

In the cult movie "The Matrix", Morpheus offers Neo a choice between 2 pills: Take the red pill, and you got yourself enough trouble to make a whole film trilogy. Take the blue pill, and forget we ever had this conversation". Scientists at the University of Amsterdam think there might actually be something similar to the blue pill.



Animal studies have shown that memories involving fear can change when recalled, a process referred to as reconsolidation. In this study, published on the online edition of Nature Neuroscience,^[1] Merel Kindt, Marieke Soeter and Bram Vervliet tried to disrupt the reactivation of fear memories in human subjects by administering propranolol pills (a beta-blocker normally used in the treatment of high blood pressure).

The study involved 60 volunteers, who first learned to associate spiders with fear by receiving mild electric shocks whenever pictures of spiders were shown to them. 24 hours later, subjects were randomly split into 2 groups. One group received the propranolol pills, the other a placebo. Then, they were shown the pictures of the spiders again, and their fear response was measured, based on their startle reflex as a reaction to a loud noise. Results showed that the startle response was significantly lower in the experimental group compared to the placebo group. The same effect was measured another 24 hours later, without any further administration of the drug. Thus, the administration of the drug before getting subjects to recall fear memories, erased the behavioural expression of the fear 24 hours later and prevented the return of the fear.

The researchers believe that disrupting the consolidation of fear-related memories could be a way to treat patients with emotional disorders. However, it is too early to say whether this procedure might work for complex conditions like post-traumatic stress disorder.

Some scientists, however, like Paul Farmer and Daniel Sokol, fear that such "fundamentally pharmacological" approaches might also alter good memories and warned against an "accelerated Alzheimer's" approach.^[2] Taking the blue might not always be the best solution...

^[1] Merel Kindt, Marieke Soeter, and Bram Vervliet, Beyond extinction: erasing human fear responses and preventing the return of fear", Nature Neuroscience Published online: 15 February 2009 | doi:10.1038/nn.2271.

^[2] <http://news.bbc.co.uk/1/hi/health/7892272.stm>