

# Why do some people never forget a face?

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(Medical Xpress) -- “Face recognition is an important social skill, but not all of us are equally good at it,” says Beijing Normal University cognitive psychologist Jia Liu. But what accounts for the difference? A new study by Liu and colleagues Ruosi Wang, Jingguang Li, Huizhen Fang, and Moqian Tian provides the first experimental evidence that the inequality of abilities is rooted in the unique way in which the mind perceives faces. “Individuals who process faces more holistically” -- that is, as an integrated whole -- “are better at face recognition,” says Liu. The findings will appear in an upcoming issue of *Psychological Science*, a journal published by the Association for Psychological Science.

In daily life, we recognize [faces](#) both holistically and also “analytically”—that is, picking out individual parts, such as eyes or nose. But while the brain uses analytical processing for all kinds of objects—cars, houses, animals—“holistic processing is thought to be especially critical to [face recognition](#),” says Liu.

To isolate holistic processing as the key to face recognition, the researchers first measured the ability of study participants—337 male and female students—to remember whole faces, using a task in which they had to select studied faces and flowers from among unfamiliar ones.

The next two tasks measured performance in tasks that mark holistic processing. The composite-face effect (CFE) shows up when two faces are split horizontally and stuck together. It’s easier to identify the top half-face when it’s misaligned with the bottom one than when the two

halves are fitted smoothly together. “That’s because our brain automatically combines them to form a new”—and unfamiliar—“face,” says Liu: evidence of holistic processing. The other marker of holistic processing is the whole-part effect (WPE). In this one, people are shown a face, then asked to recognize a part of it—say, the nose. They do better when the feature is presented within the whole face than when it stands on its own among other noses: again, we remember the nose integrated into the whole face. The researchers also assessed participants’ general intelligence.

The results: Those participants who scored higher on CFE and WPE—that is, who did well in holistic processing—also performed better at the first task of recognizing faces. But there was no link between facial recognition and general intelligence, which is made up of various cognitive processes—a suggestion that face processing is unique.

“Our findings partly explains why some never forget faces, while others misrecognize their friends and relatives frequently,” says Liu. That’s why the research holds promise for therapies for that second category of people, who may suffer disorders such as prosopagnosia (face blindness) and autism. Knowing that the mind receives a face as one whole thing and not as a collection of individual parts, “we may train people on holistic processing to improve their ability in recognizing faces,” Liu says.

Provided by Association for Psychological Science

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