Architecture Spaces to Promote Intergenerational-Friendly Environment

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The age segregation society has become a physical barrier that separates the interaction between the old and young generations. Meanwhile, there are very few building typologies that combine the old and young age groups. The intergenerational interaction is complementary relationship to enhance the social development of children and older adults. The objective of this research study is to investigate the spatial requirement to support the needs of different age groups and to develop a reference to boost and enhance intergenerational-friendly environment and interaction. This research study is carried out by qualitative research by distributing the survey questionnaire to different age groups of people to analyze their interest and preference towards the intergenerational spaces and interaction activities. Precedent studies are also conducted to analyze the similar building typology and study their design strategies. Besides, an interview is conducted to understand the needs of an older adult. Throughout the study, we can understand the spatial requirement to support different age groups and the key elements to form an intergenerational space and enhance the opportunities for interaction

Keywords: Intergenerational Practice, Intergenerational Relationship, Intergenerational-friendly environment, Age Segregation, Old and Young Generation

1. INTRODUCTION

Due to the changes in family structure in current living patterns, where people are more towards nuclear families. Elders are lacking in most of the current family and lead to a lack of intergenerational communications among young children. Intergenerational interaction played an important role to create a positive impact on the growth of young children. The qualities such as self-confidence, communication skills, and sympathy towards elders are crucial as they can shape the quality of children to confront future challenges in their life. Furthermore, social contact and interaction are always an issue in current society especially those people who experiencing loneliness and social isolation. Opportunities for social contact are important as

it provides interaction between people. Retirement people tend to expose a higher risk of depression and loneliness as they are removed from usual social networks (Cacioppo et al., 2006).

The existence of intergenerational interaction is necessary as it brought a lot of benefits to a different generation and a well-planned place is needed for intergenerational interaction. This is because schools as an educational institution, but they do not provide tools for young people to confront in future social life. By merging interaction between different age generations, there is always an approach to stimulating young minds and introducing new meaningful life perspectives through sharing experiences and

knowledge among different age groups to maintain its legacy (Park, 2015).

2. PROBLEM STATEMENT

The significant ageing population trend could affect the elderly in Malaysia (Jacob, 2016). The increased number of elders create an impact on the society and intergenerational interaction occurs to maintain a positive relationship between different generation. According to Tan Seri Lee Lam Thye (Chairman of Alliance for a Safe Community), healthcare, financial services, city planning, and social services should continually improve to solve the rising ageing population trend. Heart-breaking cases often happened such as older adults being abandoned by their children and they are forced to live in an unpleasant environment in their late age. This shows the lack of filial piety in today's society. There is a vital necessity to increase public awareness and early preparation to reflect on this incoming issue due to the lack of social policies included healthcare and public facilities for the elderly (Goh et al., 2013).

The social separation of elders and young tends to bring a generation gap into the case. Age segregation can be categorized into three sectors which are institutional, spatial, and cultural (Hagestad & Uhlenberg, 2005). In the current society, people in different life stages will be spending their majority of time for a certain purpose. For example, children are sent to kindergarten or school for educational purposes while adults spend most of their time in the working industry for their careers. On the other hand, most of the retired older adults spend their time at home due to the immobility issue and causes a lack of interaction between elders and young. Social contact opportunities are restricted by the death of peers or by physical limitations such as immobility that causes loneliness (Pinquart & Sorenson, 2001). Loneliness among elders is unfavourable to the well-being of an individual that has a close connection to psychological disorders, depression, mental health problems that might lead to suicide (Hawkley et al., 2008).

Research Questions
The research questions are structured as below:

- What is the spatial requirement needed for youth and older adults in a community building?

- What are the key elements to form an intergenerational-friendly environment and promote?

3. METHODOLOGY

There is a total of four precedent studies have been chosen for this paper. The precedent studies not only limited to building only but also study some public spaces that stimulate intergenerational interaction. The purpose of this precedent study is to analyze the space arrangement for different age groups. The study will analysis on the space function and the potential common shared space as age-integrated space for all ages and its design features to boost intergenerational activities.

Besides that, a survey questionnaire is conducted to understand the preferences and spatial requirements for different age groups. The survey questionnaire is distributed to public through online. The respondents will be distributed into 3 categories of age groups which is 12-25 years old, 26-49 years old and 50 years old and above. The results are tabulated and discussed through data analysis to study the key elements to create space to promote intergenerational interaction.

