

A Comprehensive Review That's 30 Years Overdue

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Let me start by explaining the title. The first part is easy because Friedlander's (2024) book clearly provides a comprehensive review of the psychology of creative performance and expertise. But why 30 years overdue? From my experience as a researcher active in this area for three decades, this topic was first highlighted at a 1995 international conference on "The Acquisition of Expert Performance" that Anders Ericsson organized at Wakulla Springs, Florida. My own presentation concerned "Creative Expertise: A Life-Span Developmental Perspective" (Simonton, 1996). I have never delivered a talk in a more hostile environment either before or since. Almost everybody there was emphatic that expert performance was almost entirely explained by expertise acquisition – especially via some form of deliberate practice. There certainly was no such thing as "talent," nor did individual-difference variables play any substantial role. I had a very uncomfortable breakfast conversation with Herbert Simon, Ericsson's mentor and Nobel laureate, who lectured me on why behavioral genetics was not a scientific discipline, and therefore inherited abilities and dispositions did not exist. My sole comrade in arms at that conference was Ellen Winner, who gave an excellent presentation on "The Rage to Master: The Decisive Role of Talent in the Visual Arts" (Winner, 1996). Her presentation was also coldly received. Although both her contribution and mine were included in Ericsson's (1996) conference volume, their

inclusion projected the status of a minority report.

Thus, a long-term debate between me and Ericsson was launched that lasted a quarter century. The next major occasion was when he served as a referee for a manuscript that I submitted to *Psychological Review*, a submission that elaborated a formal model of talent and talent development based heavily on current behavioral genetics. Fortunately, in this case Ericsson's evaluation represented the minority opinion, but his criticisms did exert a major impact on the final revision for what was to become my third most cited journal article (Simonton, 1999). Then in 2006 Ericsson invited me to deliver a departmental colloquium at Florida State University. I took advantage of the opportunity to speak on "Is Genius Born or Made? Refinements and Complications in the Nature-Nurture Controversy." Of course, because he was my host for the visit, we spent a lot of time debating that very controversy. Finally, and probably most strikingly, Ericsson and I were both invited to go head-to-head at a public debate on "10,000 Hours: Does Practice Make Perfect?" put on at the Pomona College Student Union in 2011. In truth, our back and forth started at the dinner that took place prior to the evening event. In that discussion I was simply dumbfounded by Ericsson's argument that individual-difference variables didn't really exist. Rather such assessments yield almost pure artifacts! Unfortunately, Ericsson passed away in 2020, which inadvertently let me get the last word in our exchange (Simonton, 2016).

Happily, it's obvious in Friedlander's (2024) comprehensive review that she takes a more balanced approach that is more fully informed by the most recent research. I especially appreciate her explicit focus on creativity because one of the concerns I had 30 years ago was that creativity in the arts and sciences cannot be forced to fit the same Procrustean bed used for chess, music, sports, and other domains favored in the early expertise research. On the contrary, not only are individual-difference variables involved in both acquisition and performance, but those variables feature a substantial genetic contribution (Simonton, 2008). For example, Openness to Experience from the Big Five Personality Factors correlates quite positively with creativity (McCrae & Greenfield, 2014), yet this trait features a very high heritability ($h^2 = .57$; Bouchard, 2004). Even if nurture may explain more variance overall, nature cannot be ignored for a complete understanding. Creative genius is both born and made.

Naturally, I also appreciate Friedlander's coverage of my own contributions to this problem, like her taking note of the "better faster" and "more bang for the buck" effects, the former referring to the rate of expertise acquisition and the latter to the relation between expertise acquired and expert performance—two effects positively associated with exceptional creativity. Nonetheless, Friedlander couldn't cover contributions that haven't been published yet. So, I wish to point out an entirely new chapter I've written for the forthcoming third edition of the *Cambridge Handbook of Expertise and Expert Performance* (Simonton, in press; cf. Simonton, 2018). Besides providing more discussion of the two effects already mentioned, I then introduce a third, the Goldilocks "just right" effect. What this suggests is that for certain kinds of creativity, the relation between expertise acquisition and expert performance might be better described by an inverted-U, yielding an approximate cognitive analog of the overtraining effect in sports (cf. Frensch & Sternberg, 1989). Indeed, sometimes individuals can acquire excessive expertise that not only prevents them from

making breakthrough contributions but also may inhibit any openness to the breakthrough contributions of others. Yet after delineating these three effects, I then treat how they articulate with individual differences in both ability and disposition. This treatment then introduces the specific genetic contributions to clarify the causal relations when dealing with inherently correlational data: Heredity coefficients provide very useful information for distinguishing between endogenous and exogenous variables (cf. Ericsson, 2014). For instance, it's very improbable that individual differences in Openness to Experience are caused by creative performance rather than providing an antecedent basis for the "more bang for the buck" effect. Inherited traits tend to kick in much earlier than adult creative careers.

Hence, in addition to my gratitude for Friedlander's (2024) review, I'm already looking forward to seeing its second edition. I just hope that her review will be even more comprehensive and yet won't take nearly so long to get into print.

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Received: 21 September 2025

Accepted: 6 November 2025

