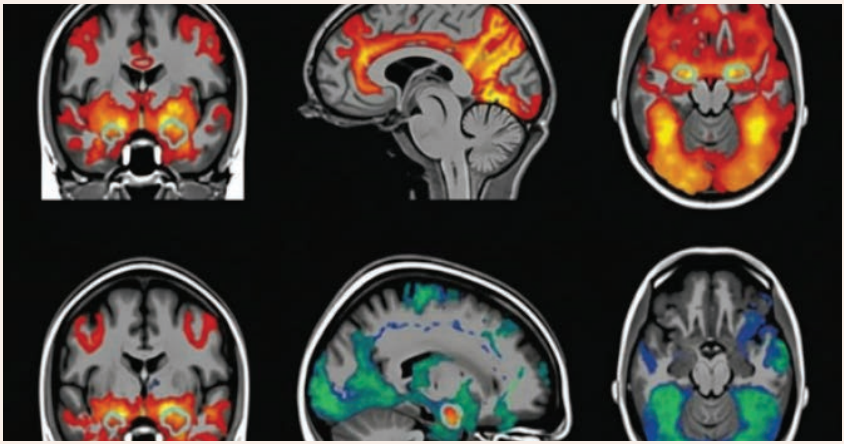
OUR brain LOVES wood

A groundbreaking fMRI study on the impact of different materials on our mental and physical well-being

HOUT | BOIS

Wood has been used for centuries, but its influence on our health and well-being has only recently been scientifically studied and understood. To demonstrate the positive effects of wooden interiors on the brain, we asked **Neurensics** to investigate this futher. Under the supervision of neuroscientist **Prof. Dr. Steven Laureys** and research leader **Dr. Steven Scholte**, an fMRI study was conducted in which participants were shown virtual interiors made of different materials. The conclusion is clear: wood makes us mentally and physically healthier.

Our brain loves wood.



A groundbreaking fMRI study on the impact of different materials on our mental and physical well-being.

For the study, brain responses to twelve interior images were measured, with the spaces divided into four types:

- Living rooms
- Classrooms
- Hospital rooms
- Offices

Study participants viewed virtual interiors in an fMRI scanner while their brain activity and heart rate were measured.

They then performed cognitive tasks to measure the activation of creativity and problem-solving networks.

1 study, 24 participants, 12 interiors

What if the choice of interior material does more than just create atmosphere? What if it directly affects our stress levels, creativity, and even our problem-solving abilities?

Prof. Dr. Steven Laureys, an internationally renowned neurologist and researcher of human consciousness, and Dr. Steven Scholte, a specialist in neuro-economic research techniques, investigated this question. Using fMRI scans, the brain responses of 24 participants were measured while they viewed virtual interiors dominated by three materials: wood, concrete, and plastic.

Afterward, participants performed cognitive tasks to test the impact of the materials on creativity and problem-solving ability.

Concrete and plastic more often evoke negative emotions, such as irritation, anger, and even aversion.

What did we discover?
The results were crystal clear. Wood evokes more positive emotions, reduces feelings of stress, increases trust, and stimulates creativity and problem-solving ability.

Concrete and plastic, on the other hand, more often evoke negative emotions such as irritation, anger, and even aversion. In environments dominated by wood, we see significantly higher activation of networks responsible for creative thinking and focused attention.

In short: Our brain loves wood.

"Natural materials have a positive impact on stress, focus, and cognitive performance."

Prof. Dr. Steven Laureys

Expert insights

Prof. Dr. Steven Laureys
Neurologist and brain scientist

An internationally renowned neurologist and brain researcher, specialising in consciousness, sleep, coma, and neuroplasticity.

He earned his PhD at the University of Liège on consciousness in coma patients and is a guest professor at Harvard Medical School. He is research director at the FNRS, founder of the Coma Science Group and the GIGA Consciousness Center, where he conducts research using advanced techniques like MRI, EEG, and neurostimulation.

In 2024, he was appointed Canada Excellence Research Chair in Neuroplasticity at Université Laval.

Dr. Steven Scholte
Specialist in neuroeconomics and behavioral analysis

Specialist in neuro-economics and behavioral analysis. CEO and co-founder of Neurensics and associate professor at the University of Amsterdam.

