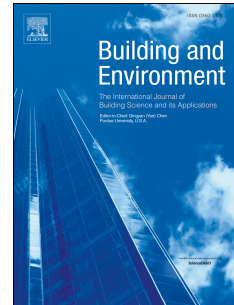


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Effects of neighborhood building density, height, greenspace, and cleanliness on indoor environment and health of building occupants

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Effects of Neighborhood Building Density, Height, Greenspace, and Cleanliness on Indoor Environment and Health of Building Occupants

Abstract

The influences of indoor environment quality on occupant health have long been one of the main focuses in built environment and public health research. However, evidence to this effect has been inconsistent. Furthermore, previous urban studies have indicated the interaction between urban morphology and indoor environment. This study thus goes beyond indoor environment to investigate: i) the effects of neighborhood environment on occupant health; and ii) the mediating roles of indoor environment on the neighborhood environment and occupant health relationships. To achieve this aim, buildings located in different neighborhood environment in Hong Kong are selected. Data are collected by post-occupancy evaluation (occupant health), indoor environment assessment (thermal comfort, indoor air quality, ventilation, visual comfort, and acoustic comfort) and neighborhood environment assessment (neighborhood building density, building height, cleanliness and greenspace) through questionnaire survey. Through correlation analysis, regression modeling and Sobel test, it is found that: i) occupant health is significantly affected by neighborhood building height, building density and cleanliness; ii) the relationships between neighborhood environment and occupant health are significantly mediated by indoor environment, in terms of visual and acoustic comfort; and iii) neighborhood greenspace affects occupant health indirectly through influencing indoor air quality. To cross validate the results of the survey study, which is conducted using

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