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Independent Study & Mentorship

04 September 2024

Annotated Bibliography

Torrington, Judith. “What has architecture got to do with dementia care?: Explorations of the relationship between quality of life and building design in two EQUAL projects.” *Quality in Ageing and Older Adults*, vol. 7, no. 1, Mar. 2006, pp. 34–48. https://doi.org/10.1108/14717794200600006.

The author, the architect at the School of Architecture at the University of Sheffield, evaluates how the influence of building design is on the quality of life of people with dementia. Individuals with dementia are limited in the range of environments they experience, spending most of their time within one building. So this has led architects to wonder, why aren’t there more studies focusing on how a building affects the individuals who inhabit it? More than 50% of individuals struggling with dementia live in a home where they are unable to spend time outdoors. Many buildings built specially for Dementia in the UK have hit the 60-year mark and are outdated. In older buildings, the building code included having a 1:8 bathroom-to-person ratio; however, due to a dip in healthcare takers, worsening health as generations increase, and a need to use the bathroom more, this ratio is not sustainable anymore. The building size also has a huge effect on the mood of individuals. The study showed that the larger a care home, the less personalization was added, leading to feelings of loneliness. The study also found that Health and safety considerations can negatively impact well-being- especially where the

effect of them is to restrict activity. In conclusion, the well-being of individuals affected by dementia is greatly affected by the space they live in. Having more communal, yet private care homes and communities, helps them more than other solutions found in the study. Overall, this source effectively explained the factors that positively and negatively affect patients suffering from dementia. This source provides examples of how to improve buildings that do not help individuals, while still understanding the restrictions which come with just a task.

Marquardt, Gesine, et al. "Impact of the Design of the Built Environment on People With Dementia: An Evidence-Based Review." *HERD Health Environments Research & Design Journal*, vol. 8, no. 1, Oct. 2014, pp. 127–57. https://doi.org/10.1177/193758671400800111.

In this literature review, the author evaluates the importance of the design of the built environment for people with dementia in care facilities. The physical environment can offer a therapeutic effect on senior citizens with dementia. Research has shown that it can improve and conserve behaviors, memory, function, and well-being. This review took characteristics of Dementia- Cognition, Social abilities, e.g., engagement, social interaction- and made them into thematic groups to help break down the effects to a greater extent. Using these categories, the literature review broke thousands of other studies into sections and identified design elements that lead to positive outcomes. For example, Light therapy, and exposure to bright light, positively impacted cognition. Light therapy, such as exposure to natural light for a longer time during the day, leads to improvements in sleep or circadian rhythms. Another impacting characteristic the studies

found was room temperature; the studies found that a comfortable room temperature led to less unwanted behavior, such as disruptive or agitated behaviors. Although this review is credible and from a credible researcher and source, the heterogeneous methodical studies that it reviewed can have their credibility questioned. However, even with this in mind, this source is a great foundational source.

Lehman, Maria Lorena. "How Sensory Design Brings Value to Buildings and Their Occupants." *Intelligent Buildings International*, vol. 3, no. 1, Jan. 2011, pp. 46–54. https://doi.org/10.3763/inbi.2010.0011.

This article discusses the effects of sensory design on the individuals in the building and how the design can be further refined. This article explains how sensory design should be adaptive in an architectural system and meet its occupant's needs. Because of the ever-changing needs of a building's occupants, a building can not be one-size-fits-all. The article goes on to show that an occupant's health is affected by many factors which intertwine: air quality and noise levels affect sleep, sleep affects the activity of the body's cells, the activity of the body's cells affects the immune system, air quality effects sleep, which affects serotonin, which affects circadian rhythm, which all affect physiology. For sensory design to have a positive effect and change on its occupants, the designers of a building must engage with their occupants to study their rhythm. For example, the author explains that when there's a sharp contrast between the environmental sensory stimuli, the area will elicit higher emotional responses from occupants. This article provides in-depth information about sensory stimuli. The scope of this article is not limited to individuals with dementia, but some design choices talked about in the article can be used for spaces

made for individuals with dementia. Although the article is light on the evidence, it presents useful and credible information.

Hadjri, Karim, et al. "Housing Choices and Care Home Design for People With Dementia." *HERD Health Environments Research & Design Journal*, vol. 8, no. 3, Apr. 2015, pp. 80–95. https://doi.org/10.1177/1937586715573740.

In this research article, the author, Karin Hadjri, reviews the available housing for people with dementia, while identifying potential issues with the design of care homes. A growing problem in care homes is that they don't fully allow aging people to balance independence, accessibility, and social connectivity. The author interviews 22 care home staff for information regarding the design of the building and potential problems faced by the staff and residents. The author looks into the size of care homes, stating that smaller homes with fewer units are more desirable as they minimize overstimulation caused by noise and large numbers of people in contact with residents. Another main idea the author proposes is the decor and furniture of the space. She suggests that rooms should fit the style and life of the residents. Talking about family members, the rooms of the residents should be designed to fit their favorite times and things in their lives. For example, including color instead of clinical feeling floor and walls. Overall, this author provided a comprehensive overview of architecture and design for individuals living with dementia, supported by case studies, making it a valuable resource for understanding and research. In conclusion, this source provides insightful and unique ideas that create impactful solutions.

"What Comes After Concrete?" *Spotify*, 21 Feb. 2024,

open.spotify.com/episode/0ymGEohPWfk2sLB7N262yA.

In this podcast, the host, Micheal Booth, talks about sustainable building materials that can be used in designing a space. Concrete has an immense carbon footprint on the earth. Especially, as we are industrializing and building more infrastructure, we need to start thinking in a more earth-friendly way. These bio-based materials such as Mycelium and Clay Hemp boards are similar to tile and concrete- with limitations- and can act as the materials themselves. Innovative building materials such as cork can replicate the effect of drywall and insulation naturally. Biophilia integrates green plants and lighting into a home and space; biophilia provides many benefits for humans, such as improved well-being, enhanced learning, and better skin health. Moreover, these materials can be featured more in a building's design rather than being hidden behind paint or other materials, cutting down on cost and extra materials. The podcast then goes on to talk about cost and believes that because these materials are still relatively unknown in the design world, they are more costly than traditional materials. In the podcast, the host brings on Magnus Henriques and Mikkel Damgaard Nielsen, the founders of Denmark's first bio-based construction marketplace, Havners Haender. This provides this source with credible, primary information as the guest speakers work firsthand in creating sustainable building materials. Even though I originally was not going to use this source for my research, it provides me with extra information that will add to my architecture design solution. The information provided about sustainable architecture will go into my building and provide it with more positive features.