

## **Putting off the perfect putt?**

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(PhysOrg.com) -- Thinking about your putting technique in between shots can make you play worse, not better, according to a new report by scientists.

The researchers at the University of St Andrews say that thinking too much about what you just did, even after the event, can undo talent and disrupt future performance.

Psychologist Professor Michael Anderson, in collaboration with Kristin Flegal at the University of Michigan, set out to test the pearl of conventional wisdom that 'overthinking' during performance can have negative results. They found that the performance of skilled golfers was undermined after they had consciously reflected upon their putting.

The researchers asked eighty skilled and novice golfers to practice a particular putting skill until they got it right three times in a row, and then spend five minutes describing in detail what they did. They found that golfers; ability to perform was seriously impaired when they tried the same shot again, taking twice as many attempts to sink a putt, compared to golfers who spent the same five minutes engaged in unrelated activities.

Professor Anderson said, "This effect was especially dramatic in skilled golfers who were reduced to the level of performance of novices after just five minutes of describing what they did; novices, by contrast, were largely unaffected, and perhaps even helped a little, by verbally describing their movements.



"It's a fairly common wisdom in sport that `thinking too much' hurts performance; during a game it can be an obvious distraction, however what we found surprising is that simply describing one's putting skill after it has been executed, can be incredibly disruptive to future putting performance. In skilled performers particularly, we found that describing their skill simply impaired its retention."

The researchers believe that the loss of performance is due to an effect called verbal overshadowing, which orients the brain to focus more on language centres rather than on brain systems that support the skills in question. Although a similar phenomenon has been previously shown to affect memories of how things look or taste, it is the first time that research has demonstrated that it can adversely affect motor skills, and perhaps not just those used in sport.

Professor Anderson, a cognitive neuroscientist with an interest in memory and attention in humans, believes that overthinking does not affect novice golfers since they probably haven't developed enough skills to forget in the first place. As to whether the phenomenon would affect top-flight golfers such as Tiger Woods, he isn't so sure.

"Other related studies on verbal overshadowing shows that if people have extensive experience trying to articulate their perceptual experiences, performance goes unharmed," he explained. "So, to the extent that golf pros have extensively practiced talking about their skill, they might be less susceptible to it harming performance."

Although they did not investigate longer-term impact, the researchers believe that if golfers routinely engage in inter-shot discussions that led them to reflect on the details of their skill, it would be negatively affected.

Professor Anderson continued, "Our study suggests, in a nutshell,



whatever you do, don't think too hard about your technique in between holes. We have found that simply talking about one's recent motor action may sow the seeds of poor execution during later performance. This observation may have repercussions for athletes who depend on effective mental techniques to prepare for events. Moreover, those who teach golf, or any motor skill, might be undoing their own talent in the process."

The research paper, "Overthinking skilled motor performance; or why those who teach, can't do", is published by the *Psychonomic Bulletin & Review*.

Provided by University of St Andrews

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