Memory-Erasing Drug Worries Are Overblown, Some Ethicists Say


Memory-erasing drugs could do more than erase a bad memory; they could help treat mental ailments such as post-traumatic stress disorder (PTSD), and one neuroethicist argues that these drugs should be developed and used, regardless of ethical concerns.

Though a magic bullet, erase-any-or-all-memory drug has yet to hit the market and is still decades away, scientists have made great strides in that direction, with one human trial under way for a drug called propranolol that can dampen post-traumatic-stress related negative memories. Other newly discovered brain pathways can be manipulated to ratchet memory up and down.

Neuroethicists, researchers who focus on the ethics of altering the mind, worry the drugs could easily be abused and also may create an altered humanity. These ethical concerns, however, could deter researchers and funders from advancing such drugs, says Adam Kolber, in a commentary this week in the journal Nature.

Kolber, who is a professor of law at Brooklyn Law School and editor of the Neuroethics & Law blog, suggests that we shouldn't let these ethical dilemmas get in the way of developing memory-erasing or other memory-altering treatments.

"Delay could also hinder people who are already debilitated by harrowing memories from being offered the best hope yet of reclaiming their lives," Kolber writes.

Tinkering with memories

Memory-dampening drugs are in the pipeline to treat addicts, victims of abuse and people suffering from PTSD, according to Kolber. But many ethicists believe they shouldn't be developed for fear the drugs will be abused.

The President's Council on Bioethics has said it fears such drugs would be abused, or would interfere with "our ability to lead true and honorable lives," and undermine a person's sense of identity, according to a statement on the topic released in October 2003.

"New psychotropic drugs create the possibility of severing the link between feelings of happiness and our actions and experiences in the world," the council notes, suggesting that such drugs might make us lazy and less likely to better ourselves.

Many researchers, including Kolber, don't agree that these drugs would fundamentally alter our sense of self.

Neil Levy, a researcher at Oxford University in the United Kingdom agrees with the council that our memories and our sense of self are entwined, but notes that dimming one memory shouldn't affect our personality as a whole. "The connection is not to each and every one of our memories, so altering or erasing particular memories isn't going to threaten our sense of self," Levy told LiveScience in an email.

Dampening drug

The first memory-dimming drug, Propranolol, works by blocking the memory-strengthening brain chemicals. When taken after a traumatic experience, it can dampen future symptoms of PTSD.
"The effects on memory are relatively subtle," Levy said. "It reduces the impact of traumatic memory by preventing overconsolidation. It does not erase memories." (Consolidation is the process used by the brain to seal experiences into long-term memory.)

Kolber sees not using such drugs to speed recovery of a trauma patient to be just as threatening to a patient's sense of self as the council suggests the drugs themselves could be. "Drugs may speed up the healing process more effectively than counseling, arguably making patients more true to themselves than they would be if a traumatic experience were to dominate their lives," Kolber writes.

**Treatment options**

Non-drug treatments, such as talk therapy, can also change the brain, but people tend to worry more about drug interventions than about other, non-pharmaceutical treatments, Kolber noted. [Bad Memories Erased With Behavior Therapy]

"Drugs are viewed as special, like magic potions that can be used for good or evil. In reality, though, our memories are constantly being erased and modified over time," Kolber said. "For some reason, though, we are more accepting of memory modification when it happens without pharmaceutical intervention."

Would such a drug be abused, or used recklessly? Recent data from Elizabeth Loftus, a researcher at the University of California, Irvine, indicates that most people believe they wouldn't use such a drug if it were offered to them after a traumatic episode.

"This raises the intriguing question of whether we would ever want to force people to take it for their own good and that of society's," Loftus told LiveScience in an email. "After all, we do that with vaccinations."