Science & Environment

Psychopathic criminals have empathy switch

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Psychopaths do not lack empathy, rather they can switch it on at will, according to new research.

Placed in a brain scanner, psychopathic criminals watched videos of one person hurting another and were asked to empathise with the individual in pain.

Only when asked to imagine how the pain receiver felt did the area of the brain related to pain light up.

Scientists, **reporting in Brain**, say their research explains how psychopaths can be both callous and charming.

The team proposes that with the right training, it could be possible to help psychopaths activate their "empathy switch", which could bring them a step closer to rehabilitation.

Mirror neurons

The ability to empathise with others - to put yourself in someone else's shoes - is crucial to social development in order to respond appropriately in everyday situations.

Criminals with psychopathy characteristically show a reduced ability to empathise with others, including their victims. Evidence suggests they are also more likely to reoffend upon release than criminals without the psychiatric condition.

Psychopathy is a personality disorder characterised by superficial charm, pathological lying and a diminished capacity for remorse.

Now scientists have found that only when asked to empathise did the criminals' empathy reaction, also known as the mirror system, fire up the same way as it did for the controls. Without instruction, they show reduced activity in the regions of the brain associated with pain.

This mirror system refers to the mirror neurons in our brain which are known to activate when we watch someone do a task and when we do it ourselves. They are thought to play a vital role in the ability to empathise with others.

'Bleak prospect'

Christian Keysers from the University of Groningen, the Netherlands, and senior author of the study, said it could change the way psychopathic criminals were viewed.

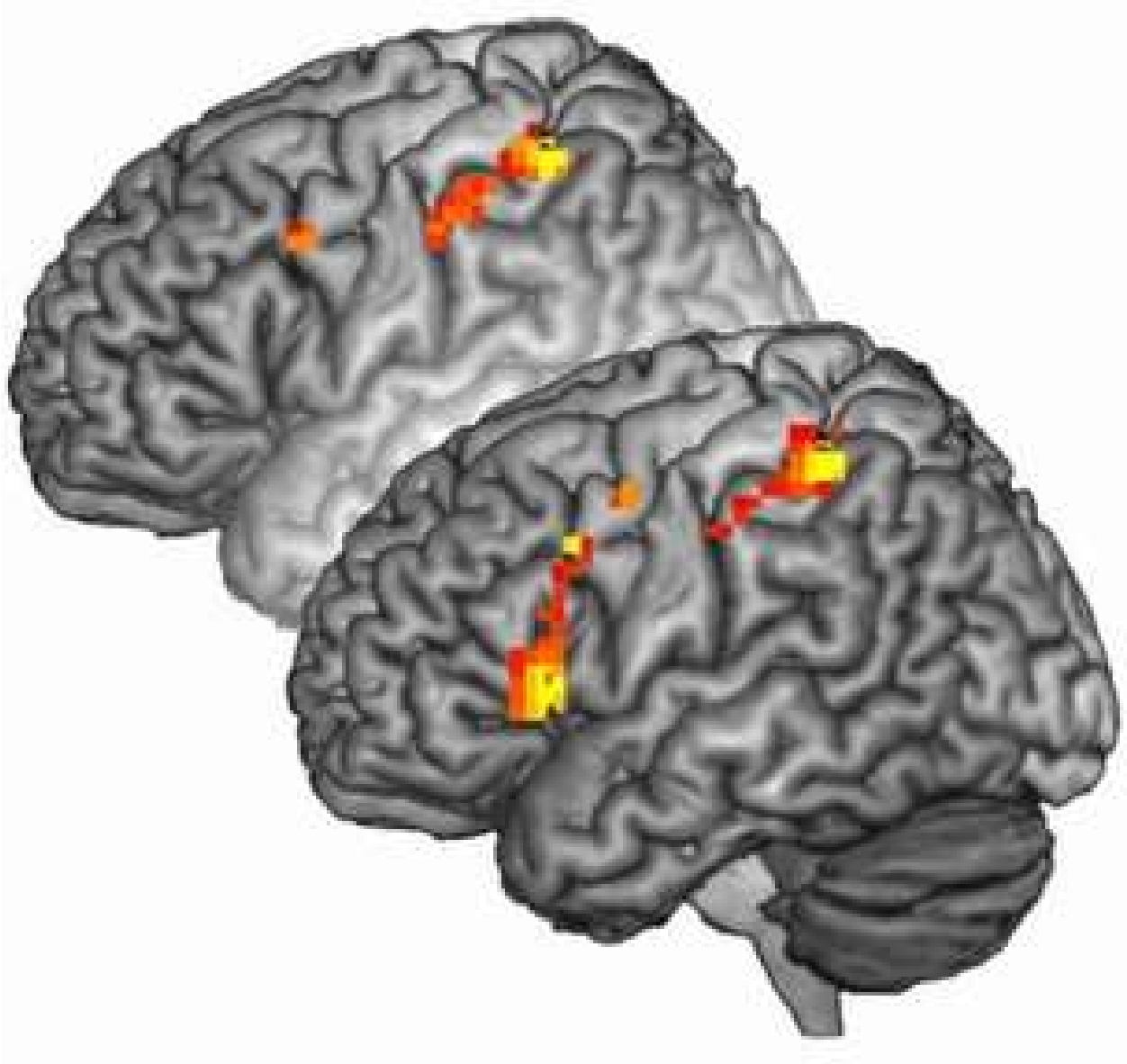
"The predominant notion had been that they are callous individuals, unable to feel emotions themselves and therefore unable to feel emotions in others.

"Our work shows it's not that simple. They don't lack empathy but they have a switch to turn it on and off. By default, it seems to be off."

The fact that they have the capacity to switch empathy on, at least under certain conditions, could have a positive side to it, Prof Keysers said.

"The notion psychopaths have no empathy at all was a bleak prospect. It would make it very hard for them to have normal moral development.

"Now that we've shown they have empathy - even if only in certain conditions - we can give therapists something to work with," Prof Keysers told BBC News.



But he explained that it was not yet known how this wilful capacity for empathy could be transformed into the spontaneous empathy most of us have.

Million-dollar question

Essi Viding from University College London, who was not involved with the study, said it was an extremely interesting finding, but that it remained unclear whether the psychopathic criminals' experience of empathy felt the same as that of the controls.

"It's dangerous to look at brain activation and say that it means they're empathising. They are able to generate a typical neural response, but that doesn't mean they have the same empathetic experience," Prof Viding told BBC News.

"We know they can generate the same response but they do that in an active and effortful way. Under free-viewing conditions they don't seem to. Just because they can empathise, doesn't mean they will.

"Psychopathic criminals are clearly different. The million-dollar question is whether we can devise therapeutic interventions that would shift them do this more automatically."

Randall Salekin, from the University of Alabama, US, who works with youth offenders said: "These findings fit with much of the treatment I am doing using a mental model program, whereby youth are informed about how the brain works and then asked to make specific plans for improving their lives.

"This study is impressive because it actually shows the brain mechanisms or neural networks involved in activating the inmates' empathy."

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