they want."

Just because Zumba fitness is fun, however, doesn't necessarily mean it's an effective workout. Despite its immense popularity, to date very little research has been done to document the potential benefits of this form of aerobic dance. So the American Council on Exercise, the nation's Workout Watchdog®, commissioned Dr. Porcari and his team of exercise scientists to determine whether Zumba fitness provides a workout, a party or both.

The Study

Led by Porcari and Mary Luetzgen, M.S., researchers from the University's Department of Exercise and Sport Science set out to determine the average exercise intensity and energy expenditure during a typical Zumba fitness class. First they recruited 19 healthy female volunteers, ages 18 to 22, all of whom had previous experience participating in Zumba classes.

To establish a baseline of fitness for the study subjects, each performed a maximal treadmill test that measured heart rate (HR) and oxygen consumption VO_2 . This test

Print A Copy



[Download and print the ACE Zumba Study](#)

Father Zumba

The craze now known as Zumba fitness is said to have started as a mistake by Colombian trainer Alberto "Beto" Perez. One day in the mid-90s, Beto reportedly forgot to bring his regular aerobics-style music tape to the group exercise class he was leading. With no music and a class to teach, he raced back to his car and scrounged up a cassette tape of Latin dance music. As the lively beats of Merengue and Rumba rang out, Beto drew upon his experience dancing in Salsa clubs and choreographing for local artists. Soon he was leading his pupils through a fun series of dance steps—and Rumbacize was born. It was an instant hit, and quickly became the most popular class at his gym. In 1999, Beto brought Rumbacize with him when he moved to Miami. It immediately caught on there as well and, with the help of a pair of entrepreneurs, Beto rebranded his class and transformed it into the global franchise that is Zumba fitness today.



also enabled researchers to develop individual linear regression equations for each subject to predict their VO_2 based on HR readings. This was key because standard metabolic testing gear is bulky and wearing it would encumber the subjects' ability to dance and properly participate in the Zumba class.

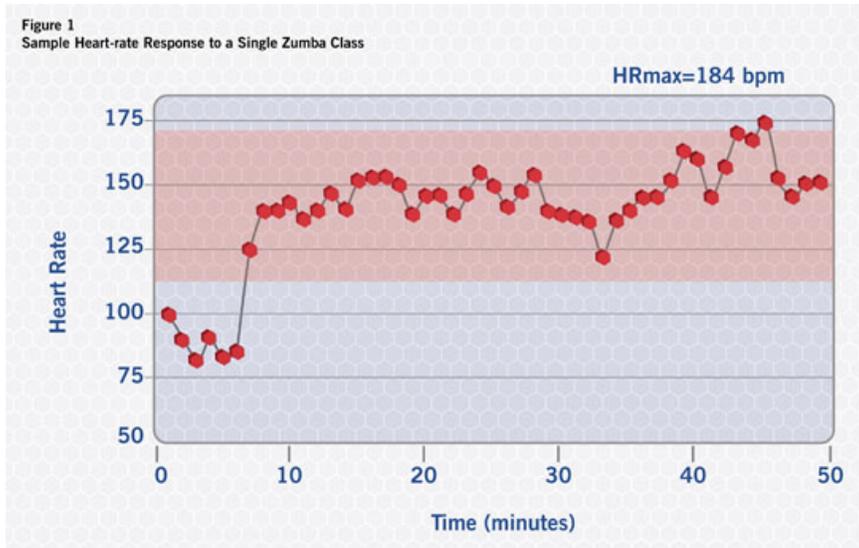
After the treadmill testing, each subject participated in a single Zumba session while equipped with a heart-rate monitor. While the class length varied from 32 to 52 minutes depending on which day it was conducted, the same Zumba-certified instructor taught all of the sessions.

The Results

After crunching the resulting data, researchers found that participating in a single Zumba fitness class burned an average of 369 calories or about 9.5 kcal per minute (Table 1).

