

# Reading an opponent's face gives the edge in martial arts

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There's more to excelling in the martial arts combat sport of taekwondo than just being able to produce well-aimed kicks or punches. A participant's skill at reading the emotions on an opponent's face and to therefore anticipate his or her next move can mean the difference between winning and losing a sparring match. This is according to Yu-Ling Shih and Chia-Yen Lin of the National Taiwan University of Sport. In a study published in Springer's journal *Cognitive Processing*, the researchers also note that the understanding of intent is a skill more developed in taekwondo athletes than by weightlifters.

The ability to pre-empt an opponent's next move is called action anticipation. It is regarded as a critical skill that people who excel in time-constrained combat and ball sports in which they come face to face with an opponent possess. Research has confirmed that such athletes are able to quickly gather lots of information about an opponent's body mechanics and movements.

While most research on the subject has been done on ball sports such as tennis or soccer, not much is known about how it plays out in close-contact combat sports. Shih and Lin therefore turned to taekwondo and weightlifting to investigate whether the recognition of facial emotions has an influence on participants' action anticipation skills.

Their study group contained taekwondo athletes, weightlifters and people without any professional sport training. Each group comprised seven men and seven women. They were shown sets of static pictures of

taekwondo athletes and weightlifters in action, and had to predict what would be happening next. They also had to name the emotions experienced by a person in another series of photographs.

Participants were generally better at predicting what would happen next when the photographs were from a later stage in a movement.

Taekwondo athletes, in particular, tended to respond faster than the other participants when presented pictures in which more than 50 percent of a movement was already completed.

"The recognition of facial emotions plays a role in the action prediction in combat sports such as taekwondo, and is not only about the dynamics of movement," says Shih.

The results also suggest that being able to recognize facial emotions is more important in combat sports such as taekwondo where two contestants face off within two meters of each other than in weightlifting. The latter is a closed skill sport in which [athletes](#) do not compete directly against another, and they therefore do not need to be so sensitive towards subtle changes in an [opponent](#)'s face.

"Our results contribute to recent findings about mechanisms underlying superior action prediction skills, including excellent strategies of memory, visual searching, and body kinematic information extraction," adds Lin.

**More information:** Yu-Ling Shih et al, The relationship between action anticipation and emotion recognition in athletes of open skill sports, *Cognitive Processing* (2016). [DOI: 10.1007/s10339-016-0764-7](https://doi.org/10.1007/s10339-016-0764-7)

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