



Photo by Julian Nistea

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Mind Over Matter: Can Your Clients Be Tricked Into Better Performance?

Personal/Peer Trainer perspective but useful information for the self training group.

By Jim Gerard

What limits how fast a person can run, swim or cycle? How high she can jump? How hard he can strike a tennis ball or throw a javelin?

For years, exercise physiologists pondering the elements of ultimate athletic performance believed that an athlete's body (including his or her genes) sets the ceiling, and that pain and fatigue are the result of the limits of his cardiovascular and musculoskeletal systems.

That's why two recent studies conducted by a team of researchers led by Kevin Thompson, head of sport and exercise science at Northumbrian University in England, plus a third U.K. study, stirred interest in exercise science circles. All three studies suggest that our minds play a role in fixing our limits—or allowing us to surpass them.

Study #1

The aim of [Thompson's first study](#) was to investigate whether it was possible to reduce the times of participants in a 4,000-meter cycling time trial (about 2.5 miles) using a stationary bike by deceiving the racers into believing they were competing against their personal best.

As Gina Kolata reported in *The New York Times*, "Each rider was shown two avatars. One represented the rider himself, moving along a virtual course at the rate he was actually pedaling...The other figure was moving at the pace of the cyclist's own previous best effort—or so the cyclists were told."

But the researchers fibbed. They had programmed the second computerized figure to ride faster than the cyclist ever had—using 2 percent more power (which translates into about a 1 percent increase in speed).

So although the cyclists believed they were keeping pace with their past time, they ended up shattering that personal best and increasing their speed by 1 percent—a seemingly insignificant figure, but one large enough to make the difference between finishing at the head of the pack and getting lost in the crowd.

Study #2

A [study by Jo Corbett](#), a senior lecturer in applied exercise physiology at the University of Portsmouth in England, reaffirmed Thompson's results. Corbett and his team contemplated the degree to which competition can affect an athlete's speed, so he asked a group of cyclists to put the pedal to the metal on a stationary bike for 2,000 meters. Two avatars were projected on the screen, the first one representing the rider and the second a "competitor" who, they said, would be in the room with them, only hidden behind a screen.

The competitor, however, was fictitious—its avatar represented the cyclist moving at the pace of his personal best over 2,000 meters. The cyclists easily beat their best times, proving that whether the competitor existed or not didn't matter—as long as the cyclists believed that he did.

Study #3

Thompson and his team of researchers conducted a [second study](#) to test just how fast an athlete could go, even when deceived or amid competition. The results were mixed; they showed that the alleged presence of a competitor could disempower athletes as well as enhance their performance. One group was told that their “opponent”—again, a phantom—would be racing at a pace 2 percent or 5 percent faster than each cyclist’s best time. Their spirits seemed to flag from the start, and they managed only to equal their own best efforts. The second group was deceived. They were told they’d be riding against avatars at the pace of their own best effort, when in fact the avatar was moving 2 percent to 5 percent faster. That group kept up with the avatars moving 2 percent faster, but couldn’t catch the 5 percent-ers.

Thompson says that his results prove that “a small deception of the brain can enhance performance...Within limits [the cyclists couldn’t go 5 percent faster], if an athlete thinks a certain pace is possible, he or she can draw on an energy reserve that the brain usually holds in abeyance.”

What the Experts Have to Say

ACE Certified News asked some exercise-performance experts to explain how a trifling deception could do what genetics, conditioning and training couldn’t—help an athlete access previous untapped energy reserves to exceed his or her personal best.

Dr. David Kauss, sports psychologist and author of *Mastering Your Inner Game* (Human Kinetics, 2001), concedes that an athlete’s mental approach can help him make gains hitherto considered beyond his limits. “[The cyclists’ improvement] was not about confidence, the feeling that I’m going to beat the other guy,” he says. “It was about a belief system—how I think about myself. Some athletes give themselves more positive messages about their potential, and during performance they stop thinking about their limits and focus on the moment.”

Kauss believes that a shift in one’s belief system can help the weekend warrior improve by a much higher percentage than the Olympian, because the former most likely is far from his threshold, while the Olympian is always bumping up against his.

Dr. Costas Karageorghis, an associate professor in sport psychology at Brunel University, London, and author of *Inside Sport Psychology* (Human Kinetics, 2011), agrees that an athlete’s attitude can play a crucial role in his performance, “if he has absolute belief in his ability.”

A Different Perspective

Fine. But just how do traits such as confidence, which originate in the brain, coerce the body into exceeding its limits?

“The athlete’s brain is sending messages that allow him to push harder for longer and start burning lean muscle mass,” explains Kauss, “which doesn’t happen ordinarily.”