He specialises in measuring brain activity and developing computer models. His academic background includes philosophy, biology (MSc), and psychology (MA) at UvA. He earned his PhD in 2003 with a thesis titled Scene Segmentation.

In 2009, he became associate professor at UvA and heads the Spinoza REC MRI Center.

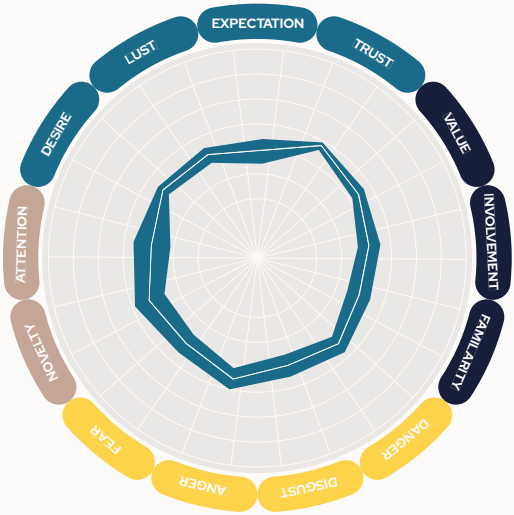
In domestic settings, wood fosters harmony. It stimulates empathy, communication, and solution-oriented behaviour.

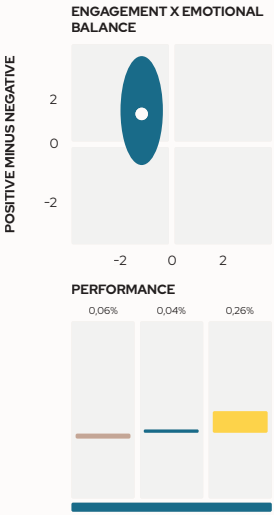
THE INFLUENCE OF WOOD IN EACH TYPE OF SPACE.

How does our brain respond to different interiors?

WOOD IN THE OFFICE

More trust and creativity





Wood as a material in office environments is unexpected —and therefore especially effective.

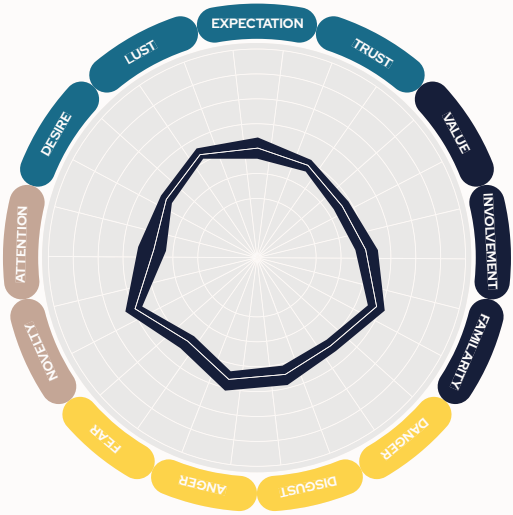
Brain scans show that wooden elements in the workplace increase trust, stimulate creativity, and enhance cognitive performance. The result?

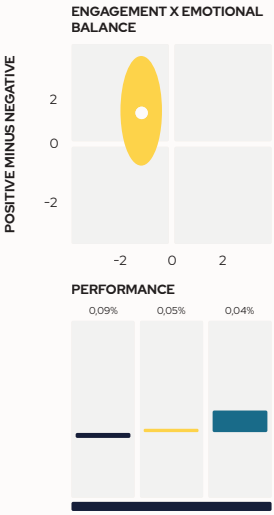
Employees in wooden office environments think more flexibly, creatively, and solve problems faster.

They also feel safer and more productive, which encourages innovative thinking. In offices, wood makes the difference between detachment and engagement, between a grey workspace and a vibrant breeding ground for innovation.

