

The Violin Study

The Role of Deliberate Practice in the Acquisition of Expert Performance

Ericsson, Krampe & Tesch-Römer (1993)

What makes individuals ‘exceptional’? Or, put another way, why are some people vastly superior in areas such as sport, the arts and science? Early accounts attributed outstanding performance to ‘divine intervention’ (e.g., the influence of the stars or special gifts!), however science has progressed since then. Some scientists now believe that outstanding performance is the result of genetics, while others place more emphasis on environmental factors and experience. A lot of us assume that expert performance – or ‘talent’ – is due to something special that people are born with; we either have it, or we don’t. However, the researchers writing this paper suggest that what makes people outstanding is extended deliberate practice, i.e., the amount of effort and hard work people are willing to put in, and not the result of genes and inheritance.

But what is ‘extended deliberate practice’? Is it possible to just spend a certain amount of time practising, and then suddenly be ‘the best’? No. Practice has to be deliberate. This means that the individual has to be motivated, and be prepared to exert the effort to improve their performance. It is also important to receive feedback from others (e.g., teachers), and then be willing to listen to this feedback to increase performance when repeating the task. If these characteristics of deliberate practice are met, then regular practice improves performance. However, becoming an ‘expert’ doesn’t just happen overnight; an individual has to be willing to put in time and energy to improve – in fact research suggests that deliberate practice has to be extended over at least 10 years!

So what led the researchers writing this paper to these conclusions? They worked with musicians from a prestigious music academy, in order to try and identify the causes of outstanding performance. Below is a summary of some of their research findings.

Violinists

The researchers worked with three groups of ‘talented’ adult violinists at the Music Academy of West Berlin. The professors at the academy nominated violin students who fell into one of three groups, so they ended up with:

10 violinists who had the potential for careers as international soloists – “**The Best Violinists**”

10 violinists who were expected to end up playing in the world’s top orchestras, but not as star soloists – “**The Good Violinists**”

10 violinists who were studying a different music course which has lower admission standards – “**The Least Able Violinists**”

Each participant was asked to estimate how many hours they had spent practising since they had started playing the violin. They were also asked to keep a diary to log how much time they currently spent practising and engaging in music-related activities.

Overall, they found that the three groups were remarkably similar regarding a lot of factors, such as the age they started playing, the amount of years they had been practising, the age they decided that they wanted to become musicians, the average number of music teachers who had taught them and the number of other instruments that they had played.

However, there was one dramatic difference between the groups: **The number of hours they spent practising**. Diary entries showed that the two best groups of violinists practiced almost three times longer than the least able group. Furthermore, their retrospective estimates of practice over their musical development differed between the three groups; by the age of 20, the **best violinists** had spent an average of 10,000 hours practising, 2000 more hours than the **good violinists** and 6000 more hours than the **least able group**.

This suggests that only the **amount and distribution of practice** is related to the **level of performance** of adult musicians.

So what does this tell us?

People often believe that expert performers must possess special characteristics that ‘normal’ people just don’t have. However, the research described above suggests that the key difference between expert performers and non-expert performers is the amount of deliberate practice and effort spent trying to improve – not an innate talent after all! What seems important is promoting, and sustaining, the motivation to practice over an extended period of time, without giving up or burning out.

Questions:

1. As stated in the introduction, some scientists believe that outstanding performance is down to genetics (nature), where as others argue that the environment and experience (nurture) is more important. This is often known as the nature/nurture debate. What do you think the researchers who carried out the violin study would say is more important in becoming an ‘expert’; nature or nurture?
2. What is special about the sort of practice that the researchers say is needed to lead to ‘expert performance’?
3. On average, how many hours had each of the following groups spent practising?
 - a. **The best violinists:**
 - b. **The good violinists:**
 - c. **The least able violinists:**
4. What have we learnt from this study?