

Deliberate Running

Virtuoso violinists may offer some insights on how to fine-tune your running program.

By Alex Hutchinson

One of running's great attractions is its utter simplicity. No neutral-zone traps, no infield-fly rule, no bulky shoulder pads or high tech carbon-fibre racquets. A month's worth of training gear won't even fill a backpack, and the rules of the sport can be summarized on a cocktail napkin. It's so simple, a non-running friend pointed out to me recently, that he couldn't understand what running magazines would possibly talk about: "What is there to say, other than, 'Left, right, left, right...?'"

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For many runners, this simplicity means that heading out for a run provides an opportunity for a mental break – a chance to think about the events of the day, or about nothing at all, while the legs navigate (left, right...) on autopilot. But for those who are looking to lower their best race times, a growing body of research suggests that what's going on in your head during training sessions can make a big difference in how effective those sessions are. "It's not just physical intensity that counts, it's mental intensity," says Joe Baker, a professor at York University's School of Kinesiology and Health Sciences.

That's true not only for running. For the past few decades, psychologists have been studying how people achieve greatness in fields ranging from sports to music to science, and they've come to a remarkable conclusion: the level of achievement that a person reaches is tied very closely to the number of hours they spend doing "deliberate practice," a term coined by Florida State University cognitive psychologist Anders Ericsson.

One of Ericsson's seminal studies in 1993 looked at top violinists – a profession that we usually assume is reserved for a select few who were gifted at birth with natural abilities. But Ericsson found that the difference between superstars and run-of-the-mill professionals was easily explained by the amount of deliberate practice they had done in developing their talents. The virtuosos at major philharmonics averaged 7,400 hours of deliberate practice by the age of 18; typical professionals averaged 5,300 hours; and those who ended up teaching violin instead of performing had spent only 3,400 hours.

But not all practice is "deliberate" practice. "Deliberate practice entails more than simply repeating a task – playing a C-minor scale 100 times, for instance, or hitting tennis serves until your shoulder pops out of its socket," *Freakonomics* authors Stephen Dubner and Steven Levitt pointed out in a recent article. "Rather, it involves setting specific goals, obtaining immediate feedback and concentrating as much on technique as on outcome."

Running deliberately

THE MAIN BUILDING BLOCK in most training programs for running – head out the door and run for an hour at a comfortable pace, say – is pretty much the opposite of deliberate practice: no specific goals, minimal feedback, no thought about technique. After all, it's a simple sport, right?

But there are a number of training techniques that top runners use which fit the definition of deliberate practice. A study by University of Ottawa researchers Bradley Young and John Salmela in 2002 identified several key activities used by their sample of 90 elite Canadian middle-distance runners: speed and interval training, tempo runs, and occasional races and time trials. "High quality and high intensity, rather than long slow distance, is at the heart of deliberate practice," Baker says. This type of training is very physically demanding, but it has important mental benefits too, teaching you to monitor your pace, make adjustments, and ultimately push closer to your limits.

Carefully choosing what training will benefit you most, rather than just doing what you've always done, is another key element of deliberate training, Young says – that's why it's a great way to break through to a new level when you feel your running is

stuck in a rut. For instance, a study of Ironman triathletes by Baker and his colleagues found that the experts planned their training year carefully, taking regular easy weeks to allow their bodies to recover so that they could steadily build their training to a peak. The novices, in contrast, simply trained as hard as they could until cumulative fatigue or injuries forced them to back off. This lack of planning and foresight meant that the novices never managed to build up their training as much as the experts.

Refining technique is another key part of deliberate practice. While sprinters are well-known for spending countless hours working on the minute details of their stride, many people don't realize that most elite distance runners also work hard on their biomechanics, performing plyometric drills under the watchful eye of coaches who critique the flaws in their form. Few of us have

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that luxury – though it's a powerful argument in favour of joining a local running club, where working with a coach once or twice a week can help smooth inefficiencies from your stride. Even on your own, you can incorporate some simple drills into your routine, like doing short 15-second hill sprints after your run once a week, focusing on lifting the knees and driving the arms.

Associating vs. dissociating

IN ANALYZING RUNNERS, researchers often divide the mental strategies they use into "associative" and "dissociative." When you're associating, you're concentrating on the task at hand: "How is my breathing? Can I pick up the pace a bit? Left, right, left, right..." When you're dissociating, you're thinking about anything except the task at hand: "What a great view. Did I leave the kettle on?" A series of studies over the past few decades has demonstrated that faster runners have more associative thoughts during competition than their slower rivals, who have more dissociative thoughts. "But there's an important message," Baker notes: "No one has suggested that top runners associate all the time."

If deliberate practice sounds like uncomfortably hard work, that's because it is. Even the virtuoso violinists, famed for spending 10 or more hours a day practising, only managed to average a few hours a day of deliberate practice. For most runners, the majority of training should remain relaxed, a mental diversion. But adding a segment of deliberate practice once a week or more, depending on your level, could make a big difference in your race performance.

And there may be an added bonus. Young and Salmela's study of Canadian middle-distance runners produced one very unexpected result: they found that the types of training that took the most effort and concentration – the most deliberate, in other words – were rated as the most enjoyable sessions by the runners. So deliberate practice may be hard, but it's satisfying – especially on race day. **R**