

Testing the advantage of being left-handed in sports

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(Phys.org)—Sports scientist Florian Loffing with the Institute of Sport Science, University of Oldenburg in Germany has conducted a study regarding the possibility of left-handed athletes having an advantage over

their right-handed counterparts. In his paper published in the journal *Biology Letters*, Loffing describes assembling data on athletes from several sports, analyzed it and found what he describes as a pattern.

Some people believe that being left-handed confers an advantage for athletes—they are ranked more often on top [athlete](#) lists than statistics would suggest. Only 10 percent of people are left-handed, yet there are many famous left-handed athletes such as Wayne Gretzky, Lou Gehrig, Oscar De La Hoya and Martina Navratilova. Interestingly, it seems that this is an area of research that few have studied. To fill that void, Loffing conducted a study designed to offer more than an opinion on the matter. He collected stats on the top 100 left-handed athletes in six major sports for the period 2009 to 2014: [tennis](#), [table tennis](#), squash, cricket, baseball and badminton. He then compared them to one another based on handedness.

After some number crunching, Loffing reports that he found a pattern—in sports where there is a short time constraint, lefties appeared to excel. He found, for example, that just 9 percent of the top 100 players in slower time-response sports, such as squash, were left-handed. In sharp contrast, 30 percent of the top players in sports like baseball (at least for pitchers) were lefties. One sport, table tennis, which is possibly the fastest competitive sport of all, stood out—Loffing reports that 26 percent of the top male players are lefties. In general, he found that sports with short response times like baseball, table tennis and cricket were 2.6 times as likely to have top lefties.

In light of his conclusions, Loffing wonders if being lefty offered early humans an advantage—the element of surprise in fights with other humans or even animals might have made a difference. That might explain, he suggests, why left-handedness has not evolved away, pointing out that some prior research by others has shown that there is a higher rate of left-handedness in traditional warlike societies.

More information: Florian Loffing. Left-handedness and time pressure in elite interactive ball games, *Biology Letters* (2017). [DOI: 10.1098/rsbl.2017.0446](https://doi.org/10.1098/rsbl.2017.0446)

Abstract

According to the fighting hypothesis, frequency-dependent selection gives relatively rarer left-handers a competitive edge in duel-like contests and is suggested as one mechanism that ensured the stable maintenance of handedness polymorphism in humans.

Overrepresentation of left-handers exclusively in interactive sports seems to support the hypothesis. Here, by referring to data on interactive ball sports, I propose that a left-hander's advantage is linked to the sports' underlying time pressure. The prevalence of left-handers listed in elite rankings increased from low (8.7%) to high (30.39%) time pressure sports and a distinct left-hander overrepresentation was only found in the latter (i.e. baseball, cricket and table tennis). This indicates that relative rarity and the interactive nature of a contest are not sufficient per se to evoke a left-hander advantage. Refining the fighting hypothesis is suggested to facilitate prediction and experimental verification of when and why negative frequency-dependent selection may benefit left-handedness.

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