

And the winner is: Globalization. Olympic gold medals as indicator for a global world

During the past Olympics, one could gain the impression that China wins nearly all gold medals with superlative dominance. Indeed, China is the absolute winner, having won 51 gold medals and thus becoming the only nation other than the leading sports nations Soviet Union and the USA to win the Summer Games for 60 years¹. Intuitive statistics often lead to the impression that only athletes from one of these ‘monolithic’ sports countries are the ones that win gold medals. When we asked colleagues from our departments, most of them estimated

China’s success as having won approximately 30% of all medals (Try this out yourself! What is your impression: In how many out of 10 competitions did China win?). Yet, statistics tell a different story: in the 2008 Olympics, China won 16.9% of gold, 6.9% of silver and 7.9% of bronze, resulting in only 10.4% of all medals. Based on medals per capita, the Bahamas wins and Jamaica is the runner-up. China, The Russian Federation, and the USA rank only 68th, 37th and 44th respectively, taking capita into account². Cognitive psychologists explain

such fallacies by availability and representative heuristics³. In fact, when taking historical data into account¹, we observe an even more counterintuitive trend: from 1980 on the relative success of the respective winning nation has faded continuously (1980 was boycotted by the US, 1984 by the Soviet Union) (Figure 1).

Reciprocally, more medals are won by emerging nations. From the first decades of the 20th century until the 1980s, the number of nations winning at least one gold medal was almost constant, but has increased dramatically from then on (Figure 2).

Reasons for this are: an increasing number of participating countries and higher competitive level of small or developing countries. Today, access to scientific knowledge of training and medical support⁴, availability of technical equipment⁵ and help of biomechanics and computer analysis⁶ are no longer barriers. The total medal count as an indicator of globalization tells a simple story: Olympics in a globalized world means sharing knowledge, market and success, consequently, the winner of the Olympics is . . . globalization.

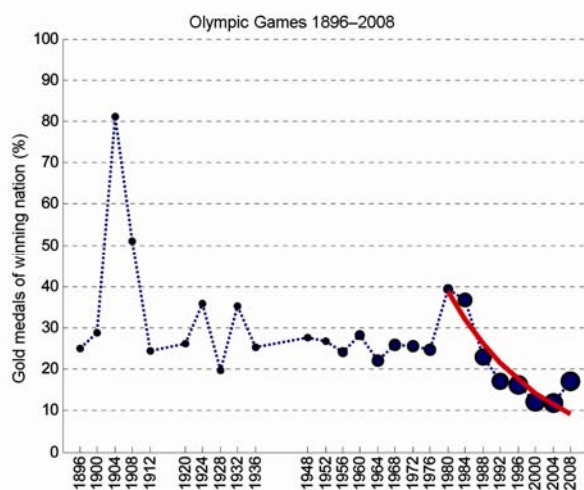


Figure 1. Number of gold medals of winning nation compared to total gold medal count in percentage. Greater the diameter of the dots, more nations took part. Data was fitted with Gaussian function for two discrete time period (1980–2008, $R = 0.93$).

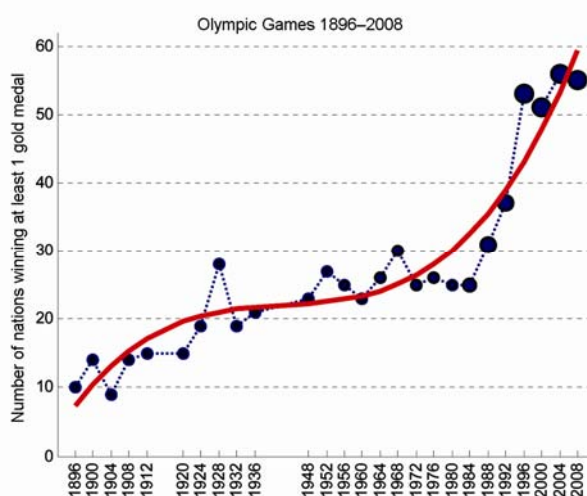


Figure 2. Number of nations winning at least 1 gold medal, fitted with a polynomial of degree 3 ($R = 0.95$). Greater the diameter of the dots, more nations took part.

1. International Olympic Committee (IOC), *Official Reports of the Olympic Games*, 2008.
2. Prathap, G., *Curr. Sci.*, 2008, **95**(8), 1000.
3. Tversky, A. and Kahneman, D., *Science*, 1974, **185**, 1124–1131.
4. Larkin, M., *Lancet*, 2002, **359**, 412.
5. Kennedy, D., *Science*, 2004, **305**, 573.
6. Sheppard, L. M., *IEEE Comput. Graph. Appl.*, 2006, **26**, 6–11.

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