

Hormone oxytocin improves social cognition but only in less socially proficient individuals

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Researchers at Mount Sinai School of Medicine have found that the naturally-occurring hormone oxytocin selectively improves social cognitive abilities for less socially proficient individuals, but has little effect on those who are more socially proficient. The study was published today in *Psychological Science*.

Researchers at the Seaver Autism Center for Research and Treatment at Mount Sinai School of Medicine and Columbia University wanted to determine if oxytocin, popularly dubbed the "hormone of love," could have widespread benefit in making us more understanding of others. They conducted a randomized, double-blind, placebo-controlled, cross-over challenge, giving 27 healthy adult men oxytocin or a placebo delivered nasally. Participants then performed an empathic accuracy task in which they watched videos of people discussing emotional events from their life and rated how they thought the people in the videos were feeling.

Although all participants were healthy adults who did not have autism, the researchers looked at whether differences in social cognitive expertise affected response to oxytocin. Social competency was measured using the Autism Spectrum Quotient (AQ), a common self-report instrument that predicts social cognitive performance. Researchers hypothesized that oxytocin and AQ would interact to predict social cognitive performance. Results showed that oxytocin improved empathic accuracy, but only in those individuals who were less socially proficient.

"Oxytocin is widely believed to make all people more empathic and understanding of others," said Jennifer Bartz, PhD, Assistant Professor, Psychiatry, Mount Sinai School of Medicine, and lead author of the study. "Our study contradicts

that. Instead, oxytocin appears to be helpful only for those who are less socially proficient."

More socially proficient participants performed well on the empathic accuracy task regardless of whether they were on oxytocin or placebo. By contrast, less socially proficient participants performed poorly on placebo but significantly better on oxytocin. In fact, on oxytocin, their empathic accuracy performance was identical to that of the socially proficient participants.

"Our data show that oxytocin selectively improves social cognition in people who are less socially proficient, but had little impact on more socially proficient individuals," continued Dr. Bartz. "While more research is required, these results highlight the potential oxytocin holds for treating social deficits in people with disorders marked by deficits in social functioning like autism."

Dr. Bartz and her colleagues also received a grant through the American Recovery and Reinvestment Act (ARRA), the federal government stimulus package, to continue her research on the impact of [oxytocin](#) beyond this study, specifically in adults with autism spectrum disorders.

Provided by The Mount Sinai Hospital

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