LOS ANGELES — Two tennis players are locked in a furious baseline exchange. Eventually, a line judge calls the ball "out." Should the player who lost the point protest the ruling?

Yes, a new study suggests. Researchers say professional tennis players could increase their chances of having a ruling reversed in their favor by an instant replay review if they challenge "out" calls more than "in" calls.

A study of 57 randomly selected matches during the 2007 Wimbledon tournament found that officials were more likely to err by calling a shot "out" than "in."

It's not a matter of bad refereeing, scientists say, but rather, it has to do with a bias in the way humans perceive moving objects.

Current rules allow tennis players to make an unlimited number of correct challenges during matches that use replay technology, but up to three unsuccessful challenges per set (with an extra incorrect challenge allowed in a tiebreaker).

"When a ball is called 'in,' a player should usually not challenge the call, even when she believes it to be an incorrect call," psychologist David Whitney of the University of California, Davis wrote in the study. "Players should concentrate their challenges on balls that are called 'out.'"

In 2006, the U.S. Open became the first Grand Slam tournament to use instant replay to challenge line calls. Wimbledon and the Australian Open later followed.

The French Open is the only major event that doesn't use the video technology because officials can check ball marks left on the clay surface.

Serena Williams' quarterfinal loss to Jennifer Capriati during the 2004 U.S. Open is widely considered the match that led tournaments to use instant replay.

In the opening game of the third set, the chair umpire's ruling on a backhand by Williams — a ball called "out" that TV replays showed should have been called "in" — awarded a point to Capriati, who went on to win the match 2-6, 6-4, 6-4.

In the study, three scientists independently reviewed TV footage of 4,457 points from Wimbledon in 2007. Calls were spot on most of the time.

Of the 83 wrong rulings, researchers found, 70 — or 84 percent — were instances of a shot landing in but being called "out." Only in 13 cases was a ball that landed out ruled "in."

Researchers attributed the errors to perceptual bias in which a moving target appears to be farther along its path than it really is — a bias phenomenon also seen in the general population.

The study was funded by the National Institutes of Health and the results will appear in Tuesday's issue of the journal Current Biology.

"It's an interesting concept, and if the research is accurate ... I'm sure players will take it under advisement as they see fit," said U.S. Open spokesman Chris Widmaier. "Any professional player at the upper levels of the game is looking for any type of fair, competitive advantage they can find."