

Hormone oxytocin bolsters childhood memories of mom's affections

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Researchers have found that the naturally-occurring hormone and neurotransmitter oxytocin intensifies men's memories of their mother's affections during childhood. The study was published today in *Proceedings of the National Academy of Sciences*.

Researchers at the Seaver Autism Center for Research and Treatment at Mount Sinai School of Medicine wanted to determine whether oxytocin, a hormone and [neurotransmitter](#) that is known to regulate attachment and social [memory](#) in animals, is also involved in human attachment memories. They conducted a randomized, double-blind, placebo-controlled, cross-over trial, giving 31 healthy adult men oxytocin or a placebo delivered nasally on two occasions. Prior to administering the drug/placebo, the researchers measured the men's attachment style. About 90 minutes after administering the oxytocin or the placebo the researchers assessed participants' recollection of their mother's care and closeness in childhood.

They found that men who were less anxious and more securely attached remembered their [mothers](#) as more caring and remembered being closer to their mothers in childhood when they received oxytocin, compared to when they received placebo. However, men who were more anxiously attached remembered their mothers as less caring and remembered being less close to their mothers in childhood when they received oxytocin, compared to when they received placebo. These results were not due to more general effects of oxytocin on mood or well-being.

"These results may seem surprising because researchers have assumed that the neuromodulator oxytocin has ubiquitous positive effects on [social behavior](#) and [social perception](#) in humans," said Jennifer Bartz, PhD, Assistant Professor, Psychiatry, Mount Sinai School of Medicine, and lead author of the study. "The fact that oxytocin did not make all participants remember their mother as more caring, but in fact intensified the positivity or negativity of the men's pre-existing memories, suggests that oxytocin plays a more specific role in these attachment representations. We believe that oxytocin may help people form memories about important social information in their environment and attach incentive value to those memories.

"However, we do not know whether oxytocin, when administered in drug form, increases a person's ability to accurately recall their mother's affections in childhood, or sets in motion a biased search for memories that support their more general beliefs about close relationships."

The ability to bond with our caregivers early in life has long been thought to be critical to survival because these bonds insure caregiver protection for the otherwise defenseless infant.

"We know very little about the biological mechanisms that support human attachment bonds, but understand that oxytocin regulates attachment in animals, and plays a specific role in forming social memories," said Dr. Bartz. "Our study suggests that [oxytocin](#) may similarly play a key role in human attachment by modulating these early memories of mom."

Provided by The Mount Sinai Hospital

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