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Creative people physically see and process the world differently



Everyone has their own view of the world

David Crausby/Getty

By **Alice Klein**

If you're the kind of person who relishes adventure, you may literally see the world differently. People who are open to new experiences can take in more visual information than other people and combine it in unique ways. This may explain why they tend to be particularly creative.

Openness to experience is one of the "big five" traits often used to describe personality. It is characterised by curiosity, creativity and an interest in exploring new things. Open people tend to do well at tasks that test our ability to come up with creative ideas, such as imagining new uses for everyday objects like bricks, mugs or table tennis balls.

There's some evidence that people with a greater degree of openness also have better visual awareness. For example, when focusing on letters moving on a screen, they are

more likely to notice a grey square appearing elsewhere on the display.

Now Anna Antinori at the University of Melbourne in Australia and her team are showing that people who score more highly when it comes to the openness trait “see” more possibilities. “They seem to have a more flexible gate for the visual information that breaks through into their consciousness,” Antinori says.

Patchwork pictures

Antinori and her colleagues asked 123 university students to complete a binocular rivalry test, in which they simultaneously saw a red image with one eye and a green image with the other eye for 2 minutes.

Usually, the brain can only perceive one image at a time, and most participants reported seeing the image flip between red and green. But some subjects saw the two images fused into a patchwork of red and green – a phenomenon known as “mixed percept”.

The higher the participants scored for openness on a personality questionnaire, the more they experienced this mixed perception.

“When you present open people with the binocular rivalry dilemma, their brains are able to flexibly engage with less conventional solutions,” Antinori says. “We believe this is the first empirical evidence that they have different visual experiences to the average individual.”

In contrast, the other four major personality traits – extroversion, neuroticism, agreeableness and conscientiousness – weren’t significantly linked to experiencing this mixed perception.

Mind expanding

The results could explain why people with a high degree of openness tend to be more creative and innovative, Antinori says. “When they come up with all these crazy new uses for bricks, it might be because they really perceive the world differently,” she says.

The findings also hint at why extremely open people are more prone to paranoia and delusions, says Niko Tiliopoulos at the University of Sydney, Australia. “At those levels of openness, people may actually see reality differently,” he says. “For example, they may ‘see’ spirits, or misinterpret interpersonal or other signals.”

According to Antinori, there are similarities between high levels of openness and the experience of taking magic mushrooms. Previous work by her team has found that psilocybin – a hallucinogenic compound in magic mushrooms – increases a person’s openness scores in a personality questionnaire, and their experience of mixed percept in binocular rivalry tests.

The team has also found that some forms of meditation can increase mixed image perception in binocular rivalry tests.

Antinori next wants to see if similar neural processes are involved in mixed perception, creative thinking and the shifts in visual perception caused by psilocybin and meditation. “It seems that openness alters the filter of consciousness, and we’d like to know how,” she says.

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