

Facial expression software knows which Olympic medal makes you happier and why

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This Friday, when the Summer Olympics begin in Tokyo, gold, silver and bronze medals will be handed out in more than 300 events. Prior research, using human coding, has revealed that bronze medalists appeared happier than silver medalists. However, scholars have debated the reasons why for years.

According to new research from the Carlson School of Management published in the *Journal of Experimental Psychology*, facial expression software—which nearly eliminates possible bias—offers important insight. The research was led by William Hedgcock, an associate professor of marketing at the University of Minnesota's Carlson School of Management.

Hedgcock and his team compiled the largest dataset ever used to study this phenomenon and are the first to use facial expression software. Altogether, they studied medal stand photographs of 413 athletes from 142 [sporting events](#), representing 67 countries, across five Olympic Summer Games between 2000 and 2016. Using commercial facial expression software, they compared the facial appearance of all three medalists both to what position they finished and how they were predicted to finish.

The results replicated and expanded on what was previously found: [bronze](#) medalists were more likely to exhibit a smile than silver medalists, while gold medalists were happier than other medalists. Two explanations supported by the study, both based on what scientists refer to as counterfactual thinking, are:

- Silver medalists formed an upward comparison to the gold

medalists with thoughts of "I almost won [gold](#)," while bronze medalists formed a downward comparison to a fourth-place finisher with thoughts of "at least I won a medal."

- Medalists form their thoughts based on what their expectations were entering the event, with silver medalists being more disappointed because their prior expectations for performance were higher than bronze medalists.

"Now we have a better idea why athletes who did objectively better, as in won [silver](#) versus bronze, might appear less happy," explained Hedgcock. "The notion of making upward and downward comparisons not only applies to Olympic medalists, but also to many aspects of life such as performance at work, school or when making purchases, for example.

"Our experience with this study suggests the [software](#), which has primarily been used in controlled settings, is also useful for large-scale facial expression studies in less-controlled, [real-world applications](#)," commented Hedgcock in regards to this study opening the door for more research of this kind.

More information: William M. Hedgcock et al, Counterfactual thinking and facial expressions among Olympic medalists: A conceptual replication of Medvec, Madey, and Gilovich's (1995) findings., *Journal of Experimental Psychology: General* (2020). [DOI: 10.1037/xge0000992](https://doi.org/10.1037/xge0000992)

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