Improving the Quality of Life for Older Adults in High-Rise Residential Buildings in Urban Honolulu through Responsive and Adaptive Design

File Size Format
2017-05-darch-poscablo.pdf 23.14 MB Adobe PDF

View/Open

Item Summary

Title: Improving the Quality of Life for Older Adults in High-Rise Residential Buildings in Urban Honolulu through Responsive and Adaptive Design.

Authors: Poscablo, Mike Aldrine

Contributors: Architecture (department)

Keywords: Responsive Adaptive Older Adults High-Rise Design

Date Issued: May 2017

Publisher: University of Hawai‘i at Mānoa

Abstract: Hawai‘i’s housing crisis and high cost of living affect quality of life for its residents, particularly the older adult population. Consequently, many older adults end up living in unfit environments. As Hawai‘i’s overall population grows and ages, these challenges escalate in size and complexity. Moreover, as the earth’s climate continues to change, the impacts of the built space intensify, putting this already vulnerable population at even greater risk.

This research proposes an architectural design criterion for improving the quality of life of older adults that is based on combined design solutions explored through several case studies. These design solutions include adaptive design, which adjusts the living environment to the demographic, social, and cultural contexts; bioclimatic design, which focuses on comfort in response to changing climate conditions; and lastly, biophilic design, which embraces the relationship between humans and nature in architecture.

The last portion of the research proposes an architectural design for a high-rise residence that employs the design criteria and includes adaptive and bioclimatic features. Indoor comfort was assessed using building simulation software to determine the effectiveness of the proposed design methods. The overall healthiness of the building was evaluated using five elements derived from Blue Zone communities, as defined by Dan Beutner, iv which were translated into environmental characteristics that measure the overall design of the architecture in relation to human health.

The ultimate goal of this research is to enhance the quality of life for older adults in a residential high-rise typology, the architectural prototype will serve as inspiration for an alternative option of dwelling for Hawai‘i’s older adult population that addresses the evolution of life and specifically supports the residents’ well-being


URI: http://hdl.handle.net/10125/62108

Rights: All UHM dissertations and theses are protected by copyright. They may be viewed from this source for any purpose, but reproduction or distribution in any format is prohibited without written permission from the copyright owner.
Construction - Construction - High-rise buildings: The high-rise building is generally defined as one that is taller than the maximum height which people are willing to walk up; it thus requires mechanical vertical transportation. This includes a rather limited range of building uses, primarily residential apartments, hotels, and office buildings, though occasionally including retail and educational facilities. A type that has appeared recently is the mixed-use building, which contains varying amounts of residential, office, hotel, or commercial space. High-rise buildings are among the largest buildings built, and their unit costs are relatively high; their commercial and office functions require a high degree of flexibility. The foundations. High-rise apartment buildings have long been associated with the poor mental health of their residents. The aims of this paper are to examine whether this connection is necessarily so, by reviewing the evidence relating to the relationships between high-rise living and social wellbeing, occupant’s stress levels, and the influence they have on mental health. From selected literature, psychological stress and poor mental health outcomes of the populations that live in high-rise apartments are indeed apparent, and this is particularly so for apartments in poor neighbourhoods. Yet many apartments