4. RESULT & DISCUSSION

Precedent Study

Figure 1: Kampung Admiralty, Singapore
(Source: Darren Soh)

The project was designed for older adults to meet the ageing problem in Singapore. Although the housing is for senior citizens, the development aims to bring the mix of several public facilities under the same roof to support the intergenerational bonding. The community plaza is one of the important spaces in Kampung Admiralty as it offers a large flexible space for the users for a different purpose. It can be used for event purpose, gathering area, or dancing platform depends on the users' preference. Seating is provided all around the area to provide informal opportunities to occur. Besides that, a large atrium with skylight is installed at the center of the community plaza to ensure penetration of natural lighting to the core space.

A bright atmosphere can reduce anxiety on people especially the older adults and reduce the unnecessary energy consumption of the building. Moreover, the community plaza used double volume space to create a welcoming impression to the visitors and draw their interest to involve in the activity planned. It also provides vertical visual interaction with the upper level. A children's playground is located beside a fitness corner with some fitness equipment that suitable for all people including the older adults. The energetic atmosphere among the children can stimulate older adults to utilize the facilities provided. The older adults can have their fitness session while visual interaction on the children to prevent the feeling of isolation on them. The activity area is surrounded by the greenery that not only enhances the users' harmony experience.

Figure 2: St Joseph's Home (Source: Aaron Pocock Photography, SMRT)

The project is the combination of the Chapel, senior nursing home, and childcare centre. The nursing home and childcare centre is the new development with the existing religious building. Each of the facilities is separated clearly without joining them together. Lush greenery is placed at the center of all the facilities to ensure every user from different places able to enjoy the same view vista. Green plantation is planted along the corridor on every floor to ensure the residents can enjoy the fresh air, natural sun lighting, and green view without walking down to the ground floor. The green corridor also acts as a barrier to filter air pollutants, enhance the air indoor quality of the building. However, the railing is provided along the corridor to assist the residents who facing difficulty in walking. Furthermore, green pocket spaces are provided at a certain area for communication and engagement between the residents. The garden atmosphere creates a comforting environment for older adults to heal and rest. Besides that, the green area acts as a magnet and communal space that gathers different age groups. Play is one of the elements that can easily bond the relationship between the old and young generation. The wheelchair-friendly feature is considered into the intergenerational playground to create social interaction between the old and young generation.
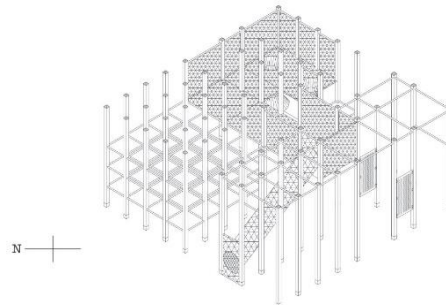
Figure 3: Pixeland, China
Source: Amey Kandalgaonkar

Figure 4: ParkUp, Taiwan
Source: Plan B

Pixeland is designed by 100architects as a landscape feature within the residential area to serve the community. It combines different types of outdoor features such as playscape, leisure features, landscape, etc. This landscape feature is designed for all ages as different parts serve different types of purposes. The design is inspired by the digital pixels, and a combination of numbers of pixels create aesthetic visual to the surrounding. The intention to create a multifunctional public space instead of landscape features only to benefit the community and offer intergenerational interaction. Besides than playful elements located around, it also equipped leisure features such as lounge area, picnic area, communal area with seating, etc to meet the requirements of other users.

Based on the study, a group of people required a minimum space of 5m x 5m to do their activity. So, the main pixel in a modular approach of 5m x 5m, followed by smaller pixels of 2.5m x 2.5 and 1.25m x 1.25m for pedestrian access circulation and decoration of landscape. The flexibility of the modular stimulates the sense of exploration among the younger visitors, creates a vibrant environment that able to spread the energetic spirit to the surrounding people.

ParkUp is a public space project located within a residential area in Guting, Taipei. The objective is to redefine the idle public spaces, fully utilize the open public space to serve the local community in a better way. The challenge of the project is the space limitation where the designer required to design an inclusive public space within 165sqm to embrace the localization environment. The designer is going for the modular system approach while the possibility of expanding the usage is unlimited. The combination of playscape and equipment can be changed from time to time to maintain the freshness among the users.

