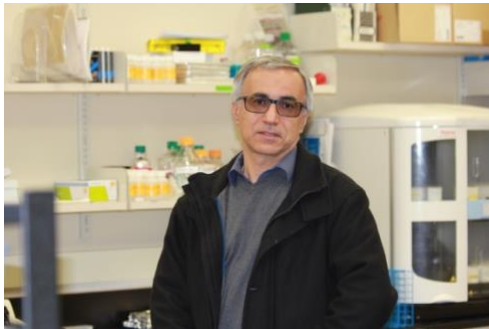




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Social enrichment boosts levels of oxytocin, new U of L research shows

Holiday get-togethers give people the chance to relax and enjoy themselves with friends and family. Such social encounters can be an antidote to stress and, on a biological level, boost levels of the bonding hormone oxytocin and even contribute to longevity.



A new study by Dr. Jamshid Faraji, a research associate in Dr. Gerlinde Metz's lab at the Canadian Centre for Behavioural Neuroscience at the University of Lethbridge, has shown that rats raised in socially enriched community settings had higher oxytocin levels and a biological age that was younger than their chronological age.

While both males and females benefited, the effects were more pronounced in females. The study, which was conducted in collaboration with researchers from Golestan University of Medical Sciences and Avicenna Institute of Neuroscience in Iran, was recently published in the journal *eLife*.

"Rats are social animals and, instead of impoverishing them by housing them individually, we used standard housing and socially enriched the animals," says Faraji. "In our study, we housed some rats with two or three companions and others with 10 or 11 companions."

"We found that the large community setting produced higher oxytocin levels, especially in females," says Metz. "Social enrichment led to higher novelty seeking in a corridor task, a behavioural test for rats. It turned out that females explored this task very differently than males when they were housed socially."

The researchers also wanted to prove that oxytocin is causally involved in mediating the effects of social enrichment so some rats received an oxytocin antagonist which inhibited oxytocin secretion.

"Rats who had received the oxytocin antagonist did not show the same exploratory behaviour," says Faraji.

To prove a biological correlation between oxytocin and longer lifespans, the researchers looked at telomeres, which are nucleotide sequences at the end of each chromosome. Whenever a cell goes into division, the telomere shortens. So, the older a person is the shorter their telomeres.

“We thought maybe there’s a way that social support could be protective for the telomere length, because this is a marker for biological age,” says Metz. “It turns out, for females especially, that those who benefited from the socially supportive environment also had longer telomeres. They had a lower biological age index and this could indicate, indirectly, that they might have a longer lifespan ahead of them.

“In a nutshell, it’s a very straightforward study but it has a lot of implications and definitely, we have a lot of food for thought to go further. There are huge gaps in the knowledge of how oxytocin mediates these effects and that needs to be investigated.”

Many factors influence longevity and life expectancy, such as diet, nutrition and exercise. This new study points to the need for face-to-face interactions and physical contact, such as hand shaking and hugging, as necessary for human well-being and long-term health.

“Meaningful, positive social relationships are really what’s driving us and it’s where the future needs to go,” says Metz. “If we read the news, we can get really worried about the future. I think we need to trust in the power of positive social relationships and that, in the end, things will turn toward the better.”

This news releases can be found online at [social enrichment research](#).

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