

In sports, as in business, limited attention affects risk-taking behaviour

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People typically focus on the left-most digit of a number and pay only partial attention to other digits. This is why most prices in supermarkets are just below unit values (such as 99 cent or 3.99 pounds). In World Cup alpine ski events, this human tendency to pay only limited attention to certain digits makes athletes liable to take far more risk.

Our study, which is published in the May 2016 issue of the *Economic Journal*, analyses data on 1,865 athletes in World Cup alpine skiing over the period of 1992-2014.

To estimate the causal effect of limited attention on risk-taking, we compare athletes with almost identical times. In such cases, the difference between two athletes can be attributed to random factors like weather or snow conditions. In other words, whether an athlete trails the current leader by, for example, nine or ten hundredths of a second is beyond his or her control.

The empirical analysis further exploits the fact that slalom and giant slalom races consist of two separate runs. After the opening run, athletes obtain information about their own time as well as their distance behind the current leader. We then explore whether athletes exhibit a left-digit bias when processing this time difference to the leader. In particular, we test whether the use of heuristic thinking affects the way athletes choose their risk strategy for the second run.

According to our research, athletes with a time difference to the leader after the opening run of just below a tenth-of-a-second threshold are significantly more likely to crash in the second run. The result suggests that they consider distances such as nine hundredths of a second to be much smaller than ten hundredths. Achieving the great success (winning the race) appears to be more likely if the gap to the current leader seems to be small.

Hence they pursue a riskier strategy, which increases their probability of not finishing the race by up to 28 per cent. Moreover, the variation in their race times in the second run increases by 26.1 per cent. Both numbers reflect the increased risk-taking when athletes pay limited attention to right digits.

We believe that the evidence presented is useful for our understanding of risk-taking behaviour in general: We find that irrespective of an individual's genetics, experience or what's at stake, the way of processing information shapes behaviour under uncertainty.

As expected, the effect is present only among athletes who are classified close to the leader after the first run, thus having a plausible chance of winning the race. These results are consistent with the theoretical prediction that athletes receive a signal about their time distance to the leader and pay only limited attention to right digits.

In contrast with previous research, this behavioural bias does not disappear when restricting the sample to older, more experienced athletes. On the contrary, the adoption of risky behaviour is large and significant even among athletes aged 25 and older.

Furthermore, there is no evidence that the left-digit bias is smaller in races with particularly large prize money. We argue that our results can be explained by the concept of 'ego depletion'. The particularly high stakes in World Cup competitions cause athletes to exert extreme effort during the race, making them vulnerable to behavioural biases afterwards.

Our findings provide the first real-world evidence that limited attention not only affects consumer behaviour but also has consequences for individual risk-taking behaviour. This has implications beyond alpine skiing because the findings help to understand the causes of individual risk-taking. Irrespective of an individual's characteristics or the amount of money at stake, the way of processing information shapes behaviour under uncertainty. Hence, limited attention is likely to have important implications that are more far reaching than suggested by previous research.

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Notes:

- This article is based on [Do Professionals Get It Right? Limited Attention and Risk-taking Behaviour](#), *Economic Journal*, May 2016.
- The post gives the views of its authors, not the position of LSE Business Review or the London School of Economics.
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