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URBAN RESIDENCE RESPONSE TO COVID-19

- APARTMENT BUILDING REDESIGN TO DECREASE SECONDARY TRANSMISSION RISK AND MAINTAIN LIFE SATISFACTION



HEALTHCARE

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During the pandemic of Covid-19, the residential building is a critical part of the quarantine life, where people stay in for the longest time. The frequent close contact within households and sharing common space in residence leads to concerns about disease transmission in residential buildings. Meanwhile, the function of housing as a building type has been profoundly changed by the current state of remote working and studying. Furthermore, quarantine life with limited outdoor activities also brings the problem of social isolation and mental stress. The built environment of a residence can strongly impact people's daily life and health conditions. Such leads to how people could be satisfied with their domestic life while avoiding secondary transmission in residence.

This thesis investigates the infectious disease and remote working situation impact which spaces and behaviors the most in both apartments and apartment buildings. The project locates in Gothenburg's context. The research includes a literature study, a case study on spatial strategies, and questionnaires focusing on residents' experience. The research specifies districts with the highest infected cases reported and targets

the apartment building within the most populated area as the subject.

The study leads to a redesign of existing living spaces, aiming to decrease the risk of secondary transmission of COVID-19 in the apartment building and maintain the dwellers' life satisfaction in pandemic outbreaks and remote working conditions. The design responds to the COVID-19 restrictions on the building scale and creates a safer common area in residence. When, on an apartment unit scale, it answers how the households can live with multiple people working at home or with an infected person in the same apartment. The design is a resilient and adaptive solution for residence coping with the pandemic.

Suppose the concluding design approach visualizes how it may reduce the spread of the virus in Swedish households. This may inform future Swedish building regulations and industry standards. This knowledge can be valuable for further research on pandemic-respond architectural design.

Keywords: Covid-19, Secondary transmission, Apartment building, Redesign, Remote working