Too Young to Vote, Old Enough to Be an Olympic Champion

It has been a few months now since the curtain dropped on the London 2012 Olympic Games, and the performances of the more than 10,000 athletes who chased their athletic dreams during those summer days have already become a part of Olympic history. A general perception among the spectators and viewers of the Olympic events is that one has to be a young adult and fittest among the fit to compete at the Olympics. Whereas the idea of being extremely fit and skillful may of course be correct, the perception about athletes' age lends itself to discussion. It seems there is a wide range of ages for athletes qualifying and competing at the Olympic Games. As a matter of fact, whereas the mean age of the London 2012 participating athletes was 26 years, there were nearly 200 athletes competing in their 40s, several athletes competing in their 50s, a couple of athletes who were 65 years old, and even one athlete, the oldest of the Games, who took part at the age of 71. Most of the Olympic athletes over 50 competed in either shooting or equestrian events: Indeed, the 71-year-old athlete, Hiroshi Hoketsu, finished 40th in the individual dressage representing Japan; one of the 65-year-olds was Afanasijs Kuzmins, a shooter from Latvia who was taking part in his ninth Olympic Games and who had already won gold in the 1988 Seoul Olympic Games and silver in the 1992 Barcelona Olympic Games, both in the 25-m rapid-fire pistol event; and the other 65-year-old was Ian Millar, a Canadian show jumper with 10 Olympic participations under his belt and a silver medal in Beijing 2008 who finished in a 3-way tie for ninth in London 2012.

The fact that most "aged" Olympic athletes are either shooters or horse riders says something about the limited physical fitness requirements of these 2 sports. The mean age of the human athletes winning gold in the 6 equestrian events in London 2012 was 36 years (range 27–54), whereas less than 5% of the nearly 1800 Olympic medalists were in the 34- to 39-year age group. What about the age of the "other" equestrian athletes, the horses? Their mean age was 11.5 years (range 9–17), a prime age for Olympic equestrian performance according to the experts. Nevertheless, we should not ignore the fact that other "older" athletes also took part and succeeded in other sports. For instance, German gymnast Oksana Chusovitina finished fifth in the vault event at age 37, and 52-year-old Canadian Lesley Thompson-Willie competed in rowing at her seventh Olympic Games in London, where she added a silver medal in the coxed 8 to her already impressive collection of Olympic medals,

which included 1 gold, 2 silvers, and a bronze . . . as a coxswain, not as a rower.

At the opposite end of the age spectrum, a 13-year-old swimmer named Adzo Kpossi from Togo, competing in the women's 50-m freestyle, was the youngest athlete participating in the London 2012 Olympics, and a total of 33 Olympians were age 15 and under. Some of these youngsters were extremely successful: For instance, the youngest medal winner was Alejandra Orozco of Mexico, 15 years old, who won silver in the women's synchronized 10-m platform-diving event. Some female athletes proved that one can be too young to vote but old enough to be an Olympic Champion: 15-year-old Ruta Meilutyte, representing Lithuania, won gold in the women's 100-m breaststroke; Katie Ledecky of the USA, also age 15, took gold in the 800-m freestyle; American artistic gymnast Gabrielle Douglas won gold medals in both the individual and team all-around competitions at age 16; and American swimmer Melissa Franklin, 17 years old, won 4 gold medals and a bronze, breaking 2 world records along the way. A total of 9% of the Olympic medalists at the London 2012 Games were 14 to 20 years old, whereas 48% were 21 to 26 and 37% were in the 27- to 33-year age group. These extraordinary performances by such young athletes may seem counterintuitive and a challenge to the principle of progressive overload and long-term training adaptation, but they are a reality.

Most of the readers of this editorial are sport physiologists and performance experts who deal with this reality. One of our roles as sport scientists is trying to explain how and why older and younger athletes are able to perform at such levels way beyond or sooner than what may be considered the "normal" age for optimal athletic performance. To this end, we need to expand our knowledge of the function, development, and decline of all bodily systems involved in athletic performance; we need to become experts on topics like growth, maturation, development, trainability, detraining, and aging. In addition to explaining the extraordinary performances of the younger and older elite athletes, we provide our best sport science support services to them and their coaches. We must thus develop our understanding about the physiology of a wide variety of athletes and adapt the way we interact with people having different psychological characteristics and probably living quite different social realities.

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