

Opium of the masses? Study suggests Marx was right about religion

Attending a religious service appears to activate the same biological mechanism as morphine, heroin and opiate pain pills

More than 180 years after Karl Marx called religion “the opium of the people”, scientists have shown that taking part in a church service can indeed affect the body much like an illicit drug.

A study of congregants in Britain and Brazil found that worship significantly increased their ability to withstand pain — an indication, the researchers argue, that the body’s natural “mu-opioid” system had been activated.

This is the same system to which heroin, morphine and synthetic opioid painkillers bind to produce their effects.

According to Dr Valerie van Mulukom of Oxford Brookes University, a co-author of the study, the results do not mean worshippers are chemically sedated by sermons. Instead, she and her colleagues believe that religious rituals stir an ancient biological mechanism that is key to humans feeling a sense of belonging.

The research studied 265 people at 24 religious events in Britain and Brazil. These ranged from Anglican, Catholic, Methodist and Baptist services, where people sang, listened to sermons, prayed and exchanged greetings, to Umbanda rituals, which combine African traditions, Roman Catholicism, Spiritism and Indigenous Brazilian beliefs.

Participants were tested before and after each service. They answered questions about how close they felt to others in the congregation, how much they trusted them, and how much they felt they had in common.

They also took a standard pain threshold test using a blood pressure cuff, which was inflated around the arm until it became too uncomfortable and the subject asked for it to be loosened.

As the researchers could not directly measure natural mu-opioid levels in the brain during a church service, these pain threshold readings were used as a proxy. Opioids that are naturally produced by the body help dull discomfort; when the mu-opioid system is more active, people typically tolerate more pain.

People felt more connected, on average, after a service than before; they also had a higher pain threshold. Moreover, the people whose pain threshold rose the most also tended to be the people who felt most bonded to their fellow worshippers.

“To us that was evidence to say, ‘Hey, it’s probably the opioid that is driving this effect on social bonding,’” Van Mulukom said.

The idea that religion taps into the same biology as morphine is not new, but the researchers said their study was the first, to their knowledge, to measure this in real services using the pain test.

Writing in Proceedings of the Royal Society B, they suggest the results support what is known as the “brain-opioid theory of social attachment”.

The theory looks back to our distant evolutionary past. Among apes, grooming helps hold groups together. Picking through fur for lice helps improve hygiene, but it is also intimate and calming. It builds trust, and it appears to do this largely by activating the mu-opioid system.

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However, grooming only works one on one. Professor Robin Dunbar of Oxford University, a co-author of the new study, has proposed that as human groups grew larger in number, our ancestors needed alternative means of activating the mu-opioid system to nurture the same feelings of closeness — one that could encompass many people at once.

Religion, he has suggested, offered a solution. The idea is that communal worship activates the same biological circuitry as grooming.

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Van Mulukom said she was not religious but was sceptical of rival atheist arguments that faith survives because it makes people docile, credulous or easy to control.

“The new atheists [a group often associated with Richard Dawkins and the late Christopher Hitchens] seem to say that the persistence of religion is best explained by people not being very intelligent and needing religion to explain the world around them,” she said.

“That’s really not the sense I have.”

Secular choirs, dance groups, football teams and humanist societies can also create powerful social ties. But she suspects religion is unusually good

at reinforcing feelings of belonging by combining them with meaning and commitment.

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“The more research I do on religion, the more it points to it being about social bonding,” she said.