Although it is a small space, it still allows freedom to the user to pick up their favourite activity. A high possibility for the occurrence of intergenerational interaction within the area. This is because it not only draws the interest of the children with playful features, it still provided fitness features for older adults. The older adults are allowing exercise with the children in a short distance, this is one of the advantages of having space limitation. The public space is built with sustainable materials with FSC certifications, offers flexibility for various activities that could easily vibrant the environment and benefits to the

local community. The precedent studies are summarized in table form to identify their features as below.

Table 1: Precedent Studies

Precedent Studies / Criteria	Kampung Admiralty	St Joseph's Home	PIXELAND	ParkUp
Location	Woodlands, Singapore	Jurong West, Singapore	Mianyang, China	Taipei, Taiwan
Architect	WOHA Architect	SAA Architect	100architects	Plan B Design
Facilities	Community plaza, Medical centre, Hawker centre, Community garden, Senior studio apartments, Eldercare, and childcare centre	Senior nursing home, Childcare centre, Playground	Play features, Leisure features, Landscape features	Play features, Fitness features
Spatial Arrangement	The ground floor is open to the public, studio apartments are located at a higher level to avoid disturbance from the others	Each facility is separated into different blocks. More organization and to avoid unnecessary conflicts	Outdoor recreational public space	Public infill space
Design Features	- Double volume community plaza with an atrium, - Large flexible space for a different purpose - Seating provided all around the area to promote informal opportunities	- Terracotta shading devices as the façade and provide natural sun lighting and ventilation to the interior. - Green plantation is planted along the corridor on every floor	- Inspired by digital pixels, multiple modular squares for different purposes - A mixture of playscape and landscape	- To redefine the idle public spaces - The combination of playscape and equipment can be changed from time to time
Interactive Features	- Children playground is located beside fitness equipment that suitable for all ages. The older adults can have their fitness session while visual interaction on the children - A large panel of curtain window facing central courtyard to blur the boundary between outside and inside - Large flexible space that caters different age group of people	- Intergenerational playground with age-neutral equipment that suitable for all ages. - Green communal space provides informal interaction between residents	- A mixture of different types of playscape and landscape to serve different age groups of people	- Different types of modular system allow freedom to the user to pick up their favourite activity
Greenery	- Greenery located at the centre part and allow the users to have a green view all around the building - Staggered green terrace	- Green corridor - A central courtyard between all facilities	- A mixture of playscape and landscape	- Surrounded by greenery

Survey Questionnaire

The questionnaires are distributed to the public through online to investigate the key elements to form an intergenerational-friendly environment and enhance the intergenerational interaction. There is total number of 152 respondents involved. The respondents will be distributed into 3 categories of age groups which is 12-25 years old, 26-49 years old and 50 years old and above. There were at least 40 respondents

from each age groups to obtain an average index from different age groups
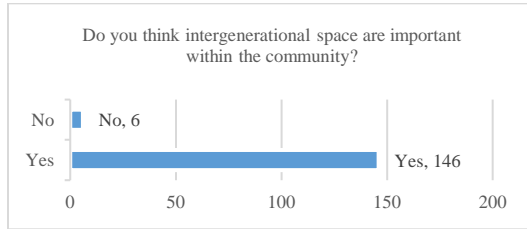

Figure 5: Importance of Intergenerational Space Within The Community

Based on Figure 5, most of the respondents are thinking intergenerational space is important within the community. Meanwhile, there is 6 respondents neglect the importance of intergenerational spaces. According to Figure 6, there are 117 respondents prefer the intergenerational space is surrounded by greenery. Nature plays an important role to enhance the experience within intergenerational space. Furthermore, 107 respondents include an interactive seating area as an ideal intergenerational space where they can still interact with others while resting aside. 87 respondents prefer the existence of sport recreational park within intergenerational space, followed by double volume event space with 56 votes. Lastly, there are only 29 respondents choose conventional classrooms, and 15 respondents prefer the spaces separated by partition for better privacy. This is because physical barriers tend to segregate people and affect the quality of interaction.
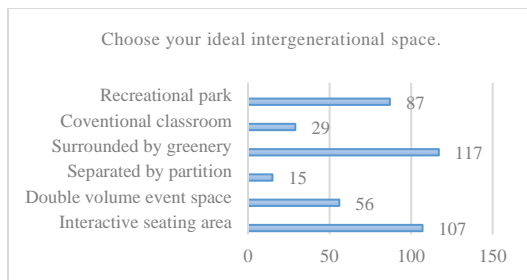

