

Jockology

When the game is on the line, should I focus on speed or skill?

If you're performing at an expert level, it's better to just do it

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The question

When the game is on the line, should I take my time with the ball or just get it over with?

The answer

When you're lining up a crucial putt, the last thing you want to hear is an impatient jerk behind you yelling, "Hey buddy, could you hurry it up a bit?"

But new research suggests that jerk may be doing you a favour.

Psychologists and neuroscientists are finding that when we perform complex motor sequences that we're very familiar with, concentrating too much on the details makes our performance worse. It's what causes choking on the putting green or at the free-throw line – and it's why a bit of a distraction can be a good thing.

Even skills as simple as tying our [shoes](#) begin as a sequence of separate actions that we consciously execute in a certain order, explains Clare MacMahon, a Canadian researcher now at Victoria University in Australia. As we master the skill, the steps become combined into a single action that is stored in our "procedural" memory, beyond conscious control.

"If you then try to consciously monitor yourself – 'make two bunny ears, one bunny goes around the tree' and so on – you break the skill back down into its components," Dr. MacMahon says, "and you end up looking like a novice again."

Dr. MacMahon is co-author of a 2002 study in the Journal of Experimental Psychology that compared novice and expert soccer players dribbling a ball with their dominant foot while either focusing on their technique or being distracted by sounds. Novices performed better when they focused on technique, but experts – for whom technique had progressed to subconscious control – performed better when they were distracted.

As an added twist, the researchers repeated the experiment with the subjects using their non-dominant foot. In this case, both novices and experts performed better while focusing on technique: None of the players were truly expert with their non-dominant foot.

The lead author of the 2002 paper was Sian Beilock of the University of Chicago, who is considered the leading researcher in this field. Last year, she published another study comparing novice and expert golfers who were asked to putt either as quickly as possible while maintaining accuracy or taking as much time as they wanted.

Again, novices and experts responded differently. The novices performed best when they took their time, while the experts performed best when they were told to hurry up.

“It’s really clear that paying too much attention to your step-by-step actions can disrupt fluidness,” Dr. Beilock says. “And this is what happens under stress, what people call ‘choking.’”

Other researchers have extended these results to basketball, hockey and even darts. More surprisingly, German researchers at the University of Munster published a study in the October issue of the Journal of Sports Sciences examining the role of “attentional focus” in running – a task whose mechanics most people consider fairly straightforward.

The runners were told to focus either on their breathing, their running form or their surroundings. The researchers assessed “running economy,” a measure of how much oxygen the runners consumed at a given pace, which is generally considered to be something you can’t control consciously. Sure enough, the runners focusing on their surroundings were the most efficient. Focusing on form was second best, while focusing on breathing was the worst.

If nothing else, this is a reminder that walking and running are complex tasks that our subconscious minds execute very efficiently. (“If you don’t believe walking is complex, why can’t we program a computer to walk normally?” Dr. Beilock points out.)

Of course, you still need your conscious mind to master skills in the first place. But once you’ve become proficient, it’s worth remembering that, when the pressure is on, scrunching up your forehead and focusing on your mechanics is more likely to hurt you than help you.

And you can also use this knowledge as an offensive weapon, Dr. MacMahon says. If you’re playing tennis and your opponent aces you, try paying a compliment: “Wow, that was a great serve. Are you doing something with your wrist?”

Alex Hutchinson blogs about research on exercise and athletic performance at SweatScience.com.