WOOD IN THE CLASSROOM

Familiar home-like feeling





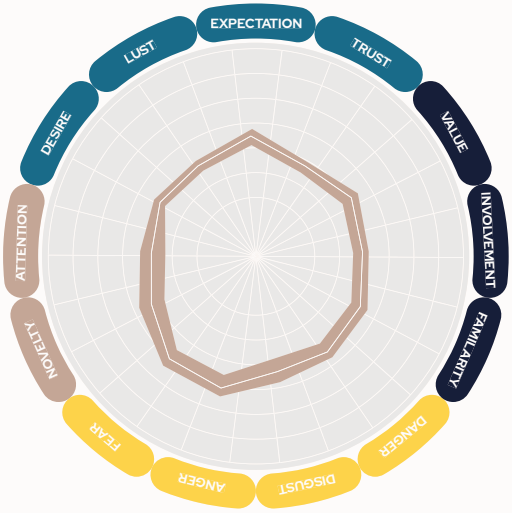
In classrooms, wood evokes a sense of trust because it reminds students of home.

Although the impact on cognitive performance is less pronounced than in offices or living spaces, a warm, wooden environment helps reduce stress and puts students at ease.

This sense of safety is comparable to the home environment, contributing to a more pleasant learning climate where students can concentrate and develop better.

WOOD IN THE HOME

Emotional intelligence and better communication



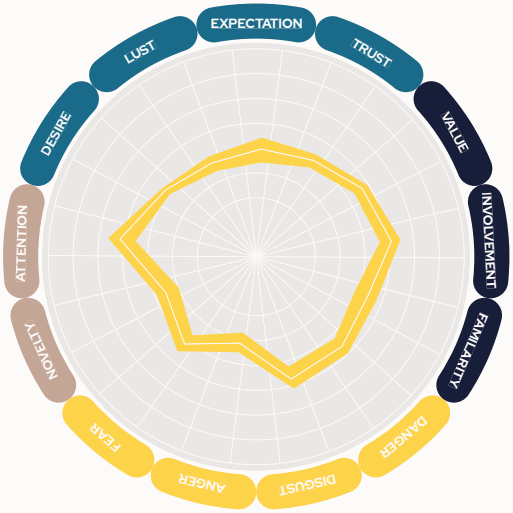
Living spaces with a lot of wood enhance problem-solving skills in social and emotional contexts.

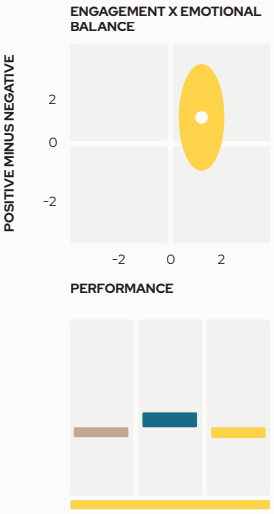
Residents communicate more empathetically, listen better, and find joint solutions more quickly. Wood transforms a house into more than just a place to live—it becomes an environment where people truly live together. In the home setting, wood fosters harmony. It stimulates empathy, communication, and solution-oriented behaviour. Participants reported feeling more heard and understood in wooden environments.

These are crucial ingredients for emotional connection.

WOOD IN HEALTHCARE

Less irritation, more connection





In care facilities and hospitals, a sterile and cold atmosphere often prevails, evoking feelings of discomfort and irritation.

The introduction of wood significantly reduces these negative emotions. Although the use of wood in hospitals is not yet common, our research shows that wooden accents enhance feelings of connection and calm. Sterile care environments can feel distant and may even unconsciously trigger stress or irritation.

Wood softens that atmosphere and contributes to a sense of calm, peace, and connection—essential for environments focused on patient recovery and human contact.

Our brain thrives in wooden environments

Wood is not just beautiful—it makes us feel better. From office to classroom, from hospital to living room, wood actively contributes to our well-being and functioning.

- Wood increases positive emotions such as trust, calm, and connection.
- It reduces negative emotions such as stress, irritation, and aversion.
- It stimulates cognitive performance such as creativity and problem-solving.
- A wooden interior promotes social interaction from collaboration at work to empathy at home.

In a world where mental health and performance are increasingly important, wood offers a proven advantage. Wood is not just a feast for the eyes—it's the natural preference of our brain.

Our brain loves wood.

Made possible by:

Credits
Fedustria, Prof. Dr. Steven Laureys MD, PhD, Dr. Steven Scholte, Neurensics, University of Amsterdam

Copy
Fedustria, Big group

Design, layout and production
big Amsterdam

Responsible publisher
Karla Basselier,
Hof-ter-Vleestdreef 5,
1070 Brussel

Want to stay updated? Follow hout_bois on:

OUR brain LOVES wood

HOUT | BOIS