HOLMES (USA) uses neuroscience to galvanise USA fencing

The women's epee specialist has applied computational modelling to her sport and the USA team is all the stronger for it

CHIBA - USA women's epee fencer Katharine HOLMES (USA) is fencing's answer to Moneyball.

That book, and the subsequent film adaptation starring Brad Pitt, charted a revolutionary statistical approach to USA baseball.

When Holmes' individual competition didn't go according to plan at the Olympic Games Rio 2016, she made it the subject of her neuroscience thesis at Princeton, modifying her game plan before the Games in Tokyo.

"(In Rio) at the end of regulation time we went to sudden death" she said. "Winner takes all, so in my head, I was, like, 'I should attack.'

"But I defended. And I lost. So why did I do that? And is there an optimal action between the two in such critical situations in fencing?

"I watched many hours of video review. And it turned out attacking was the optimal action 60% of the time.

"I coded a computer game, and I had fencers and non-fencers play it. And I had different risk/reward scenarios to incentivise people to either attack or defend. Interestingly, non-fencers attacked at the optimal level and reached that optimal level more quickly than fencers."

Holmes says the answer lies in behavioural economics, which holds that the negative impact of a loss is greater than the positive impact of an equivalent gain.

"It's much the same with fencing," said Holmes.

"You're more afraid of losing a touch than you want to get a touch. So essentially your fear of loss becomes greater than your will to win.

"Long story short, I was like, 'I'm definitely changing my strategy here.'

"I started anchoring the US team at that time. That season we had four or five critical overtime touches. Kind of using my thesis, we won every single one of them. We won the first ever World Cup for US women's epee. We won World Championships for the first time. And we ranked No.1 in the world.

"I wish we got the opportunity to test that on the highest stage (in Tokyo) but hopefully there's Paris."

Holmes' USA women's epee team finished fifth on Tuesday and she was unable to make it out of the table of 32 in the individual competition. While Lee KIEFER (USA) won gold in the individual women's foil, the fancied USA men's foil trio of Gerek MEINHARDT, Alexander MASSIALAS and Nick ITKIN all exited early in the individual competition.

Holmes suspects the disruption caused by Covid-19 has affected the USA more than other nations. She says the lack of a centralised fencing hub in such a large country has amplified the fragmentation caused by coronavirus.

"It's hard to judge anybody's performance – good or bad – based on this past year. But it feels like all the pieces of the puzzle are there; they just didn't quite come together."

The popularity of fencing varies around the US. Holmes, who is on the board of USA Fencing, says media-friendly fencers such as Race IMBODEN (USA) and Miles CHAMLEY-WATSON are boosting the sport and membership is growing.

"A lot of athletes, including myself, are leaving here hungry and unsatisfied. That's one strength of our country: when our athletes feel that way, they come out and they perform. I would predict more medals for sure in Paris."

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