



Referees and fighters at a Taekwondo competition (credit Adobe)

Jan 08, 2025 10:57 GMT

The 'red advantage' is no longer true for Olympic combat sports

Wearing a red outfit in combat sports has been believed to provide an advantage for athletes, but a new study suggests there is no longer any truth in the claim.

In boxing, taekwondo and wrestling, athletes are randomly assigned either red or blue sports attire. Previous research in 2005 found that wearing red may be linked to a higher likelihood of winning in Olympic combat sports, particularly in closely contested bouts, but this had not been tested across

multiple tournaments.

Psychologists from [Vrije Universiteit Amsterdam](#) and [Northumbria University](#) joined with researchers from [Durham University](#) who led the initial study on the red advantage to test the hypothesis across sixteen major international tournaments.

Using advanced data analysis techniques, they analysed the outcomes of over 6,500 contestants from seven summer Olympic Games and nine World Boxing Championships held between 1996 and 2020.

Their analysis revealed that athletes in red won 50.5% of the time, meaning the colour the athletes wore had no significant effect on their performance. In close contests with a narrow points difference, those wearing red won 51.5% of the time, but this is also not considered to be a statistically significant bias.

The researchers did, however, find that in competitions held pre-2005 there was an advantage for those athletes wearing red. In close contests, 56% of victories were won by those in red attire.

The researchers believe that the red advantage has faded since 2005 due to an increased use of technology in scoring points and changes in tournament rules.

Their [findings have been published](#) in [Scientific Reports](#).

[Leonard Peperkoorn](#), a social psychologist from VU Amsterdam explained: “The advantage has likely faded due to changes in tournament regulations. In the past, referees played a larger role in assigning points. Today, scoring is increasingly supported by technology, and the clarification of rules leaves less room for interpretation in awarding points. As a result, combat sports are increasingly able to offer a level playing field.”

“This is an important synthesis going beyond single tournaments,” said [Professor Thomas Pollet](#), an expert in human behaviour and social relationships in Northumbria University’s [Department of Psychology](#), who co-authored the study. “When looking across many tournaments, the data suggest there is little evidence that the so-called red advantage currently

plays an important role for combat sports at the elite level.”

[Professor Russell Hill](#) and Professor Robert Barton from Durham University’s Department of Anthropology [led the initial 2005 study](#). They joined this new study to ensure there was consistency in the data collection and interpretation.

Professor Hill explained: “There has been enormous interest in the red advantage since our original study. While athletes wearing red once gained a potential benefit, this new and extensive analysis shows that the rule changes and awareness of the impact of clothing colour that have come since 2005 have helped remove its impact in combat sports.”

Read the full study [Meta-analysis of the red advantage in combat sports](#) in [Scientific Reports](#).

UNIVERSITY OF THE YEAR 2022 (Times Higher Education Awards)

Northumbria is a research-intensive university that unlocks potential for all, changing lives regionally, nationally and internationally.

Two thirds of Northumbria's undergraduate students come from the North East region and go into employment in the region when they graduate, demonstrating Northumbria's significant contribution to social mobility and levelling up in the North East of England.

Find out more about us at www.northumbria.ac.uk

--- Please contact media.communications@northumbria.ac.uk with any media enquiries or interview requests ---

Contacts



Rik Kendall

Press Contact
PR and Media Manager
Business and Law / Arts, Design & Social Sciences
rik.kendall@northumbria.ac.uk
07923 382339



Andrea Slowey

Press Contact
PR and Media Manager
Engineering and Environment / Health and Life Sciences
andrea.slowey@northumbria.ac.uk
07708 509436



Rachael Barwick

Press Contact
PR and Media Manager
rachael.barwick@northumbria.ac.uk
07377422415



James Fox

Press Contact
Student Communications Manager
james2.fox@northumbria.ac.uk



Kelly Elliott

Press Contact
PR and Media Officer
kelly2.elliott@northumbria.ac.uk



Gemma Brown

Press Contact
PR and Media Officer
gemma6.brown@northumbria.ac.uk