“My belief is that the minds of the successful cyclists perceived the situation differently,” says Dr. Jim Taylor, clinical associate professor of sport and performance psychology at the University of Denver and author of *Prime Sport: Triumph of the Athlete Mind* says about the studies. “This prevented the survival mechanism, a residue of evolution that always holds something in reserve, from kicking in.”

While we don’t know the precise physiological mechanism by which the brain can override the body’s normal limitations, we do know that the body does have absolute limits—even during the most intense competition or despite the mental slight-of-hand deployed by the U.K. researchers.

Kauss argues that man’s ultimate performance ceiling is restricted by physics; gravity, for example, determines how high you can jump and how much force you can put on a joint before it breaks. Nonetheless, when asked if he could use those laws of physics to quantify the absolute ceiling of athletic performance, he replied, “I don’t know. We’ve already exceeded what anyone thought we were capable of 50 years ago.”

Expert Motivational Tips

We asked our experts to suggest some tips you can use to motivate your clients. *Note: ACE does not encourage trainers to push clients to the point beyond which they risk injury. Always use “deception” judiciously or risk eroding trust between you and your clients.*

- Prepare your client to change his or her mental response to obstacles and provide positive “self-talk” during the event “Say you’re training a distance runner whose muscles tightened up during previous races,” says Kauss. “Train him to ignore his sensory system should he feel that same pain during his next race. Instead of responding: ‘All my hard work has gone down the drain,’ he should remember to tell himself, ‘I’ve had this experience before, but I fought through it.’”

- “Tell your client that you want her to hold her breath for as long as possible, timing her while she does so,” suggests Kauss. “Stress that she should hold out as long as possible. Record, but do not show her the time. Then, guide her through some relaxation imagery for a few minutes. Ask her to repeat the breath-holding challenge, this time aiming to go longer than she already has. Tell her that you will give her a signal when she matches her first time, but that she can go longer if possible. Give her the signal at a time that is actually 102 percent of her first time. Chances are her second time will exceed her first.”
- Karageorghis suggests borrowing a technique from British high jump coach Ron Murray. “In the training session before a major championship, [Murray] would pretend to accurately measure the height of the bar to make his athletes believe that it was a centimeter or two higher than it actually was. The athlete would clear the bar with relative ease and go into the competition feeling really confident.”
- Kauss recommends that you remind your clients of times when they did exceed their expectations or accomplish things they didn’t think were possible. “Use life experience to get the limiting thoughts out of their minds.” Source: Acefitness

How can I make sure I meet my fitness and nutrition New Year's resolutions?

New Year = New You. Right?

Before you go setting unrealistic or ineffective resolutions, take some time to rethink the approaches you’ll be taking this year to become a healthier, happier you.

Revolutionize your resolutions and allow yourself to truly transform in 2012! Here’s how:

Revolutionized Fitness Resolution

TOSS: Vowing to do more cardio to lose weight.

TRY: Redesigning your [cardio routine](#), and vary your [approach](#) to exercise.

If your resolution is to include more heart-pumping cardio into your workout routine, avoid the temptation to simply hop on your favorite piece of cardio equipment for the same amount of time — and at the same pace — as you’ve been doing week after week, year after year.

Instead opt to maximize your cardio sessions by incorporating [high-intensity interval training \(or HIIT\)](#) into your program one or two days per week. HIIT consists of short bursts of high-intensity activity combined with a period of active recovery.

Research shows that this style of training allows the body to utilize the anaerobic energy system more efficiently, and also helps remove metabolic waste from the muscles between intervals effectively. It also [enables exercisers to increase their VO2 max](#) without increasing cardio duration.

DO IT TODAY: While there’s no one single way to structure a HIIT session, here’s an [example of a training protocol](#) you can try today to get a feel for this type of training.

HIIT can be done with just about any mode of cardiorespiratory training — from running to cycling to swimming. When it comes to intensity, the high-intensity intervals should be performed at an exertion level of 7 or higher (on a scale of 0-10), and are typically performed for anywhere from 30 seconds to two minutes. The active recovery intervals are performed at a moderate intensity of around a 5 on the same 0-10 scale.

Alternating these intervals in a 1:2 ratio (for example, one minute of high-intensity activity followed by two minutes of active recovery) helps to ensure that an adequate length recovery interval is taken — this is where many of the benefits of this type of training occur.

In addition to interval training, consider varying your approach to cardio by trying out some fun-filled cardio-based group fitness classes this year, such as Zumba®, TurboKick®, or Spinning®. Also, keep in mind that [resistance training](#) is an important factor with regards to losing weight, improving resting metabolic rate, increasing lean muscle mass and [decreasing body fat percentage](#).

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Revolutionized Nutrition Resolution

TOSS: Cutting out carbs.

TRY: Using your carbs wisely by focusing on nutrient timing.

