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Human Kinetics
EDITORIAL

The "Making" of World-Class Athletes Is Still a Case for Humble Admissions

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Talent is defined as the natural ability to be good at something, especially without being taught. Talent is a rare quality and essential for excellent performance. Nevertheless, there seems to be conventional wisdom that world-class athletes are always "made" not born. The "making" of world-class performance often requires sports with a large participant base and extensive sport-specific deliberate practice. These requirements impose a circular process of sequential identification, development, and selection.

The "making" of world-class performance in sport is expensive in terms of human resources and infrastructure. The process may last 6 to 12 years or more. Prospective benefits are symbolic and/or monetary. Over a wide range of sports and irrespective of international variations of how youth sports are organized and managed, it is estimated that ~2% to ~8% of the participant base qualify as potential talents. Less than 1% of the identified potential talents actually achieve professional or world-class level, mostly via sport-specific career paths and rarely outside established development programs.

In particular, young world-class performers with ideally long-lasting careers are tempting perspectives for talent-development programs in terms of best revenue. This worked semioptimally with the youngest scorer in the English Premier League, James Vaughan, who was 16 years and 271 days old when scoring against Crystal Palace at his debut for FC Everton in 2005. Multiple early-career injuries prevented him from fulfilling initial expectations as a world-class player. He retired playing in League 2 in 2022.[1] His predecessors as youngest scorer, Wayne Rooney and James Millner, who also scored before the age of 17 years, achieved exceptional careers in the Premier League and National Squad.[2,3] All 3 players may serve as examples of successful outcomes of the club-based Football Academy System.

Acrobatic exercises/elements are easier to perform with small bodies. At age 14 years, Quan Hong Chan (China) won diving gold from the 10-m platform at the 2020 Tokyo Olympic Games just fulfilling the minimal age requirement currently set for participation in diving.[4] Before implementation of this age limit, Fu Mingxia (China) won the 10-m platform-diving world championship at the age of 12 years after already winning at the Goodwill Games event at age 11 years and followed by her first Olympic gold medal at age 13. She had been selected for a local sports school as a prospect gymnast at the age of 5 years, converted to diving at age 7, and was relocated to Beijing as a member of the state diving team at a state-sponsored boarding school at age 9. During her 10-year career as a world-class athlete, Mingxia won 5 Olympic medals, 3 Asian Games medals, and 2 world championships.[5] This sequence of results demonstrates that extensive sport-specific deliberate practice starting at a very young age provides real potential in the "making" of early world-class achievers in acrobatic events.

Moreover, in endurance events world-class performances can be achieved at mid-teens age, as most recently confirmed by Summer McIntosh (Canada), who qualified for the Tokyo Olympics when she was 14 years old. She finished fourth in the 400-m freestyle and 4 × 200-m relay, both with Canadian records. By the age of 16, she had already won 11 medals at senior World Championships plus two world records.[6] When finishing second at 400-m freestyle at the 2022 World Championships, she was beaten by Katie Ledecky (USA), who started competitive swimming at the age of 6 years. Since age 15, Ledecky has impressed with exceptional international success including 10 medals at 3 Olympics and 26 medals at 6 World Championships, plus 4 world records within 11 years.[7]

Viewing all these examples retrospectively, they seem to confirm that traditionally established procedures of "making" world-class performers work well. However, does successfully surviving really count as a valid indicator of reasonable "making procedures" if the rate of success within the system is less than 1 in 100 talent entrees? Are current talent-identification criteria truly meaningful and/or adequately assessed and rated depending on age, maturation, and nonpersonal factors? Is the concept of extensive sport-specific deliberate practice at an early age really the best possible idea for effective talent evolvement if most young talents are good at many different sports? Is it fair to absorb many years of teenagers' lives by strictly organized and highly demanding effort with focus on a rarely achievable top career in a specific sport, often starting at primary-school level or even earlier. Are workloads of 20 hours per week and in excessive situations up to more than 30 hours per week, in addition to educational obligations at secondary school and early sixth-form level appropriate in contemporary society?

Selected world-class athletes have switched sports in their later teens. Others were spotted late and developed within a fraction of the traditionally suggested "making" period. These athletes may serve as a strong case for the humble admission that the understanding of what really defines the required talents, how they evolve, and how they can be guided to world-class level is still very limited so far. The future "making" of world-class athletes will essentially remain the interaction of humans with a wide range of different roles, responsibilities, motivations, knowledge, and impact. These pathways should be clear of cognitive biases, illusions, perceptions, and multiple unnamed confounding issues that can disadvantage young prospects. Stakeholders in this context also include authors and the targeted readership of *IJSPP*. Let's improve our contribution to the "making" of future generations of world-class athletes based on appropriate curiosity and evidence-based concepts.

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