

GENDER DIFFERENCES IN PSYCHOLOGICAL MOMENTUM: Evidence from professional judo

Men's performance in professional sports is significantly affected by psychological momentum, while women's is not. That is the key finding of analysis of more than 3,500 judo contests in eight major annual events, 2,140 fights involving men and 1,484 involving women. The research by **Danny Cohen-Zada, Alex Krumer and Ze'ev Shtudiner** will be presented at the annual congress of the European Economic Association in Geneva in August 2016,

Their study looks at bronze medal fights, in which one contestant has lost in the quarterfinal but then won repêchage fight against another quarterfinal loser, while their opponent has won a quarterfinal but then lost a semi-final. The results show that in a contest of two male fighters of roughly the same ability, the one with the psychological momentum of a win in their previous fight has a winning probability of 68%, more than twice his opponent's. There is no such advantage in women's bronze medal fights.

The authors suggest that their results are in line with evidence in biological research that testosterone – which is known to enhance both men and women's performance – commonly increases following victory and decreases following loss only among men. The findings may well have implications for differences in men and women's behaviour in the workplace and in financial markets. For example, an increased share of women traders might reduce the creation of asset price bubbles from excessive risk-taking.

More...

The researchers explain their findings:

What did you find out?

We exploit a real-life situation in which two professionals compete in a competition with big monetary rewards where one contestant has a clear psychological momentum advantage over the other. We find that men's performance is significantly affected by psychological momentum, while women's is not.

How does your analysis work?

It is very difficult to find a clean setting where two similar contestants compete against each other such that one contestant performs after previous success while another after previous failure (for example, in the second set in tennis matches, a player with the momentum advantage is generally the stronger one). We found such a unique setting in bronze medal fights in professional judo.

It is important to note that in professional judo there are two bronze medals that are awarded to the winners of two different bronze medal fights. In each of these fights, one contestant first loses in the quarterfinal and then wins in the repêchage stage against one of the other losers of quarterfinals. His or her opponent in the bronze medal fight, first wins in the quarterfinal stage but then loses in the semi-final.

Thus, the winner of the repêchage stage has a clear psychological momentum advantage over the loser of the semi-final, because of the difference in the outcomes of their last fights.

This allows us to estimate the role of psychological momentum in performance of high-profile individuals in high-stakes situations in a real tournament setting.

Our results show that based on 2,140 men's and 1,484 women's fights from eight major annual judo events, having a psychological momentum advantage significantly increases the winning probability in men's (by about 18 percentage points) but not in women's fights.

These findings imply that if there are two male fighters who have the same strength (abilities), the contestant with the psychological momentum advantage has a winning probability of about 68%, which is more than twice his opponent's probability.

How do you explain your results?

Our results are in line with evidence in biological research that testosterone, which is known to enhance the performance of both men and women, commonly increases following victory and decreases following loss only among men.

What are the implications of this study?

Since it has been shown that testosterone levels increase in men after different types of success and not only after winning in sport, it is likely that the role of testosterone in reinforcing future success may extend to other areas. Hence our findings have implications in many different areas.

First, in the labour market, an increased frequency of positive feedbacks after successful actions may turn into a positive psychological momentum and thus increase productivity. Similarly, managers should exert efforts to reduce the influence of unsuccessful actions of their workers in order to avoid losses of productivity due to a negative psychological momentum effect.

Second, sometimes momentum can create price bubbles in financial markets, because success in a first investment leads men to increase their willingness to take additional risks and reinvest. Thus, an increased share of women traders in the market might reduce the creation of such bubbles.

Finally, our findings also have important implications for contest design. We suggest that it might be worthwhile for the contest designers of judo tournaments to change the design of the bronze medal fights such that the losers of the semi-finals compete against each other in the first bronze medal fight, whereas the winners in the repêchage stage compete against each other in the second bronze medal fight.

This alternative structure would make the contest fairer, in the sense that it will eliminate the meaningful advantage that the current design gives the player with the momentum advantage.

ENDS

'Psychological Momentum and Gender'
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