# 論文 / 著書情報
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# 論 文 要 旨

THESIS SUMMARY

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| 系・コース：<br>Department of, Graduate major in | 建築学<br>都市・環境学 | 系<br>コース | |
| 学生氏名：<br>Student's Name | 白 林 | | |

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| 指導教員（主）：<br>Academic Supervisor(main) | 那須 聖 |
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要旨（英文 800 語程度）
Thesis Summary（approx.800 English Words ）


The common space in nursing home is an important place to enhance residents' social exchange, and to promote residents healthy and life satisfaction. However, investigation shows the occupancy of common space in Japanese nursing home is low.

This paper explores the association between space occupancy and space spatial configuration, aims to contribute to spatial design for better resident's social exchange. The factors of spatial configuration in this paper includes space geometric metrics like area size per residents, shape, distance to living space, and the spatial metrics which is measured by Space syntax theory.

Firstly, the common space area sizes and factors of spatial configuration form Space Syntax theory are analyzed and compared through the past 35 years nursing home samples for clarifying the spatial characteristics.

The investigation to nursing homes published in Japanese architecture magazines shows that the total area size of common space per resident was gradually increased since the 1980s from 3.2$m^2$ to 8.1$m^2$ in 2010-2015. In detail, the area size per resident for dining room, physical training room, multi-purpose room etc daily life category common space was increased from 2.1$m^2$ in 1980s to 6.5$m^2$ in 2010-2015, community space, meeting room etc common facilities was increased from 0.4$m^2$ in 1980s to 1.2$m^2$ in 2010-2015, the service facility common space like service station, beauty salon, shop etc were increased from 0.1$m^2$ in 1980s to 0.3$m^2$~0.5$m^2$ in 2010-2015. On the other hand, the area size of entrance hall, lobby and guest room, family room, day service etc remained less changes in the whole period. This reflects the tendency of increasing the dining room, physical training room, multi-purpose room etc daily life common facility and community space area size to enhance the residents' daily life and enrich social exchange in Japanese nursing homes.

The investigation of spatial configuration by Space syntax theory reveals the spatial centrality(space with the highest spatial integration value) in Japanese nursing home has been changed from the corridor in the 1980s to hall space in modern Japanese nursing homes. And, the community space, physical training room, service station, dining room, etc. common facilities were also started to be the spatial centrality in some of Japanese nursing homes after the 1995s.

About the overall changes of spatial configuration, the community space shows the increase in spatial integration and spatial connectivity in the past 35 years, from 0.78 in 1980s to 1.09 in 2010-

2015, and from 2.0 in 1980s to 4.29 in 2010-2015; the physical training room shows small increase in spatial integration and spatial connectivity, from the 0.99 in 1980s to 1.02 in 2010-2015, and from 1.83 in 1980s to 3.13 in 2010-2015. Because both spatial integration and connectivity are the indicator of accessibility, this transition tells the tendency to allocate place with higher spatial centrality for community space and physical training room in Japanese nursing homes. On the other hand, the analysis also reveals that the service stations which were allocated in place with high spatial integration in classical large-scale care nursing homes are allocated to place with lower spatial integration in modern unit care nursing homes.

Then, the space occupancy were surveyed. The number of residents in eight common facilities at 12 nursing homes from 8:00am to 18:00pm were investigated.

Further, the space occupancy regression model with spatial configuration were performed. Based on the common characteristics in occupancy time and purpose in common facility, a general occupancy regression model for all common facilities, and specific regression model for common space exclude dining room were obtained.

The regression model for all common facilities as general common space are extracted with the spatial integration, area size per resident, and spatial connectivity as significant spatial configuration factors, which tells that generally the space occupancy(occupancy rate) can be increased by increase in spatial integration, per resident area size, and spatial connectivity.

This regression model basically applies to common facilities without considering the occupancy difference between dining room and others(for example, in the floor where there is dining room located).

And, when taken all common facilities except dining room as a common space, the space area size, and spatial connectivity are significant spatial configuration factors.

This difference of models reflect the different usage between meal space which is managed and scheduled by care organization as the space for gathering, and other common space which is used freely.

As a conclusion, with certain range of spatial configuration and space occupancy within the 12 surveyed nursing homes, allocating common facility to place with higher spatial integration, more spatial connectivity with surroundings, and increasing the average space area size per resident are related to better space occupancy of common space in Japanese nursing homes.