

Chronic exposure to dim light may raise depression risk

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Two years ago, Randy Nelson, Ph.D., chair of neuroscience at Ohio State University, doctoral student Tracy Bedrosian, and colleagues reported that dim-light exposure at night was capable of triggering

depressive-like behaviors in animals. The dim-light exposure, they explained, was comparable to having a television on in a darkened room.

They thus suspected that if people were exposed to such light, it might make them susceptible to depression (*Psychiatric News*, December 17, 2010).

Now, Nelson and his team have found that chronic dim-[light exposure](#) at night—five times brighter than maximal moonlight and comparable to the levels of [light pollution](#) surrounding cities—can not only lead to depressive-like behaviors in animals, but also increase the amount of the pro-inflammatory cytokine [tumor necrosis factor](#) in the hippocampus region of the brain.

When the researchers infused an antagonist of tumor necrosis factor into the animals' brains, it eliminated their depressive-like behaviors.

It thus appears not only that chronic dim light at night can contribute to depression, but also that tumor necrosis factor plays a role in such dim-light-provoked depression, the researchers concluded in their report, published July 24 in [Molecular Psychiatry](#). And still another reason to believe that tumor necrosis factor is involved, they indicated, is that giving it to people or animals was already known to induce [depressive symptoms](#).

The implications of these findings for people, Nelson and his colleagues believe, are that they might be wise to minimize their exposure to light during sleep—say, avoid sleeping with a night light, not falling asleep with a bedroom television on, and using curtains to block light from the street.

The researchers also made a provocative proposal in their paper—that a putative increase in the prevalence of [major depression](#) among

Americans in recent years may have been due to their growing exposure to nighttime light during the same period. But whether that is the case remains to be determined in future studies.

More information: An abstract of "Chronic Dim Light at Night Provokes Reversible Depression-like Phenotype: Possible Role for TNF" is at www.nature.com/mp/journal/vaop...t/abs/mp201296a.html

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