

ACOUSTICS MENTAL HEALTH Talking Points

PARTNERSHIP INITIATIVE
INTEGRATED DESIGN LAB
at the Center for Integrated Design

W



Figure 1:
This room, held halfway between the indoors and outdoors, was designed by Olson Kundig and is sensually engaging, but leaves visitors split between acoustic alienation and peace.

Source: <https://www.nytimes.com/2017/09/30/arts/design/infinite-room-spokane-house.html>

Keywords:

Noise, Stress, Environment, Health, Hospital, Anxiety, Stress reduction, Tranquility

CONTENT OVERVIEW

- I. Improved Mental Health
- II. Worsened Mental Health
- III. Conflicted Mental Health
- IV. References

ACOUSTICS + MENTAL HEALTH SUMMARY

Mental health and acoustics share the quality of invisibility, and therefore both go largely understudied.

Acoustics are often conflated with “noise”, “sound”, or “music” in studies of mental health, but they should all be considered as elements of “soundscapes”, ecosystems engaging the auditory sense. When this perspective is held, it is easier to conceptualize acoustics’ role in an environment of healing.

I. Improved Mental Health in Patients

- i. Sound decreases agitation in patients by:
 - a. Eliciting positive emotions, enhancing social connection, increasing the perception of individual choice, reducing stress
 - b. Helpful in treating depression, reaching autistic children, as well as calming and relaxing agitated psychiatric patients.
- ii. Shared Soundscapes
 - a. Hospital sounds (white noise, music, or nature sounds) that are intelligible, controllable, and make sense in the overall ecosystem of the hospital can yield greater reductions in stress, blood pressure, and post-operative trauma compared to silence alone through the social connection they create
- iii. Music Assisted Stress Reduction
 - a. A systematic review and meta-analysis have demonstrated that music is effective for the management of behavioral and psychological symptoms of dementia patients

II. Worsened Mental Health

- i. Disrupted sleep can contribute to acute schizophrenic episodes
 - a. Patients with more disturbed sleep are likely to suffer more severe symptoms and be less medication compliant
 - b. Insomnia is often present during both the acute and chronic phases of schizophrenia
 - c. Insomnia is a common prodromal symptom heralding the development of an acute episode of schizophrenia

III. Conflicted Mental Health

- i. While certain sounds contribute positively to an acoustic experience for some, others can trigger intense feelings of discomfort or trauma
 - a. Sensory deprivation is often used in meditation or psychotherapy and can be hugely beneficial
 - b. Sensory alienation can sever tenuous connections to reality or leave individuals prone to detachment further removed from their surroundings

IV. KEY REFERENCES

Review Articles

- Brown, Brian, Peter Rutherford, and Paul Crawford. "The role of noise in clinical environments with particular reference to mental health care: A narrative review." *International journal of nursing studies* 52, no. 9 (2015): 1514-1524.
- Iyendo, Timothy Onosahwo. "Exploring the effect of sound and music on health in hospital settings: A narrative review." *International journal of nursing studies* 63 (2016): 82-100.

Primary Research

- Daykin, Norma, Ellie Byrne, Tony Soteriou, and Susan O'Connor. "The impact of art, design and environment in mental healthcare: a systematic review of the literature." *Journal of the Royal Society for the Promotion of Health* 128, no. 2 (2008): 85-94.
- Tiesler, Gerhart, Rainer Machner, and Holger Brokmann. "Classroom Acoustics and Impact on Health and Social Behaviour." *Energy Procedia* 78 (2015): 3108-3113.
- Watts, Greg, Amir Khan, and Rob Pheasant. "Influence of soundscape and interior design on anxiety and perceived tranquillity of patients in a healthcare setting." *Applied Acoustics* 104 (2016): 135-141.

Popular Press

- [*"Designing a Home without Disrupting the Land's Healing Energy"*](#) - *The New York Times*