

ACOUSTICS MENTAL HEALTH Research Brief

PARTNERSHIP INITIATIVE
INTEGRATED DESIGN LAB
at the Center for Integrated Design

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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>

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

CONTENT OVERVIEW

- I. Improved Mental Health in Patients
- II. Worsened Mental Health in Patients
- III. Conflicted Mental Health
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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

Sound, such as music or nature sounds, played into the hospital space can elicit positive emotions, enhance social connection, the perception of individual choice. Although music can be disruptive to some and be considered “noise”, it is helpful in treating depression, reaching autistic children, as well as calming and relaxing agitated psychiatric patients. (Iyendo 2016 93)

*Decreased
agitation in
psychiatric
patients*

Studies by Chafin, Hirokawa, Nilsson and their teams found if sounds, whether they be white noise, music, or nature sounds, are intelligible, controllable, and make sense in the overall ecosystem of the hospital, they can yield greater reductions in stress, blood pressure, and post-operative trauma compared to silence alone. (Brown 2014 1522)

*Positive social
function of
soundscapes*

A Dutch team conducted a survey on three psychiatric wards in the Netherlands using two fundamental interventions involving “stimulus control” and “music-assisted relaxation”, strongly recommended “music-assisted relaxation” to mental health nurses for the enhancement of sleep quality for psychiatric inpatients. A systematic review and meta-analysis have demonstrated that music is effective for the management of behavioral and psychological symptoms of dementia patients. (Iyendo 2016)

*Music
Assisted
Relaxation*

II. Worsened Mental Health in Patients

Researchers have long noticed a relationship between sleep disturbance and schizophrenia, such that patients with more disturbed sleep are likely to suffer more severe symptoms and be less medication compliant. Insomnia is often present during both the acute and chronic phases of schizophrenia. Importantly, insomnia is a common prodromal symptom heralding the development of an acute episode of schizophrenia. By limiting noise transmission through treatment spaces, sleep disturbance and schizophrenic episodes could be minimized.

III. Conflicted Mental Health

Finishes have acoustic characteristics that can further shape experience. While certain finishes contribute positively to an acoustic experience for some, others can trigger intense feelings of discomfort or trauma. Johannes Girardoni on Olson Kundig’s design of The Infinite Room: “The finished lime plaster absorbs moisture just like adobe. It is breathing skin against which sounds reverberate eerily...people seated inside seem to get a heightened awareness of being alive because of the changing light and the acoustics...some guests slip inside to chant or meditate. Others cry when they can hear echoes of their own breath behind them, and still others beg to leave.” (Sardar 2017)

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IV. KEY REFERENCES

Review Articles

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Primary Research

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Popular Press

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