

# fitness MANAGEMENT

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OCTOBER 2008

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## Is there a link between crime and fitness?

Much ado was made about a recent study that involved a random sample of 5,000 men who were incarcerated in the Arkansas prison system over a 30-year period. The researchers looked at the relationship between physique and the types of crimes that were committed. They concluded that the vast majority of violent offenses were perpetrated by mesomorphs, which are characterized by large bones, a solid torso, low fat levels, and wide shoulders with a narrow waist.

However, the study had several glaring weaknesses. For one, there was no control group. For another, the authors used body mass index (BMI) to define the physiques of the prisoners: A BMI of 18 and below was considered an ectomorph, a BMI between 19 and 25 was a mesomorph, and a BMI of 26 and above was an endomorph. However, BMI is a poor indicator of physique. Even the authors noted that the use of BMI was a "severe limitation" of the study. Plus, BMI was calculated from data that were collected at the time that the prisoners began their sentences, not when they committed the crimes.

A columnist for *The New York Times* grossly

misinterpreted the study. The headline of the column fanned the flames by announcing that a "link is seen between crime and fitness." Yet, the study had nothing to do with "fitness." In

fact, the word "fitness" didn't even appear in the study. The bottom line is, there is no scientific proof that any connection exists between crime and fitness (or physique). **FM**



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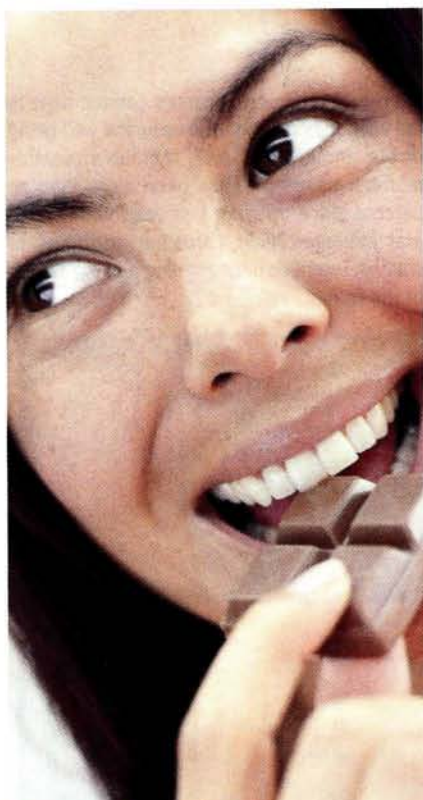
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## Does chocolate lower blood pressure?

For years, researchers have investigated a myriad of substances and foods as possible ways to reduce blood pressure. One substance that has been examined is cocoa, which is found in chocolate.

One study involved 44 subjects (ages 56 to 73) who had upper-range pre-hypertension (130/85 to 139/89) or stage 1 hypertension (140/90 to 160/100). The subjects were randomly assigned to two groups: One group received 6.3 grams (30 calories) of dark chocolate per day, and the other group received 5.6 grams (30 calories) of white chocolate per day for 18 weeks. By the end of the study, the subjects who ate dark chocolate decreased their systolic and diastolic pressures by 2.9 and 1.9 mm Hg, respectively. The subjects who ate white chocolate increased their systolic pressure by 0.1 mm Hg, and had no change in their diastolic pressure.

But don't make a mad dash to the candy store just yet; the study had a few shortcomings. For example, the subjects weren't "blinded" to the type of chocolate that they received. And, because the study population was very much alike, the results may only apply to those who are older and mildly hypertensive. So, while the idea of using chocolate to decrease blood pressure sounds tantalizing — and appetizing — we'll need to see these results repeated in more studies. **FM**

## Does fatiguing the abdominals prior to an activity impair performance?

Many fitness enthusiasts begin their workouts by training their abdominals. But, is early fatigue of the abdominals advisable?

In a study published in the *European Journal of Applied Physiology*, 12 healthy men (average age 25.7) ran as far as possible in 12 minutes on a 400-meter outdoor track under two conditions: one with prior fatigue of the expiratory muscles, and one without. To produce fatigue, the subjects inhaled freely through their nose and exhaled through a mouthpiece that offered resistance to breathing. (An earlier study found that this type of resistive breathing elicits abdominal fatigue.)



In 12 minutes, the subjects ran about 2,872 meters when their expiratory muscles were fatigued, and about 2,957 meters when they weren't. So, prior fatigue of the expiratory muscles resulted in a significant decrease in maximal running distance.

The abdominals are used during forced expiration such as during strenuous exercise or activity. Consequently, the abdominals should be exercised at the end of a workout, not at the beginning. **FM**

### REFERENCES

Maddan, S., J.T. Walker and J.M. Miller. Does size really matter? A reexamination of Sheldon's somatotypes and criminal behavior. *Social Science Journal* 45: 330-344, 2008.

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