

Energy Expenditure Levels:

Hunter-Gatherers vs. Westerners

The current rates of overweight and obesity suggest that energy expenditure has fallen below healthy levels in our modern culture. However, researchers recently reported that our ancestors may not have expended any more energy than “Westerners” currently do.

In a study published in *PLoS ONE* (2012; 7 [7], e40503), researchers examined daily energy expenditure rates of the Hazda hunter-gatherer society from Tanzania in East Africa. “The Hazda hunt and gather on foot with bows, small axes, and digging sticks, without the aid of modern tools or equipment,” the study authors explained. “As is typical among traditional-living Hazda, over 95% of their calories during this study came from wild foods, including tubers, berries, small- and large-game, baobab fruit and honey.”

Two primary measurements to be obtained in this study were metabolic rate and walking cost. To test resting and active metabolic rates, the researchers had the 30 subjects, aged 18–75, wear a portable respirometry system that measured carbon dioxide production and oxygen consumption. Walking cost was determined by a small global positioning system (GPS) that each subject wore during daylight hours. Body composition measures were also taken. When the 11-day study

period was finished, the scientists compared the results to data about Westerners that they had culled from earlier studies.

“Hazda were highly active and lean, with body fat percentages on the low end of the normal healthy range for Western populations,” the authors reported. “Total energy expenditure (TEE) among Hazda adults was strongly related to body size, specifically fat free mass.” In general, body fat percentages in this group were lower than the percentages for Western individuals.

Interestingly, however, the researchers found very little difference in energy expenditure between the two groups, despite the Hazda being more physically active than the Westerners. “Estimated physical activity levels suggest that Hazda adults spend a smaller portion of TEE on basal metabolic rate,” the authors surmised.

So, why is there little difference in TEE among these groups? The researchers’ conclusion: “We hypothesize that TEE may be a relatively stable, constrained physiological trait for the human species, more a product of our common genetic inheritance than our diverse lifestyles.”

What do you think about the results of this study? Send your thoughts to rhalvorson@ideafit.com.



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New York Plans Adult Playground Expansion

Playgrounds aren’t just for kids. According to a June 29, 2012, article in the *New York Times*, New York City has plans to provide its citizens with “adult playgrounds” geared toward helping improve grown-ups’ fitness levels. The first park, located at Macombs Dam Park in the Bronx, was built several years ago as a test. The interest in the 15-piece playground has been so great that the city plans to scatter about 24 more of them throughout its five boroughs. This fall, the second adult playground will be built at John Jay Park on the Upper East Side and will include amenities like exercise mats and chess tables.

The cost of the playgrounds ranges from \$75,000 to more than \$200,000. According to the *New York Times* article, a children’s playground in New York or Los Angeles can cost anywhere from \$300,000 to \$2 million to build.



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