Motivation

It is a familiar situation: one day, you can sit down to write and immediately find inspiration and ideas; sentences form, text flows and you become totally immersed in the task. On another day, your mind can be as blank as the computer screen in front of you. If motivation is lacking, even simple things become a major burden. It can happen in any situation and at any moment: a crucial experiment refuses to work, a competing laboratory is first to publish, a friend says something that shows his camaraderie was false, your partner questions why you put so much effort into your work, and suddenly the energy that drives you forward is sapped. Such drawbacks—big and small—constantly challenge our enthusiasm and motivation, and with them, our productivity and success.

Watching children grow up is an instructive exercise in how we become motivated. For many years, their intrinsic curiosity and energy motivates them to master increasingly difficult tasks such as walking, speaking and reading. But at some point, they must make up their own minds about what they want to achieve. With the right amount of motivation, they will make the effort necessary to reach almost any goal. Indeed, a fixed goal is a prerequisite for creating motivation. It might be to reach the top of a profession, obtain a perfect understanding of an experimental system, become incredibly wealthy, buy a bigger car or become immensely popular. Once that personal idea of success is sketched out, motivation kicks in to drive us forward.

But life is unpredictable, and whether we attain our goals is not a simple matter

of making a decision and then working sufficiently hard. Many other forces come into play. Sometimes, it is just sheer luck—or the lack thereof—that decides our fate. At other times, there is intense competition when others choose the same goal—there can only be one head of department—and there will be losers no matter how motivated they are. Sometimes our chances of success depend on the decisions of others—an editor might reject a paper, or a grant agency might refuse to fund an important research proposal. Such random, often arbitrary factors challenge our motivation. If we repeatedly fail to achieve our goals, demotivation can become overwhelming, ultimately leading to a disinclination to work ‘beyond the call of duty’, fewer achievements and a stagnating career.

Sometimes the effort of continuously over-achieving also takes its toll and a tinge of depression—or possibly burn-out—prompts the question ‘why bother?’. Suddenly, it no longer seems like a good idea to work 60 hours a week and on weekends, or to participate in every single scientific and administrative meeting. A nine-to-five working day—leaving enough time for life outside work—becomes an attractive alternative.

Unfortunately, research careers do not readily accommodate periods of hyperactivity followed by a more balanced lifestyle. A lack of motivation has a clear impact on work, results and career prospects. It becomes harder to get out of bed in the morning and start another day in the laboratory. As a result, goals might be unconsciously set at a lower level than before: you might omit some time points in an

experiment because they will increase the workload, or postpone an experiment until tomorrow because starting it today would mean going home late. But it is precisely during these difficult periods when we need the most motivation. When failures, calamities and catastrophes pile up, it is the only force that makes us carry on, redesign the experiment or ask the crucial questions that arise from its failure.

Unfortunately, motivation can also have negative effects. Too many hours and weekends spent in the laboratory, in meetings or at conferences inevitably have an impact on private life and outside interests. But the effects can be even more detrimental: some will stop at nothing to reach their goals and, in the process, will damage the career of others. Others cut corners, disregard ethical or scientific standards, or falsify their data in order to succeed; each case of scientific fraud is an example of how too much motivation can cause someone to take the wrong turn.

Group leaders and senior scientists must be sensitive to the needs of their students and postdocs, and provide the correct balance between applying pressure to deliver and providing encouragement to maintain motivation. At the same time, we must balance the costs and benefits of motivation, and ensure that it—and its repercussions—are constructive rather than destructive. Preventing under-motivation—and the under-achievement that inevitably results—is in the best interests of scientists, and science itself.

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