# The Impact of Environment on Mental Health

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Physical environments trigger subconscious cues around safety.

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Our familial and cultural backgrounds are often signs of safety ( not always). This is particularly true for younger students.

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Let's look at micro-environments

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Classroom design matters to how children engage, participate and ultimately stay engaged in a learning experience.

## Resources

Children in classrooms with inadequate material resources and children whose teachers felt their colleagues did not respect them experienced worse mental health across all four measures ( learning/ externalizing behaviours, interpersonal behaviours, internalizing problems

**Seating**

Chairs: Hamper blood supply to nervous system.
Strain vertebral area- fatigue and pain >
performance and regulation
Provide unattached chairs. Keep back and chin up
with an armrest

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Choices

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Row seating

Teacher led/ Disengagement/ Concentrate

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Semi-Circle

Higher levels of questions/ co-operative learning

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Cluster seating

Co-operative learning, children may have backs to the teacher

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**Temperature**

Brain is temperature sensitive
Temperature impacts student's learning ability and also affects numerous other mental and physical activities.
When temperatures are not ideal, the brain gets constant interruptions from the body signalling it to readjust to the temperature

Heat stress lowers scores on intellectual and physical tasks

Cooler the brain - more relaxed, receptive and on task (21)

## Lighting

Californian Study (21 000 students): Most sunlight > 20% faster in math and 26% faster in reading

Classroom glare ( North face classrooms and whiteboards)

Melatonin and serotonin (mood, alertness and cognitive performance)

Illuminance, Glare, Flicker

## Fluorescent lights

Flickering quality

Audible hum

Cortisol levels: immune system

Aggravate hyperactivity

Fidgeting, daydreaming and absorbing new information

Humming has a detrimental impact in student performance, particularly reading.

Its negative impact on reading scores exceeded that of construction noise, socioeconomic status, musty classroom air

Studies show that the best light is light that mimics natural light. Improve behaviour, reduce anxiety and boost health. In turn, these improvements translate to a marked improvement in learning.

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Some ideas:

Daylight lights, variable lighting schedules, get outside, lamp

It is evolutionary:

Daylight
View of nature
Plants in classrooms and next to the building
Natural elements inside the classroom
Open, clearly laid out areas and protected havens
Decrease in stress response

Simple is best for highly sensitive, highly anxious and traumatized children

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**Sound:**

The Cocktail Party effect: Children are particularly sensitive.

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When classroom acoustics are poor, it can cause problems with how a student:

understands speech; reads and spells; behaves in the classroom; pays attention; and/or concentrates.
Noisier classrooms- elevated stress levels (heart rate and blood pressure)
Increases epinephrine, norepinephrine and cortisol.
Increased heart rate, grimacing, sudden musle flexing - stress

Hearing impaired and at-risk children have  difficulty separating teacher and background noise
Even for children without issues, research has found increased stress, frustration and impaired learning

Excessive environmental noise and casual conversation has been fund to reduce comprehension in the early stages of learning a new task

Some ideas

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## Pollutants

NO2: reduced school attendance

Indoor dampness and microbiological pollutants to asthma and respiratory infections

Poor ventilation rate, excess moisture, formaldehyde with adverse health effects. Impacts attendance and performance

Increased ventilation improves performance

## Color

Correct color can prevent eyestrain, create spaces that are conductive to learning, and support good emotional and mental health. Many cases of irritability, fatigue, ennui, and behavioral problems says the IACC, are related to poorly planned color and lighting

The research

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Warm yellow on the three walls that students face, light blue on the back

Contrasting cool colors as accents in the front

Warm colors to stimulate (red), cool colors to calm (blue)

Decor

The Palette

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Scents

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**Safe spaces**

Obstacle course rooms, sensory rooms, nurture farms, tents, green spaces

**Staff rooms**