Oxytocin and dopamine have long been lauded as hormonal wellsprings of love and happiness, but a review of the research in *Current Directions in Psychological Science* suggests that the brain’s natural opioids may also play a role in the feelings of closeness that support social bonding.

Until recently, the majority of studies investigating the opioid theory of social attachment had been conducted with animals, limiting researchers to making inferences about animals’ feelings of closeness by observing behavior such as huddling, said Tristen Inagaki, a professor of psychology at the University of Pittsburgh. But the recent increase in social-pharmacology studies examining drugs like morphine and naltrexone, an opioids inhibitor used to reduce cravings in people recovering from addiction, has allowed researchers to further investigate the effect of opioids on humans’ subjective social experiences.

Participants assigned to read loving messages from friends and family, for example, reported fewer feelings of social connection after receiving naltrexone compared with a placebo. Naltrexone, the opioid blocker, was also found to reduce the positive influence that physical warmth — for example, from receiving a hug or holding a cup of coffee — on social bonding; it also appeared to reduce participants’ feelings of “coziness” and likeability after playing trust games.

Overall, these findings suggest that opioid activity in the brain may be at least partially responsible for the pleasurable feelings associated with social bonding, wrote Inagaki.
Findings are more mixed when it comes to opioids produced outside the body, however. Morphine, which binds to and activates opioid receptors, was found to lead men to perceive strangers as more attractive compared with naltrexone, but there has been little research on how exposure to pharmacological opioids may influence social behavior in established relationships.

“It’s not clear if morphine or other drugs that increase opioids also increase feelings of connection,” Inagaki explained. “If anything it seems like increasing opioids via drugs kind of replaces those feelings.”

Nonetheless, she continued, the present body of research surrounding naltrexone may have implications for the clinical use of opioid inhibitors to ease addiction recovery.

“Socially supportive relationships are really important for helping recovery and maintaining abstinence, but if an unintended side-effect of pharmacological treatment is also reducing how connected you feel to those people or how supportive you perceive them to be, that’s introducing potentially a significant additional barrier to recovery,” Inagaki said.

Social stressors are among the most common cause of addiction relapse, she added, so treatment options may need to address how to best maintain feelings of social connection among patients in recovery when their opioid activity is repressed by these medications.

Inagaki said she would also like to see further research on how opioids influence the experience of bonding within established relationships, where it appears to play a stronger role.

“Most of the studies reviewed assessed responses to socially distant strangers whom one will never interact with or see again, which is a fundamentally different experience than interaction with people one knows well,” she wrote.

Reference