Variable	Mean \pm SD	Range
Workout Time (min:sec)	38:48 \pm 4:53	32-52
HR (bpm)	154 \pm 14.1	127-177
% HRmax	80 \pm 7.0	65-89
Estimated VO_2 (mL/kg/min)	30.9 \pm 6.19	21.2-42.1
% VO_2 max	64 \pm 10.5	40-82
METs	8.8	6.1-12.0
Kcal/min	9.5 \pm 2.69	5.1-15.3

The average HR was 154 beats per minute (bpm), which is roughly 80 percent of the average predicted HRmax for the subjects (Figure 1). Accepted fitness industry guidelines suggest exercising in the range of 64 percent to 94 percent of HRmax to improve cardio endurance, so Zumba meets those requirements.



"If we look at the heart-rate monitor strips from the Zumba fitness session, they kind of look like interval workouts, going back and forth between high intensity and low intensity," says lead researcher Mary Luetzgen, M.S. "Because of that, with Zumba you burn a lot of extra calories compared to a steady-state exercise like jogging."

As for the average estimated percentage of VO_2 max, the subjects averaged 64 percent of VO_2 max, which is well within industry recommendations of 40 percent to 85 percent of VO_2 max for improving cardio endurance.

Of particular note is that HRmax and VO_2 max responses for all of the subjects fell within the range of industry guidelines, despite the fact that there was a wide range of fitness levels among the subjects.

The Bottom Line

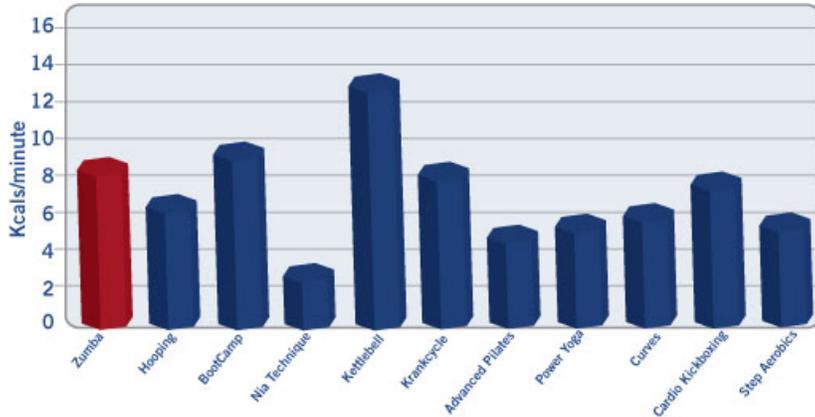
Zumba fitness may feel like a party, but this research suggests that it's also a highly effective workout.

"It's a total-body exercise—a good, high-energy aerobic workout," explains Dr. Porcari. "Zumba fitness is also good for core strengthening and flexibility gains because there are lots of hip and midsection movements."

With subjects burning an average of 369 calories per class, Zumba fitness is also a fine choice for those who are looking to drop a few pounds or maintain their current weight

levels. In comparison with other exercises tested in the past by the University's Department of Exercise and Sport Science, Zumba burns more calories than cardio kickboxing, step aerobics, hooping and power yoga (Figure 2).

Figure 2
Average Energy Expenditure of Several Exercise Modes Previously Tested at UWLAX



"The surprising thing is that it doesn't matter what fitness level you're at—our research shows that in Zumba classes everyone is working out at the zone that's recommended for improving cardio health," says Luetzgen. "Both fit people and less-fit people are going to get an equally good workout."

Bottom line, Zumba fitness is an effective interval-style, full-body workout with built-in variety because every class and every instructor is slightly different. Equally important is the notion that Zumba classes are entertaining, which means exercisers are busy burning calories and getting fit while enjoying the fun of Latin dancing.

Sounds like our kind of party.

This study was funded solely by a grant from the American Council on Exercise (ACE).

ACE recommends that, before engaging in any exercise regimen for the first time, individuals consult with their doctors.