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Finding Murray's magic

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Research suggests that it is Andy Murray's ability to manage goals, as well as his skill, drive and motivation that makes him such a successful athlete. Murray dropped out of the French Open after a back injury this year, missing out on his goal of playing in four grand slam finals in a row. But this decision has allowed him to recuperate in time for Wimbledon this month. According to new research funded by the Economic and Social Research Council, athletes who recognise early when a goal is unattainable and switch their focus to other objectives are the most successful at achieving their main career goals.

The researchers, from the universities of Birmingham and Southampton, found that the reasons why a person is motivated to achieve tough sporting goals influence how well that person does in pursuing these goals. A person who is motivated by the enjoyment or personal importance of a goal will strive harder and for longer and will be more successful in achieving an increasingly difficult goal, compared to someone motivated by external pressure or feelings of guilt.

But when the goal becomes so difficult that it is unattainable, people who are self-motivated find it harder to stop striving for their goal. This persistence can cause psychological distress. However the research identified that when athletes with high self-motivation recognised early when an objective was impossible they were able to quickly disengage from the goal and then re-engage with challenging, new targets that were also compatible with their overall objectives. This group of athletes made the most progress toward achieving their central goal.

"Our experiments showed the importance of a person realising early enough when it was better to continue striving for a goal or when it was best to let go and adopt another similar goal," said Professor Nikos Ntoumanis, an exercise and sport psychologist from the University of Birmingham. "Our research also showed that the reasons behind a sportsperson's goal are as important as the actual goal."

This research goes a step further than the existing body of knowledge on the role of goal-setting in sport by examining the impact of different types of motivation in the face of tough goals. The researchers carried out two sophisticated experiments that asked over 180 athletes to complete a range of cycling tests. By ensuring some of the tests were unattainable, the psychologists were able to explore how the athletes coped with goal failure.

"We found autonomous motives such as enjoyment or personal importance were a double-edged sword," explained Professor Sedikides, a social and personality psychologist from the University of Southampton. "Athletes with autonomous motives put in more effort and persisted for longer which helped them reach higher levels of performance with increasingly difficult but attainable goals. Yet when the goal became unachievable, they had great difficulty realising this which led to brooding over the failure as the athletes struggled to disengage from the goal."

The research concludes that coaches and applied sport psychologists need to be aware of athletes' motives for their goals to help them be most effective, successful and adaptive in their goal striving. Future research aims to explore how to help sportspeople (and individuals with other goals, such as weight loss) realise early that some goals are unachievable and to have the flexibility to develop alternative goals that contribute to their long-term objectives.

Notes to editors

1. This release is based on the findings from 'When the going gets tough: Motivation and goal self-regulation' project, funded by the Economic and Social Research Council and carried out by Professors Nikos Ntoumanis and Joan Duda of the University of Birmingham, and Professor Constantine Sedikides of the University of Southampton.

2. Methodology: The project conducted two experiments with 80 and 100 athletes, respectively. In the first study, the sportspeople completed ten 2-minute stages of increasing exercise intensity on an exercise bike. For the second study, participants had to reach a pre-determined distance goal on an exercise bike but manipulated feedback made the goal appear unattainable. Goal motives, goal difficulty, goal efficacy, goal importance, goal persistence, heart rate, perceived exertion, cognitive appraisals and coping strategies were also measured.

3. The Economic and Social Research Council (ESRC) is the UK's largest organisation for funding research on economic and social issues. It supports independent, high quality research which has an impact on business, the public sector and the third sector. The ESRC's total budget for 2012/13 is £205 million. At any one time the ESRC supports over 4,000 researchers and postgraduate students in academic institutions and independent research institutes. More at www.esrc.ac.uk

4. The ESRC confirms the quality of its funded research by evaluating research projects through a process of peers review. This research has been graded as very good.

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