The reality is that carbohydrates are needed for both aerobic and anaerobic exercise, as the body uses muscle glycogen as a primary fuel source during exercise. So while it may be tempting to swear off carbs altogether, keep in mind that a depletion of muscle glycogen results in reduced force production and muscle weakness — not exactly the ideal conditions for having an effective workout (or the energy to continue to work out on a regular basis).

Instead, vow to use carbs more wisely! Growing research in the area of nutrient timing shows just how effective carbohydrates can be in terms of [proper fueling and refueling before, during and after exercise](#):

Phase 1 (the 'Energy Phase'): This phase occurs before and during a workout, and is designed to increase nutrient delivery to muscles — sparing glycogen and protein loss, minimizing muscle damage and nutritionally preparing the body for recovery. Believe it or not, proper fueling in this phase actually stimulates protein synthesis and aids in the rate of muscle recovery post-exercise.

Phase 2 (the 'Anabolic Phase'): This phase is typically defined as within 45 minutes to an hour post-exercise, which is when nutrients are most needed in order to make gains in terms of muscular strength and endurance. Research has shown that consuming carbohydrates within this first hour helps increase protein synthesis and replenish glycogen stores that provide the body with what it needs for recovery.

Phase 3 (the 'Growth Phase'): This phase is defined as the remainder of the day, and is all about muscle strengthening, repairing and growth. In fact, consuming a mix of proteins and carbohydrates within 3 hours post-exercise has been shown to have a positive effect on stimulating protein synthesis.

DO IT TODAY: So how can you translate the science into practical tips you can follow at home? For the average exerciser (working out for about 60 minutes or less), about an hour or so before a workout, aim to consume a combination of easily digested carbohydrates along with protein in roughly a 4:1 ratio.

Need snack ideas? Try low-fat yogurt with a sliced banana or perhaps low-fat string cheese with a serving of whole-grain crackers.

Within an hour after your workout, aim to consume roughly a 3:1 ratio of carbohydrates to protein. [Examples of post-workout snacks](#) can include a cup of cooked oatmeal with ¼ cup of raisins, two slices of whole grain toast with 2 tablespoons of peanut butter or an energy bar and a sports drink.

For the remainder of the day (especially within 4 hours of exercise), focus on enjoying a mix of complex carbohydrates and healthy proteins in roughly a 1:5 ratio — tuna and a small whole wheat pita, or grilled chicken with a small serving of brown rice and vegetables.

So what are you waiting for? Make this year your best year and set yourself up for success by *revitalizing* your approach to your health, fitness and nutrition. Your body will thank you!

Have specific goals for 2012? Consider enlisting the expert guidance of a [personal trainer](#) or [registered dietitian](#) who can help you on your health and fitness journey.

Source: AceFitness

Snacking Associated With Healthier Overall Diet

Client Share Save to Library

It seems counterintuitive to suggest that people should be snacking more but a study published in the November 14, 2011, edition of the *Journal of the American Dietetic Association* concluded that increased snacking could positively impact overall diet quality.

Claire A. Zizza, PhD, associate professor of nutrition at Auburn University in Alabama, and co-author Beibei Xu, PhD, found that people who snack between meals tend to have healthier diets than those who stick to eating only at regular meal-times. Study subjects who snacked more frequently consumed less sodium and ate more fruit, whole grains and milk than

their counterparts. In addition, the more subjects snacked, the more likely they were to eat both healthy snacks and healthy meals. Still, frequent snackers fell short of eating enough vegetables, and the overall healthiness of the study participants' diets left room for improvement.

Zizza and Xu used data from 11,209 people aged 20 and older who participated between 1999 and 2004 in the larger National Health and Nutrition Examination Survey, which includes interviews and physical exams. The researchers used a standard scoring system that ranks the healthiness of diets on a scale from 1 to 100 (100 being healthiest). They discovered that the more times a day people snacked, the higher they tended to score. Those who reported never snacking scored 49.3, on average, while those who snacked four or more times a day averaged 51.6.

Source: January 2012 by IDEA Health & Fitness Inc. All rights reserved.

ORIENTAL CITRUS CHICKEN

(Pollo Cítrico del Oriente)

This recipe contains more than one type of fruit or vegetable, rich in different nutrients. Try many colors and kinds.

