



Mental Health & the Built Environment

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Objectives

- Understand how the built environment impacts mental health
- Discover ways to effectively design change
- Influence health through design
- Recognize indirect and direct environmental factors

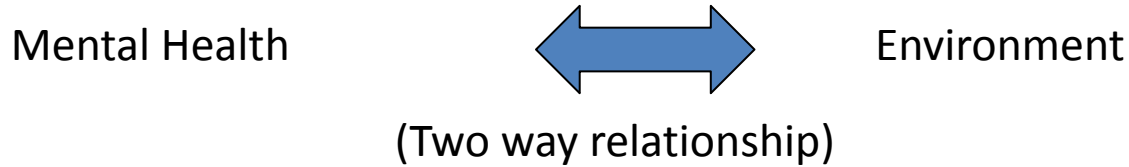
Layout of Today's Presentation

- Why consider mental health in design and architecture?
- What mental health factors might we consider in design?
- Which elements of design impact mental health?
- Exercise: application of these two factors
- Discussion as a group

How Can We Think about This Topic Practically?

- I know that you have a difficult job to do!
- Acknowledge the importance of mental health as a whole, along with the power of architecture and design to make a difference
- Make considered choices, when feasible, that will have a positive impact
- Think about these main categories:
 - Safety (actual as well as perceived)
 - Physical Health (stress on the system, impacts on sleep, movement)
 - How do people connect with each other in the space

The Interaction of Spaces and Mental Health



- People coming into spaces with pre-existing mental health concerns
- The impact of a space on the mental health of people using it in the short and long term

Which types of mental health concerns should we consider?

Mental Health Statistics

- 21-26% of adults have a diagnosable mental illness
- 9.5% have a depressive disorder
- 18% have an anxiety disorder
- 3.6% have PTSD
- 2.2% adults have Autism Spectrum Disorder
- 9.8% children diagnosed with ADHD
- 4.4% adults diagnosed with ADHD

Which factors of the built environment
can be considered for their
impact on mental health?

Noise/ Sound

- Affects mental and physical health
- Attention, hypersensitivity to sound, memory
- According to a 2022 article in Harvard Medicine, chronic noise contributes to approximately 48,000 new cases of heart disease each year and disrupts the sleep of 6.5 million people in Europe.
- The impact of noise extends beyond sound. It is the vibrations as well that contribute to the stress.

Ventilation/ Air Quality

- Poor air quality has a strong link to anxiety and depression
- The connection has been linked to the impact of higher particulate matter, changes in the microbiome, and the panicky feeling associated with difficulty breathing or other physical challenges
- This has been more of a hot topic since the start of the pandemic because of germs, but we should also consider pollution from machines (printers, copiers, etc.), cleaning products, and all kinds of scents/deodorizers

Natural Elements

- There is a tremendous amount of research linking nature to positive cognitive benefits and mood improvement
- Even brief amounts of exposure can help, as seen in a study comparing cognitive function after a 40 second break either looking at a flowering green roof or a concrete rooftop
- A 2019 study out of Denmark also found there was a 55% greater risk of being diagnosed with mental illness for children raised with the least amount of green space as compared to peers with a lot of green space
- And the list goes on!

Symmetry/ Curves

- Neuroimaging studies have shown that more angular architecture stimulates the amygdala, which is the fear center (curves did not)
- One study showed that everyone except design students preferred the curves
- People generally gravitate towards symmetrical things because their brain can easily process them
- Too much same-ness isn't good either. People feel better when they are around facades that are varied and interesting



Lighting

- Our exposure to light impacts our circadian rhythms, which control our sleep/wake cycle
- Blue light is energetic, but can reduce melatonin and impact sleep
- Natural better than artificial light
- Direction of lighting can have an impact as well (see chart)

