

Which Traits Predict Success?

What are the causes of success? At first glance, the answer is easy: success is about talent. It's about being able to do *something* – hit a baseball, play chess, trade stocks, write a blog – better than most anyone else. That's a fine answer, but it immediately invites another question: What is talent? How did that person get so good at hitting a baseball or trading stocks? For a long time, talent seemed to be about inheritance, about the blessed set of genes that gave rise to some particular skill. Einstein had the physics gene, Beethoven had the symphony gene, and Tiger Woods (at least until his car crash) had the golf swing gene. The corollary, of course, is that you and I can't become chess grandmasters, or composers, or golf pros, simply because we don't have the necessary anatomy. Endless hours of hard work won't compensate for our biological limitations. When fate was handing out skill, we got screwed.

In recent years, however, the pendulum has shifted. It turns out that the intrinsic nature of talent is overrated – our genes don't confer specific gifts. (There is, for instance, no PGA gene.) This has led many researchers, such as [K. Anders Ericsson](#), to argue that talent is really about deliberate practice, about putting in those 10,000 hours of intense training (plus or minus a few thousand hours). Beethoven wasn't born Beethoven – he had to work damn hard to *become* Beethoven. As Ericsson wrote in his influential review article “[The Role of Deliberate Practice in the Acquisition of Expert Performance](#)”: “The differences between expert performers and normal adults are not immutable, that is, due to genetically prescribed talent. Instead, these differences reflect a life-long period of deliberate effort to improve performance.”

That's interesting, right? Talent is about practice. Talent takes effort. Talent requires a good coach. But these answers only raise more questions. What, for instance, allows someone to practice for so long? Why are some people so much better at deliberate practice? If talent is about hard work, then what factors influence how hard we can work?

The ability to ask these questions, to peel away layers of explanation, is one of the reasons I'm drawn to the psychological sciences. And this leads me to one of my favorite recent [papers](#), “Deliberate Practice Spells Success: Why Grittier Competitors Triumph at the National Spelling Bee.” The research, published this month in the journal of *Social Psychological and Personality Science*, was led by Angela Duckworth, a psychologist at Penn. (Anders-Ericsson is senior author.) The psychologists were interested in the set of traits that allowed kids to practice deliberately. Their data set consisted of 190 participants in the Scripps National Spelling Bee, a competition that requires thousands of hours of practice. After all, there are no natural born spellers.

The first thing Duckworth, et. al. discovered is that deliberate practice works. Those kids who spent more time in deliberate practice mode – this involved studying and memorizing words while alone, often on note cards – performed much better at the competition than those children who were quizzed by others or engaged in leisure reading. The bad news is that deliberate practice isn't fun and was consistently rated as the least enjoyable form of self-improvement. Nevertheless, as spellers gain experience, they devote increasing amounts of time to deliberate

practice. This suggests that even twelve year olds realize that this is what makes them better, that success isn't easy.

But that still begs the question: Why were some kids better at drilling themselves with note cards? What explained this variation in hours devoted to deliberate practice? After analyzing the data, Duckworth discovered the importance of a psychological trait known as grit. In previous papers, Duckworth has demonstrated that grit can be reliably measured with a short survey that measures consistency of passions (e.g., “I have been obsessed with a certain idea or project for a short time but later lost interest”) and consistency of effort (e.g., “Setbacks don't discourage me”) over time using a 5-point scale. Not surprisingly, those with grit are more single-minded about their goals – they tend to get obsessed with certain activities – and also more likely to persist in the face of struggle and failure. Woody Allen famously declared that “Eighty percent of success is showing up”. Grit is what allows you show up again and again. Here are the scientists:

Our major findings in this investigation are as follows: Deliberate practice—operationally defined in the current investigation as the solitary study of word spellings and origins—was a better predictor of National Spelling Bee performance than either being quizzed by others or engaging in leisure reading. With each year of additional preparation, spellers devoted an increasing proportion of their preparation time to deliberate practice, despite rating the experience of such activities as more effortful and less enjoyable than the alternative preparation activities. Grittier spellers engaged in deliberate practice more so than their less gritty counterparts, and hours of deliberate practice fully mediated the prospective association between grit and spelling performance.

There are two interesting takeaways from this study. The first is that there's a major contradiction between how we measure talent and the causes of talent. In general, we measure talent using tests of maximal performance. Think, for instance, of the NFL Combine: Players perform in short bursts (40 yard dash, short IQ test, catching drills, etc.) under conditions of high motivation. The purpose of the event is to see what players are capable of, to determine the scope of their potential. The problem with these tests, however, is that the real world doesn't resemble the NFL Combine. Instead, success in the real world depends on *sustained* performance, on being able to work hard at practice, and spend the weekend studying the playbook, and reviewing hours of game tape. Those are all versions of deliberate practice, and our ability to engage in such useful exercises largely depends on levels of grit. The problem, of course, is that grit can't be measured in a single afternoon on a single field. (By definition, it's a metric of personality that involves long periods of time.) The end result is that our flawed beliefs about talent have led to flawed tests of talent. Perhaps that explains why **there is no** “consistent statistical relationship between combine tests and professional football performance.” We need to a test that measures how likely people are to show up, not just how they perform once there.

The second takeaway involves the growing recognition of “non-cognitive” skills like grit and self-control. While such traits have little or nothing to do with intelligence (as measured by IQ

scores), they often explain a larger share of individual variation when it comes to life success. It doesn't matter if one is looking at retention rates at West Point or [teacher performance](#) within the Teach for America program or success in the spelling bee: Factors like grit are often the most predictive variables of real world performance. Thomas Edison was right: even genius is mostly just perspiration.

Taken together, these studies suggest that our most important talent is having a talent for working hard, for practicing even when practice isn't fun. It's about putting in the hours when we'd rather be watching TV, or drilling ourselves with notecards filled with obscure words instead of getting quizzed by a friend. Success is never easy. That's why talent requires grit.