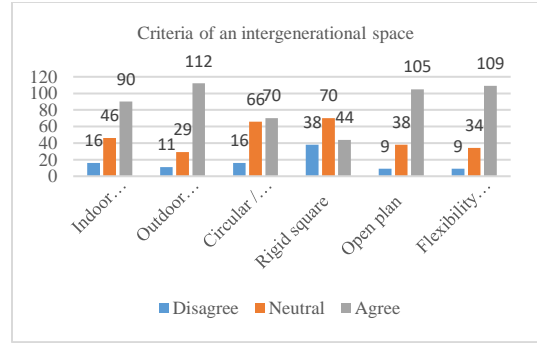Figure 6: Characteristics of Ideal Intergenerational Space

Figure 7: Criteria of an Intergenerational Space

Based on Figure 7, greenery is one of the important criteria in an intergenerational space including indoor or outdoor greenery. Outdoor greenery received the highest votes 112 among the respondents while indoor courtyard has 90 votes. Furthermore, flexibility and open plan have 109 and 105 votes respectively. This is because intergenerational space involves the all-ages community and every individual has their needs and requirements. By implementing flexibility and an open plan provide options and choices to the users. Besides that, respondents prefer the intergenerational space in circular or curvy design instead of rigid square. A circular or curvy space provides a dynamic impression to the users and able to stimulate intergenerational interaction compared to the rigid square space.

5. CONCLUSION

The rapid urbanization and modernization process have slowly segregated the age groups among different generations. The older generation has fewer opportunities to interact with the younger generation as they have different characteristics in their phase of life. The children are energetic and active while the older adults having a slower pace in life. By implementing proper planning and strategy can promote intergenerational interaction among different generations. Young and older generations can obtain mutual benefits through intergenerational interaction that create a harmonized and sustainable community. However, interactions do not occur naturally and require some interactive features to bond the relationship between human beings. A healthy social interaction can improve the community physically and mentally which brings benefits to all ages. Lastly, it is crucial to do collaborative research on the design and

M. H. M. Isa et al.

planning of intergenerational buildings and emphasize the needs and requirements of all ages. An intergenerational relationship is a complementary relationship that creates a healthy and sustainable community. It also ensures the transmission of wisdom, knowledge, and skills from the older generation to the younger generation, while the older generation still having continuous learning sessions to keep them actively.

6. REFERENCES

Cacioppo, J. T., Hughes, M. E., Waite, L. J., Hawkley, L. C., & Thisted, R. A. (2006). Loneliness as a specific risk factor for depressive symptoms: Cross-sectional and longitudinal analyses. *Psychology and Aging*, *21*(1), 140–151. https://doi.org/10.1037/0882-7974.21.1.140

Goh, Z. Y., Lai, M. M., Lau, S. H., & Ahmad, N. (2013). The formal and informal long-term caregiving for the elderly: The Malaysian experience. *Asian Social Science*, *9*(4), 174–184. https://doi.org/10.5539/ass.v9n4p174

Hagestad, G. O., & Uhlenberg, P. (2005). The social separation of old and young: A root of ageism. *Journal of Social Issues*, *61*(2), 343–360. https://doi.org/10.1111/j.1540-4560.2005.00409.x

Hawkley, L. C., Hughes, M. E., Waite, L. J., Masi, C. M., Thisted, R. A., & Cacioppo, J. T. (2008). From social structural factors to perceptions of relationship quality and loneliness: The Chicago Health, Aging, and Social Relations Study. *Journals of Gerontology - Series B Psychological Sciences and Social Sciences*, *63*(6), 375–384. https://doi.org/10.1093/geronb/63.6.S375

Jacob, R. (2016). Aging and Current Trends in Malaysia. *International Journal of Social Work and Human Services Practice*, *4*(3), 57–61. https://doi.org/10.13189/ijrh.2016.040301

Park, A. La. (2015). The Effects of Intergenerational Programmes on Children and Young People. *International Journal of School and Cognitive Psychology*, *2*(1), 1–5. https://doi.org/10.4172/2469-9837.1000118

Pinquart, M., & Sorenson, S. (2001). *Influences on Loneliness in Older Adults: A Meta-Analysis Health Promotion Interventions View project The Relationship between Grade-Level and Breakfast Skipping among Adolescents: The Mediating Effects of Dietary Autonomy View project*. (September 2015). https://doi.org/10.1207/153248301753225702