What happens when athletes buckle under pressure?

New research from Michigan State University could explain what causes the star basketball player to miss a game-winning shot: It may be because he or she is paying too much attention to the task at hand.

Doctoral student Sina L. Beilock and Thomas H. Carr, PhD, present their findings in the December issue of the *Journal of Experimental Psychology: General* (Vol. 130, No. 4). In their study--"On the fragility of skilled performance: What governs choking under pressure?"--Beilock and Carr examined the performance of novice golfers under three conditions. All three groups were trained to putt the golf ball at a high level of skill. However, while the first group was trained to putt under normal conditions, the second group learned to putt while simultaneously listening to lists of words from a tape recorder and saying the word "cognition" every time they heard it--a condition intended to adapt golfers to being distracted while putting. The third group learned putting with a video camera set up in front of them and after being told that professional golfers would review a tape of their performance. The researchers used this third condition to adapt putters to being in the spotlight--raising self-consciousness and increasing attention to their performance while under scrutiny.

After extensive practice, the study's golfers participated in both a low-pressure and high-pressure golfing test. The researchers were looking to see whether learning to putt while being distracted or while focusing would better prepare the golfers to perform under pressure. In other words, would adapting to focusing too little on the task at hand or adapting to focusing too much cause the golfers to choke under pressure?

During the low-pressure test, golfers putted without distraction, and all three groups sunk the ball with about the same accuracy. But in the high-pressure test, when golfers were told their performance could earn a monetary award for themselves and a golfing partner, the results were different. The group who learned putting with no distractions and the group that learned with the tape recorder distraction both did worse. But the self-conscious, videotaped group improved.

"This suggests that adapting to an environment where one is forced to attend to performance from
What happens when athletes buckle under pressure?

the initial stages of learning may provide immunization against the negative effects of performance pressure," says study co-author Beilock.

That interpretation supports the hypothesis that people under pressure are more anxious and self-conscious about their performance, and, consequently, try to exert more control over their actions. The result is they disrupt their "flow." Beilock and Carr propose that the golfers in the self-conscious group were protected from choking because they adapted to the impact of being self-conscious while learning to putt.

--D. SMITH