

Ericsson determined, was a process known as deliberate practice.

Deliberate practice entails more than simply repeating a task — playing a C-minor scale 100 times, for instance, or hitting tennis serves until your shoulder pops out of its socket. Rather, it involves setting specific goals, obtaining immediate feedback and concentrating as much on technique as on outcome.

Ericsson and his colleagues have thus taken to studying expert performers in a wide range of pursuits, including soccer, golf, surgery, piano playing, Scrabble, writing, chess, software design, stock picking and darts. They gather all the data they can, not just performance statistics and biographical details but also the results of their own laboratory experiments with high achievers.

Their work, compiled in the "Cambridge Handbook of Expertise and Expert Performance," a 900-page academic book that will be published next month, makes a rather startling assertion: the trait we commonly call talent is highly overrated. Or, put another way, expert performers — whether in memory or surgery, ballet or computer programming — are nearly always made, not born. And yes, practice does make perfect. These may be the sort of clichés that parents are fond of whispering to their children. But these particular clichés just happen to be true.

Ericsson's research suggests a third cliché as well: when it comes to choosing a life path, you should do what you love — because if you don't love it, you are unlikely to work hard enough to get very good. Most people naturally don't like to do things they aren't "good" at. So they often give up, telling themselves they simply don't possess the talent for math or skiing or the violin. But what they really lack is the desire to be good and to undertake the deliberate practice that would make them better.

"I think the most general claim here," Ericsson says of his work, "is that a lot of people believe there are some inherent limits they were born with. But there is surprisingly little hard evidence that anyone could attain any kind of exceptional performance without spending a lot of time perfecting it." This is not to say that all people have equal potential. Michael Jordan, even if he hadn't spent countless hours in the gym, would still have been a better basketball player than most of us. But without those hours in the gym, he would never have become the player he was.

Ericsson's conclusions, if accurate, would seem to have broad applications. Students should be taught to follow their interests earlier in their schooling, the better to build up their skills and acquire meaningful feedback. Senior citizens should be encouraged to acquire new skills, especially those thought to require "talents" they previously believed they didn't possess.

And it would probably pay to rethink a great deal of medical training. Ericsson has noted that most doctors actually perform worse the longer they are out of medical school. Surgeons, however, are an exception. That's because they are constantly exposed to two key elements of deliberate practice: immediate feedback and specific goal-setting.