

New study reveals start pistols give some racers advantage

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Tyler Christopher, left, believes his inability to hear the starter's pistol at the 2007 Pan Am Games in Brazil cost him a gold medal. (Gregory Bull/Associated Press)

The starter's gun has long been used as the official start of a track event but according to a new study, a runner's proximity to the pistol could give them an advantage.

Researchers at the University of Alberta have found that track runners who start in lanes closer to the starter's pistol have a better chance of winning the race.

According to Dave Collins, the report's co-author, being closer to the abrupt noise of the pistol generates a startle response that subconsciously propels runners ahead.

"The signal basically goes from the ear down to the spinal cord and you react sooner," Collins said. "By bypassing all that processing in the brain you're saving yourself time."

Canadian sprinter Tyler Christopher has had first-hand experience with the phenomenon, which he believes cost him a medal. The Canadian record holder in the 400 metres earned silver at the same distance at last year's Pan American games in Brazil, but he claims he didn't even hear the starter's gun in that race.

"That definitely cost me the gold. Everyone else heard the gun but I didn't," said Christopher, who was positioned in an outer lane. "I think that's kind of ridiculous seeing as a race can be won within a hundredth of a second."

While the research has uncovered a significant result, a focus on the starter's gun wasn't the original focus of Collins and his co-author, Alex Brown.

In 2005, Brown was examining false starts in racing when he noticed some interesting trends in the reaction times of runners at the 2004 Olympic Games in Athens.

Specifically, athletes in Lane 1 were consistently faster off the line, while reaction times increased in lanes further away from the starter's gun.

"Our study kind of shifted gears and we started looking at what was giving them this advantage," Brown said.

The study concluded that runners in Lane 1 are given a distinct advantage by hearing the pistol at a greater volume.

"I was just shocked," Brown said. "I think it surprises a lot of sprinters and coaches because this is something that hasn't been mentioned publicly."

Christopher's coach Kevin Tyler believes that the new study reinforces the need to have a level playing field from

start to finish.

"Tyler lost six metres in that race and ultimately that cost him a gold medal," said Tyler, who's also the director of the Canadian Athletics Coaching Centre.

Brown and Collins recommended that the starter's pistol be removed from sprint events entirely and in its place, they suggest a tone be played through speakers located behind each runner. A similar system is currently in place at the world championships.

"They account for wind and they account for all these different variables but something that seems so obvious was not really looked at before," said Brown.

With files from the Canadian Press