

How cigarettes calm you down

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The calming neurological effects of nicotine have been demonstrated in a group of non-smokers during anger provocation. Researchers writing in BioMed Central's open access journal *Behavioral and Brain Functions* suggest that nicotine may alter the activity of brain areas that are involved in the inhibition of negative emotions such as anger.

Jean Gehricke led a team of researchers from the University of California who studied the effect of [nicotine](#) patches on the subjects' tendency to retaliate in response to anger provocation. The subjects played a computer game and could see a video screen of another player who they believed to be their opponent, although, in fact, they were playing alone. After each round, the victor could give his opponent a burst of unpleasant noise - at a duration and volume set by the winner. In some of the subjects, nicotine was associated with a reduced tendency to retaliate, even after provocation by the 'opponent'.

According to Gehricke, "Participants who showed nicotine-induced changes in anger task performance also showed changes in brain metabolism. Nicotine-induced reductions in length of retaliation were associated with changes in brain metabolism in response to nicotine in brain areas responsible for orienting, planning and processing of emotional stimuli".

The authors say that their findings support the idea that people of an angry disposition are more susceptible to nicotine's effects, and are therefore more likely to become addicted to cigarettes. They conclude, "Novel behavioral treatments that affect the cortical and limbic brain

areas, like anger management training, may aid smoking cessation efforts in anger provoking situations that increase withdrawal and tobacco cravings".

More information: Nicotine-induced brain metabolism associated with anger provocation, Jean G Gehricke, Steven G Potkin, Frances M Leslie, Sandra E Loughlin, Carol K Whalen, Larry D Jamner, James Mbogori and James H Fallon, *Behavioral and Brain Functions* (in press), www.behavioralandbrainfunctions.com/

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