Ingredients

- 2 teaspoons vegetable oil
- 3 chicken breasts, boned, skinned, and cut into 2-inch pieces
- 2 slices fresh ginger root, peeled and minced or 1/2 teaspoon ground ginger
- 1-2 cloves garlic, minced
- 1 (8-ounce) can pineapple chunks, drained (save juice)
- 1 1/2 cups orange juice
- 1 cup chicken broth or water
- 2 tablespoons vinegar
- 4 cups sliced vegetables, such as celery, green peppers, onions, and mushrooms
- 1 medium tomato, cut in wedges
- 2 tablespoons soy sauce
- 1 tablespoon sugar
- 2 tablespoons cornstarch

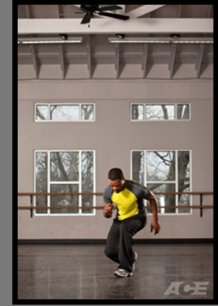
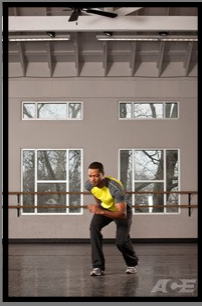
Directions

1. Heat oil in a large skillet over medium-high heat (350 degrees in an electric skillet).
2. Add chicken, ginger, and garlic and cook 5 minutes or until chicken is no longer pink.
3. Add pineapple juice, 1 cup of orange juice, chicken broth, and vinegar. Cover and simmer for 5 minutes.
4. Add sliced vegetables. Cover and cook 3 minutes.
5. Mix remaining 1/2 cup orange juice, soy sauce, sugar, and corn starch together in a small bowl. Stir until smooth. Add to skillet and cook, stirring constantly, until mixture comes to a boil and thickens.
6. Add tomato wedges and pineapple chunks.
7. Refrigerate leftovers within 2-3 hours.

Tip: Serve this dish over brown rice for a hearty meal.

Source: healthyrecipes.oregonstate.edu

Cycled Split-squat Jump



Target Body Part: Butt/Hips, Legs - Calves and Shins, Legs - Thighs

Primary Muscles: Erector Spinae, Anterior and Medial Deltoids (delts), Posterior Deltoids (delts), Biceps, Triceps, Transverse Abdominus, Gluteus Maximus (glutes), Quadriceps (quads), Hamstrings, Soleus, Gastrocnemius, Tibialis Anterior

Secondary Muscles: Trapezius (Traps), Rotator Cuff, Serratus Anterior, Gluteus Medius/Minimus (Abductors)
(Synergists/Stabilizers)

Equipment Needed: No Equipment

Step 1

Starting Position: Stand in an athletic ready position with your feet hip-width apart, right leg forward, left leg back. Both arms are bent with the left arm in front of your body and the right arm behind your body. Prepare for the jump by leaning forward at the hips, keeping your weight back in your thighs, shoulder blades pulling down your back and abdominals engaged to brace your spine.

Step 2

Jumping Movement: Quickly sink your weight back into your hips then explosively push both feet into the floor and drive your hips forward to launch your body into the air completely extending the ankles, knees and hips. As you jump into the air, keep your feet level with each other and parallel with the floor.

Step 3

While you are in the air switch legs bringing your left leg forward and right leg back behind your body. Switch arms bringing your right arm forward and your left arm back.

Step 4

Downward phase: As you land your left leg should be in front of your body and your right leg back behind your body. The most important components of the landing phase are correct foot position and avoiding excessive forward movement in your lower legs which places additional stress on your knees. Try to land softly and quietly on the mid-foot, quickly rolling toward the heels to in order to level the foot, making it parallel with the floor. Always push your hips backwards and drop your hips to absorb the jumping forces. Do not lock your knees on the landing in order to avoid potential knee injuries. Land with your trunk inclined slightly forward, head aligned with your spine and back rigid or flat. Keep your abdominal / core muscles engaged, bracing your torso to protect your spine.

Step 5

Exercise Variation: Be sure to alternate the forward leg, when learning this exercise focus first on landing with control and resetting before another repetition, as you improve your strength and power progress to performing multiple jumps in a row.

It is suggested, you first learn how to squat and land before attempting to jump. Once you have mastered the hip-hinge mechanism, begin with small jumps, but emphasize your landing mechanics. Only progress to more explosive jumps once you have mastered your landing mechanics.

Upcoming Fitness Events

Scott Firefighter Stairclimb - Sunday, March 11, 2012

69 flights of stairs

1,311 steps

88 feet of vertical elevation

Registration Closed sold out



Rhody Run Port Townsend

May 20, 2012

Register@ www.rhodyrun.com

Rhody Run is a twelve (12) kilometer run/walk located in Port Townsend, Washington on the third Sunday of May in conjunction with the local Rhododendron Festival. The run has been in existence since 1979 and celebrated its 30th year in 2008. Approximately 2,000+ attend the event each year.

Course

The course distance is 12 K (7.46 miles). The Rhody Run is sanctioned by PAC Northwest and USATF. The course is not USATF distance certified.

The Rhody Run starts and finishes at the same point and covers a loop through a rural area with views of mountains, woods, and the Strait of Juan de Fuca. The course consists of mixed flat, hills and roads and can be a demanding course. There are aid stations at miles 4 and 6. Splits are given at every mile. Projected finish times are given at miles 4, 5, and 6.

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