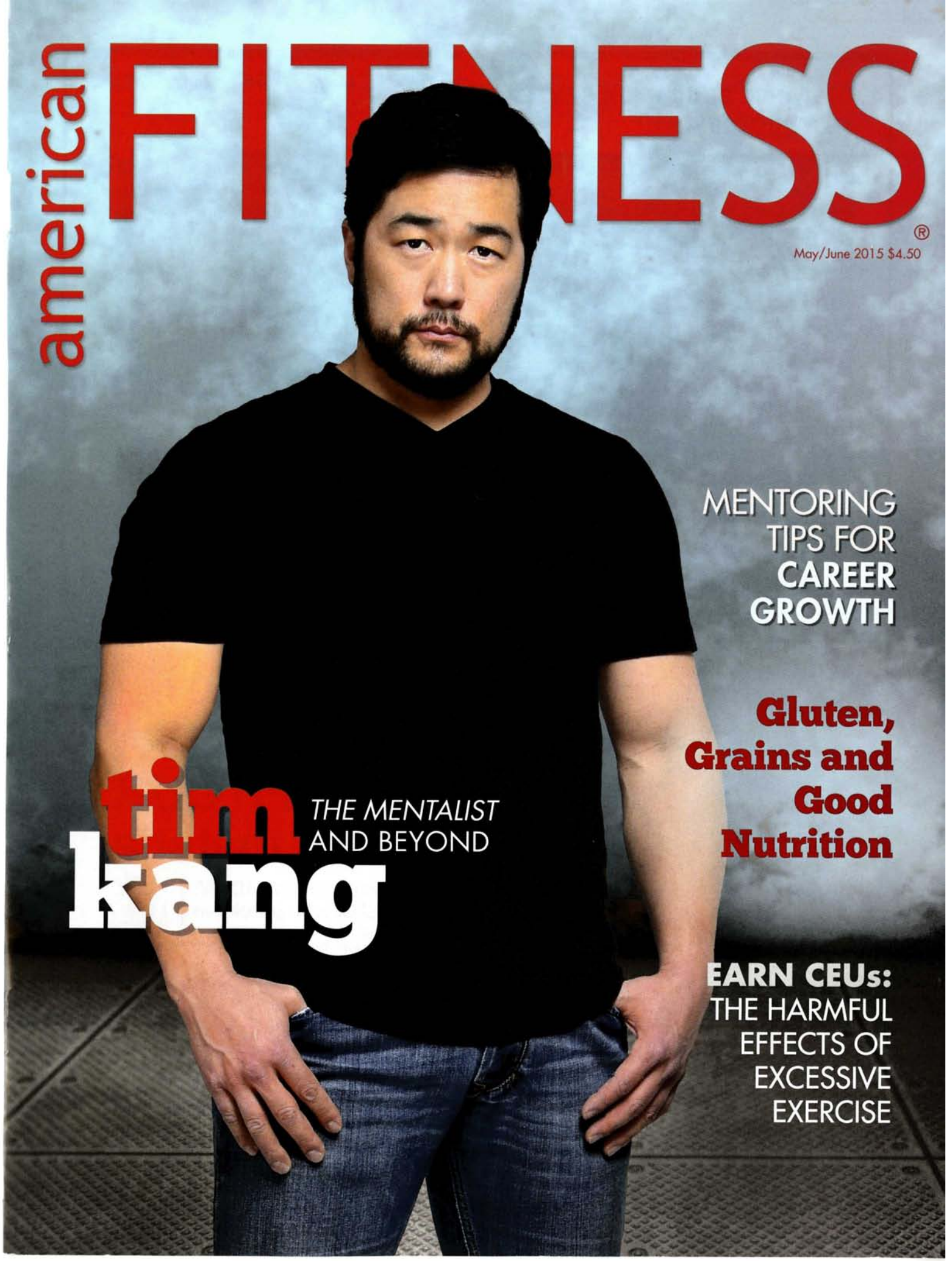
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THE HARMFUL EFFECTS OF EXCESSIVE EXERCISE

AF Q&A

BY MATT BRZYCKI

WHAT EFFECT DOES A MIRROR HAVE ON MOOD AND EXERCISE PERFORMANCE?

Walk into most gyms and you'll see plenty of mirrored walls. Viewed as an aid in monitoring technique, mirrors may also have unintended consequences on mood and behavior.

Researchers at Santa Clara University randomly assigned 104 undergraduate students to three groups that pedaled a stationary bike at 70% of their maximum heart rate for 20 minutes. One group exercised in front of a mirror and two posters of "highly fit" celebrity trainers; another group exercised with only mirrors; and the third group while facing a wall without mirrors or posters.

Before and after each of the three conditions, the subjects self-rated their mood states in four categories: energetic, tired, tense and calm.

Subjects who exercised in front of the mirror and posters pedaled significantly faster than in the other two conditions. Women felt most tense after exercising in front of the mirror and posters. Men felt most tense after exercising in front of the mirror, with the posters having no affect on mood.

The authors suggested that having an image of a highly fit female next to their mirror reflection may have led women to a comparison of bodies, which raised their level of tension.

DOES THE WAY IN WHICH PROTEIN IS SPREAD OUT IN DAILY MEALS HAVE ANY ROLE IN MUSCULAR DEVELOPMENT?

Protein is necessary for the growth, maintenance and repair of biological tissue, especially muscle. The Recommended Dietary Allowance (RDA) for protein is 0.8g per kilogram of body weight (0.36g/lb body weight/day). There's strong evidence that active individuals could benefit from a greater intake of protein, as much as twice the RDA.

But that's the total intake of protein for the day. What about how the protein is distributed per meal?

In a study conducted at The University of Texas Medical Branch, eight physically active subjects (average age 36.9) were randomly assigned to receive 90g of protein per day in two conditions. In one, they were given 30g at breakfast, 30g at lunch and 30g at dinner; in the other, they were given 10g at breakfast, 15g at lunch and 65g at dinner. Both conditions lasted seven days with a 30-day washout period in between.

Researchers found that an even distribution of protein—here, 30g at each of three meals—was about 25% better than an uneven distribution in stimulating muscle protein synthesis. By the way, most Americans eat much more protein at dinner than at breakfast.

CAN BALLROOM DANCING BE USED TO IMPROVE AEROBIC FITNESS?

A wide variety of physical activities can be used to enhance aerobic fitness. Does ballroom dancing make the grade?

In one study, 24 college-age recreational dancers (average age 23.0 for men and 21.0 for women) performed a series of dances consisting of the Waltz, Foxtrot, Swing and Cha-Cha at tempos of 96, 128, 132 and 132 beats per minute, respectively. In all cases, the male was the lead partner. Dance order was the Waltz, Foxtrot, Swing, Cha-Cha followed by Swing again. Each dance lasted 4 minutes with a 2-minute recovery period after each dance, totaling 30 minutes of testing.

On average, the dancers used 5.88 calories per minute for the 30-minute test and the intensity was 6.12 METs (metabolic equivalents). In this study, ballroom dancing fulfilled the established criteria for intensity—ranging from moderate (Waltz and Foxtrot) to vigorous (Swing and Cha-Cha)—to qualify as an activity for improving aerobic fitness.

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