Smiles of Victory and Frowns of Defeat May Be Hard-Wired in Human Brains

Blind athlete   Sighted athlete

The facial expressions that register human joy and disappointment may be hard-wired into our brains, according to a new study. To probe the origins of smiles and scowls, psychologist David Matsumoto and his team compared 4,800 photographs, capturing the expressions of sighted and blind judo athletes at medal ceremonies at the 2004 Olympic and Paralympic Games. In each case, the faces of gold and silver medal winning athletes were scrutinised [BBC News].

The researchers found that both the blind and sighted gold medal winners produced joyful smiles known as Duchenne smiles, in which the cheek muscles rise and the muscles around the eyes crease. In contrast, both blind and sighted silver medal winners initially showed sadness, with their mouths turned down, but put on "social smiles" that use only the mouth muscles when they received their medals.

This study, to be published in the *Journal of Personality and Social Psychology*, is not the first to posit that facial expressions are innate, but it provides some of the strongest evidence yet to support that theory. Researchers have found it difficult to refute the idea that babies learn how to smile from the parents that beam down at them, as almost everyone experiences these visual cues–except for blind babies. "Individuals blind from birth could not have learned to control their emotions in this way through visual learning, so there must be another mechanism," Matsumoto said. "It could be that our emotions, and the systems to regulate them, are vestiges of our evolutionary ancestry" [*LiveScience*].

The findings build on previous research in which Matsumoto studied the body language of blind athletes, and found that their body language in victory and defeat mirrored that of sighted athletes–blind runners also raised their arms in the air in triumph when they felt their chest break the tape, while the losers slumped their shoulders in disappointment.