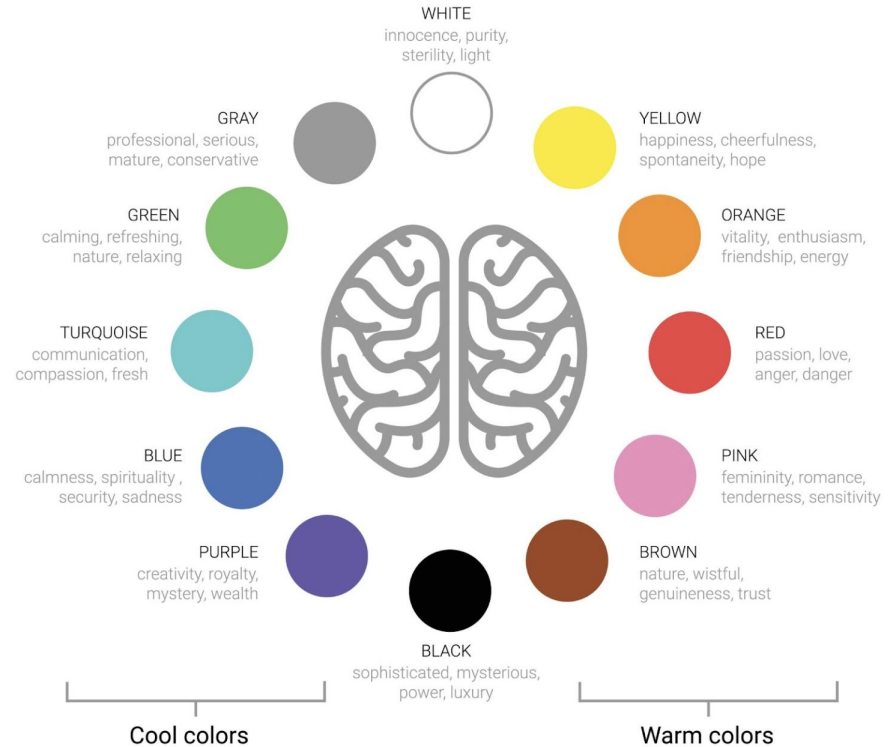
PSYCHOLOGICAL IMPACT	LIGHTING EFFECT	LIGHT DISTRIBUTION
Tense	Intense direct light from above.	Non-uniform
Relaxed	Lower overhead lighting with some lighting at room perimeter, warm color tones.	Non-uniform
Work/Visual Clarity	Bright light on work-plane with less light at the perimeter, wall lighting, cooler color tones.	Uniform
Spaciousness	Bright light with lighting on walls and possibly ceiling.	Uniform
Privacy/Intimacy	Low light level at activity space with a little perimeter lighting and dark areas in rest of space.	Non-uniform

Content retrieved from IES Light Logic (www.ieslightlogic.com)



Color

- Colors have been considered for centuries for their impact on mood
- They can be used therapeutically as well as to drive behavior
- Want it to be visually stimulating without overwhelming the viewer





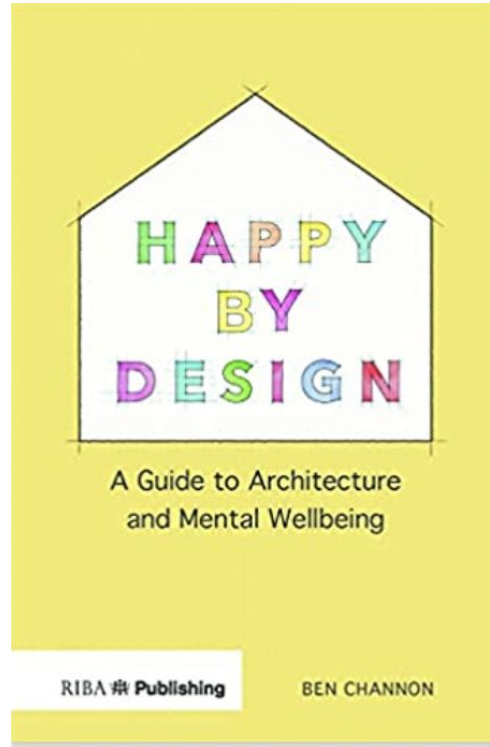
Other Considerations

- Temperature- hot can increase mental illness according to 2019 study
- Smells- positive impacts, removal of threatening odors
- Gathering spaces for community/ creativity
- Spaces for privacy/ reduced stimulation
- Culture, religion, ethnicity, physical capacities
- Layouts that encourage movement throughout the day
- Reducing sensory deprivation (we need changing environments)
- Tactile items- fabrics, buttons, seating materials

Group Exercise

- Each group has been given a setting to design
- Goal is to consider the unique ways design can impact mental well being in that environment:
 - Who are the people you are serving?
 - Are there any unique considerations for this group?
For example: What are they there to do? What are their challenges?
 - What are some specific ways you could design a space to facilitate the wellbeing of the people using this space?
- Elect someone to make a sketch or diagram to represent these elements

Book Reference: Happy by Design by Ben Channon



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Noise:

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Temperature:

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