

Subliminal images impact on brain

The brain does register subliminal images even if a person is unaware they have seen them, UK researchers report.

The research, in *Current Biology*, suggests subliminal advertising is probably effective.

The practice, which was first used in the 1950s, has been banned in the UK, but is still permitted in the US.

Using brain scans, a team from University College, London, showed people only registered the images if the brain had "spare capacity".

" If there is 'spare capacity', in terms of attention, the brain will allocate that resource to subliminal activity "

Dr Bahador Bahrami, UCL Institute of Cognitive Neuroscience

Subliminal images may be contained in other information, which people are aware of receiving.

The researchers cite the example of the film *Fight Club*, where a character who works as a cinema projectionist inserts a single frame of pornography into the 24 frames of a film shown each second.

In the movie, those watching were unaware of the split-second shot, but felt depressed or aggressive afterwards.

'Invisible' objects

Although it has long been thought that subliminal images can be detected without people being aware of them, and have been used in techniques such as subliminal advertising, this is the first time researchers have provided physiological evidence of the impact.

The seven participants in the study wore red-blue filter glasses that projected faint images of everyday objects, such as an iron, on to one eye and a strong flashing image on the other.

The strong flashing image meant the participants were not consciously aware of the faint images projected on to the other eye.

At the same time, they were asked to carry out an easy task, such as picking out the letter T from a stream of letters, or a harder task of picking out a white N or a blue Z.

Using functional MRI brain scanning, the researchers found that during the easy task the brain registered the 'invisible' object although the participants were unaware they had seen it.

This was highlighted by activity in a part of the brain called the primary visual cortex.

But during the harder task, which required more concentration, the fMRI scan did not pick up any relevant brain activity suggesting the participants had not registered the subliminal image.

Buying power?

Dr Bahador Bahrami, UCL Institute of Cognitive Neuroscience, said: "What's interesting here is that your brain does log things that you aren't even aware of and can't ever become aware of.

"The brain is open to what's around it. So if there is 'spare capacity', in terms of attention, the brain will allocate that resource to subliminal activity.

"These findings point to the sort of impact that subliminal advertising may have on the brain.

"What this study doesn't address is whether this would then influence you to go out and buy a product."

Dr Bahrami is set to carry out more research to evaluate the further impact of subliminal words and images.

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