

Friend or foe? How the unconscious mind picks out faces in a crowd

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By Judy Siegel-Itzkovich



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Visualization of changing facial dimensions.. (photo credit: HEBREW UNIVERSITY)

When you make your way through a crowd, your unconscious mind quickly processes human faces and picks out two types – those associated with dominance and threat and, to a lesser degree, those who seem trustworthy, according to a discovery by Hebrew University researchers.

Your brain ignores all the rest, allowing them to fade into the background.

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The study was just published in the prestigious journal Nature Human Behavior by social psychology Prof. Ran Hassin, who is a member of its Federmann Center for the Study of Rationality, along with Hebrew University graduate student Yaniv Abir and colleagues Prof.

Alexander Todorov of Princeton University and Prof. Ron Dotsch, formerly of Utrecht University in the Netherlands.

This work, considered groundbreaking in revealing how our unconscious minds work, also provides scientists with a new set of tools to approach behavioral and mental disorders.

Hassin and his research team conducted six experiments with 174 participants.

In these experiments, researchers exposed participants to 300 sets of rapidly changing images. One eye was exposed to images of human faces, while the other saw geometric shapes. The participants were then asked to press a computer key as soon as they saw a human face.

With the bombardment of stimuli, with images and rapid flashing, it took the brain a few seconds to understand that it was seeing a face and then to “transfer” these images to the conscious brain for processing. The researchers noted that the facial dimensions that were most quickly registered by participants were ones that indicated power and dominance.

“Walking around the world our unconscious minds are faced with a tremendous task – to decide which stimuli ‘deserve’ conscious noticing and which do not,” explained Hassin. “The mental algorithm we discovered deeply prioritizes dominance and potential threat. We literally saw the speed with which these images broke through the unconscious mind and registered on a conscious-level with each key press.”

For the past decade, Hassin has focused his research on the human unconscious, specifically decision- making, memory, motivation and how opinions are formed.

“This study gives insight into the unconscious processes that shape our consciousness,” he said.

“These processes are dynamic and often based on personal motivation.

Hypothetically, if you’re looking for a romantic partner, your brain will ‘see’ people differently than if you’re already in a relationship. Unconsciously, your brain will ‘prioritize’ faces of potential partners and deemphasize other faces. Likewise, the same might be true for other motivations, such as avoiding danger.

Your eyes might pick out certain ‘menacing’ faces from a crowd and avoid them.”

Hassin said he hopes their findings will pave the way toward a better understanding of autism, PTSD and other mental disorders.

“It might be possible to train and untrain people from perceiving certain facial dimensions as threatening. This could be helpful for those suffering from PTSD or depression. Likewise, we could train people with autism to be more sensitive to social cues,” he said.