

# Let the sun in: More natural light at home lightens your mood

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It's safe to say that when searching for somewhere to live most people

prefer open, airy spaces over dark and dingy ones. Now, new research suggests why: Homes filled with lots of natural light makes for happier residents.

"We sought to explore the relationship between [natural light and emotional well-being](#) in residential indoor spaces," explained study co-author Javiera Morales-Bravo, an architect at the University of Chile in Santiago.

The idea for the study "came after a year of [COVID] lockdown, during which people spent most of their time at home, and we saw increased cases of [anxiety](#) and [depression](#)," Morales-Bravo said.

So, to explore how home light might impact mood, she and co-author Pablo Navarrete-Hernandez launched a virtual experiment using 25 different 3D architectural simulations.

Each simulation offered a different home design with differing amounts of natural light to enter a living room, a kitchen, a bedroom and a bathroom. For example, home designs differed with regard to the amount of windows present, the size of the windows and whether the homes were north- or south-facing.

In turn, 750 study participants were shown the simulations in random order, after which each ranked the various spaces from 1 to 10. On one end, a "1" meant the [space environment](#) had no impact on how sad or happy they felt, while a "10" meant the space made them feel either extremely sad or extremely happy.

In the end, Morales-Bravo and Navarrete-Hernandez, a lecturer in the Department of Landscape Architecture at the University of Sheffield in England, found that when it comes to light, more is more: The more natural light that entered a home, the happier participants said they felt.

Specifically, the authors determined that homes in which windows covered at least 40% of a dwelling's wall space triggered the greatest spike in a sense of "well-being."

They also found that the beneficial impact of light was particularly strong among younger participants—meaning those under 30—and women.

Why? Morales-Bravo theorized that women—at least in Chile, where the study was conducted—tend to spend more time at home, as do younger people, making them "particularly sensitive to changes to their work-living spaces."

She acknowledged that such scenarios may shift, depending on the country. But "we think the key factor here is that the longer a person spends time at home, the higher the gains that we expect to see in their emotional well-being" from greater light exposure, Morales-Bravo said.

Beyond light itself, the team further noted that the wall surfaces found in different homes may also impact how sad or happy a resident might feel.

For one thing, "clearer tones and white tones reflect light into an indoor space, while dark colors absorb it," noted Morales-Bravo, who is also a research assistant with Chile's Institute of Housing. "Therefore, the choice of wall color has an impact on the amount of light that is present in an indoor space, consequently impacting happiness and sadness."

Brick, the investigation revealed, turned out to be the least happiness-inducing wall material, perhaps because they contain "properties that tend to absorb more light," she added. On the other hand, the interior use of wood was more difficult to ascertain, given that wood actually "exists in many different tones."

As for what actually accounts for light's apparent influence on mood, Navarrete-Hernandez noted that "we humans have evolutionary mechanisms that respond to natural light." Previous research, he said, has demonstrated that light can have a notable impact on sleep-wake patterns ([circadian rhythms](#)), while the lack of light can drive up the risk for developing debilitating [seasonal affective disorder](#) (SAD).

"Our findings indicate that by maximizing window sizes, increasing the distance between dwellings to reduce shade, and using wall materials and colors that better reflect light, people perceive an increase in happiness and a decrease in sadness," Navarrete-Hernandez said. "These are simple recommendations that can make a huge difference."

The results were published online recently in the journal *Building and Environment*.

"The findings make intuitive sense," said Aaron Schwartz, a former graduate fellow with the Gund Institute for Environment, the Vermont Complex Systems Center, and the Rubenstein School of Environment and Natural Resources at the University of Vermont. He was not part of the new study.

But Schwartz—whose own work has highlighted the mood-enhancing benefit of simply spending time in sun-dappled parks—said that while the findings make sense, "quantifying this sort of stuff in a built environment is not easy" and liable to a wide array of influences.

He noted, for example, that "it's possible that people who have more at-home natural light also generally have nicer apartments. They may also have better incomes, and better access to day care. They may also have better access to nice outdoor green spaces right near their homes.

"So when you look at this, it really depends on how well all of that's

taken into account," Schwartz cautioned.

Still, "assuming that's all controlled for, having a lot of [natural light](#) in a home probably means you have more open views, which has been shown to have a beneficial impact on mental health," he noted.

"And early morning exposure to light also has a neurological benefit in terms of controlling hormones—like [the stress hormone] cortisol—as well as our circadian rhythm," Schwartz said. "And I can easily see how more light, rather than less, might do a good job at better activating these benefits."

**More information:** The Mayo Clinic has more on how [light therapy can treat SAD](#).

Javiera Morales-Bravo et al, Enlightening wellbeing in the home: The impact of natural light design on perceived happiness and sadness in residential spaces, *Building and Environment* (2022). [DOI: 10.1016/j.buildenv.2022.109317](#)

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