

### My brain made me do it

*Understanding how morality is linked to brain function will require us to rethink our justice system, says **Martha J. Farah***

(1) AS SCIENCE exposes the gears and sprockets of moral cognition, how will it affect our laws and ethical norms?

(2) We have long known that moral character is related to brain function. One remarkable demonstration of this was provided by Phineas Gage, a 19th-century construction foreman injured in an explosion. After a large iron rod was blown through his head, destroying bits of his prefrontal cortex, Gage was transformed from a conscientious, dependable worker to a selfish and erratic character, described by some as antisocial.

(3) Recent research has shown that psychopaths, who behave antisocially and without remorse, differ from the rest of us in several brain regions associated with self-control and moral cognition (*Behavioral Sciences and the Law*, vol 26, p7). Even psychologically normal people who merely score higher in psychopathic traits show distinctive differences in their patterns of brain activation when contemplating moral decisions (*Molecular Psychiatry*, vol 14, p 5).

(4) The idea that moral behaviour is dependent on brain function presents a challenge to our usual ways of thinking about moral responsibility. A remorseless murderer is unlikely to win much sympathy, but show us that his cold-blooded cruelty is a neuropsychological impairment and we are apt to hold him less responsible for his actions. Presumably for this reason, fMRI evidence was introduced by the defence in a recent murder trial to show that the perpetrator had differences in various brain regions which they argued 18. Indeed, neuroscientific evidence has been found to exert a powerful influence over decisions by judges and juries to find defendants "not guilty by reason of insanity" (*Behavioral Sciences and the Law*, vol 26, p 85).

(5) Outside the courtroom people tend to judge the behaviour of others less harshly when it is explained in light of physiological, rather than psychological processes (*Ethics and Behavior*, vol 15, p 139). This is as true for serious moral transgressions, like killing, as for behaviours that are merely socially undesirable, like overeating. The decreased moral stigma surrounding drug addiction is undoubtedly due in part to our emerging view of addiction as a brain disease.

(6) So will the field of moral neuroscience change our laws, ethics and mores? The growing use of brain scans in courtrooms, societal precedents like the destigmatisation of addiction, and studies like those described above seem to say the answer is yes. And this makes sense. For laws and mores to persist, they must accord with our understanding of behaviour. For example, we know that young children have limited moral understanding and self-control, so we do not hold them criminally accountable for their behaviour. To the extent that neuroscience changes our understanding of human behaviour — and misbehaviour — it seems destined to alter society's standards of morality.

*New Scientist, 2010*

## Tekst 6 My brain made me do it

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- 1p 17 Which of the following is **not** true according to paragraphs 1-3?
- A Psychologically healthy people have better memory skills than psychopaths.
  - B Research indicates that low moral perception is related to specific brain activity.
  - C The Phineas Gage case proves that brain damage may result in a negative change in character.
- 1p 18 Which of the following fits the gap in paragraph 4?
- A proved his guilt
  - B raised serious doubt
  - C reduced his culpability
  - D undermined their case
- 1p 19 How could paragraph 5 also begin?
- A Likewise,
  - B Naturally,
  - C Nevertheless,
  - D Surprisingly,
- 1p 20 What is the point made in paragraph 5?
- A Making moral judgements about other people requires insight into their intentions.
  - B Morally questionable actions are the result of defective brain development.
  - C Objectionable behaviour is likely to meet with more understanding if caused by physical impairments.
  - D Society should not hold people accountable for alleged wrongful conduct.
- 1p 21 Waardoor worden onze waarden en normen beïnvloed volgens dit artikel?

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### Bronvermelding

Een opsomming van de in dit examen gebruikte bronnen, zoals teksten en afbeeldingen, is te vinden in het bij dit examen behorende correctievoorschrift, dat na afloop van het examen wordt gepubliceerd.